

**MARITIME  
REPORTER**  
AND  
ENGINEERING NEWS

SPECIAL EDITION

Outstanding  
Passenger Vessels  
of 1995

**MEGAYACHTS**

More Than Ever, A Diverse Market Innovates To Serve  
A Demanding Clientele

**LADY OF THE LAKE**

Unique icebreaker Built On The Shores Of A Forested  
British Columbia Lake



U.S. Gulf Coast Report • The Containership Market • CAD/CAM For Boat And Ship

JANUARY 1996

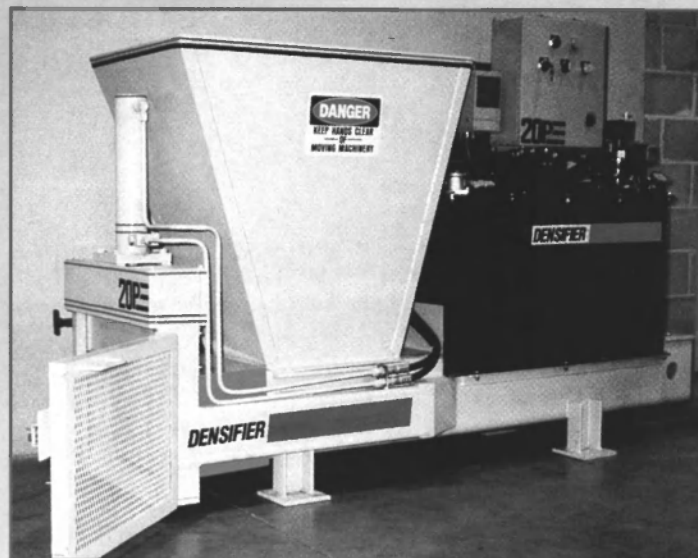
International  Compactor's  
FINE LINE OF PRODUCTS



**COMPACTOR**

- Solid-state electronics using only UL Listed components.
- Built-in motor protection with automatic shut-off after 60 seconds.
- Stainless steel construction.
- Larger units also available.

**Compact  
Crushing Power!**



**DENSIFIER**

- Densification of aluminum cans, metal cans, and plastic (polystyrene).
- Volume reductions up to 50:1.
- Economically and environmentally friendly.
- No heat used during processing / no emissions.
- Larger units available.

**Used by cruise ships  
throughout the world!**



**Reduces Volume  
up to 8:1**

**BOTTLE  
DISINTEGRATOR**

- Reduces volume up to 8:1.
- Eliminates empty bottle storage.
- Stainless steel interior.
- Stainless steel or *Newmar* exterior.
- Crushes up to a case of bottles per cycle.
- Electrical requirements: 110/120 V.
- 20 Amp breaker with reset.



**Crushes up to  
three tons per hour.**

**MODEL 318  
GLASS CRUSHER**

- Large volume reduction.
- Eliminates storage of empty bottles.
- Constructed of 1/4" steel plate.
- Electrical requirements: 115V, 230V, 440V
- Utilized on many cruise line vessels.

**INTERNATIONAL  
COMPACTOR  
INCORPORATED**

Toll Free **(800)423~4003**

Tele: (803) 686-5503 • Fax: (803) 686-3290  
Post Office Box 5918 • Hilton Head Island, SC 29938

Circle 226 on Reader Service Card

ESSENTIAL TRAINING VIDEOS  
IN MARINE FUEL MANAGEMENT



Purchasers of our new 'The Selection and Use of Marine Fuel Specifications' video will also receive a copy of the DNVPS booklet 'Fuel Management Guidelines' and a diskette which has programs for a wide range of calculations associated with bunkers (volume and weight calculators, blending, useful conversions and much more).

For more information please mail or fax this page to:

DNV PETROLEUM SERVICES  
PO Box 9599  
3007 AN ROTTERDAM  
The Netherlands  
Tel: +31 10 479 8600  
Fax: +31 10 479 7141

NAME \_\_\_\_\_ COMPANY \_\_\_\_\_  
POSITION \_\_\_\_\_  
ADDRESS \_\_\_\_\_

TEL NO. \_\_\_\_\_ FAX NO. \_\_\_\_\_

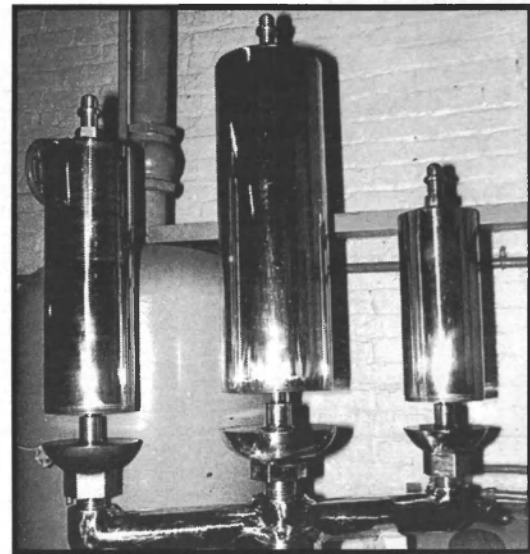
Please send me details on your video(s):  
(Tick one or more boxes)

- Video 1, Marine Fuel Sampling
- Video 2, Marine Fuel Quantity Determination
- Video 3, Fuel Specifications



# KAHLENBERG BROS.CO

MARINE PRODUCTS  
SINCE 1895



Kahlenberg has developed a triple chimetone air / steam whistle for the largest of gambling, excursion / dinner boats. This 442 lb. whistle will simply make your hair stand up straight with its beautiful sound. Contact Kahlenberg for the next air / steam whistle for your Stern Wheeler. Bring back the nostalgia of the Mississippi River during her steamboat days.

CALL KAHLENBERG TODAY.

**( 414 ) 793-4507**  
**Fax: ( 414 ) 793-1346**  
1986 Monroe Street, Two Rivers, Wisconsin 54241

Circle 262 on Reader Service Card

**MARITIME  
REPORTER  
AND  
ENGINEERING NEWS**

ISSN-0025-3448

No. 1

Vol. 58

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 Second Class 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.

Publishers are not responsible for the safekeeping or return of editorial material.

© 1996 Maritime Activity Reports, Inc.

Member  
**BPA**  
INTERNATIONAL  
Business Publications  
Audit of Circulation, Inc.

## ON THE COVER

The 131-ft. (40-m) CV-9 of Cayman was built and delivered by Delta Marine recently. The vessel — pictured on the cover in Juneau, Alaska — features a full-displacement, solid fiberglass hull and superstructure (131 ft.) Turn to page 40 for MR/EN's annual report on megayachts.

### 28 OUTSTANDING PASSENGER VESSELS OF 1995

This eclectic group of vessels from a variety of international builders collectively offers some of the industry's best in terms of comfort, speed and flexibility.



### 40 MEGAYACHTS

An economic upturn and technological advances have helped the market progress, most noticeably into an interesting diversification trend.



### 50 U.S. GULF COAST REPORT

Area yards and suppliers have a sanguine outlook, as there is a potential for more than \$1.2 billion worth of contracts to arrive via MarAd's Title XI program.



### ALSO IN THIS ISSUE:

- 15 CAD/CAM:** Various solutions for the small and large vessel designers and builders.
- 24 CONTAINERSHIPS:** Larger ships and consolidating routes present new opportunities for shipbuilders and suppliers.
- 36 SLICK SAVINGS:** Catalina Express changed lube oil, saving on maintenance.
- 56 SOMETHING FROM NOTHING:** Canada's Finlay Navigation needed an icebreaking log truck ferry for a land-locked lake. So they built one.
- 62 FERLISHIP'S PRINCIPAL CONTRACTS RECORDED**
- 69 LPG:** Fincantieri completes a difficult tank installation.
- 72 CLASSIFIEDS**





**Always Reliable.**

**Particularly Impressive In**

**Demanding Circumstances.**

John Gatti  
Mobil Marine Sales  
San Francisco,  
California

**Mobilgard SHC 120 Synthetic Oil**

"Before I recommend an upgrade to a synthetic oil, I work with my customers to evaluate the benefits against the higher cost of the product."

"Like Catalina Express. Before the company decided to upgrade their fleet of passenger vessels to Mobilgard SHC 120, we worked with them to test the oil's effectiveness in one of their boat's hard-working Detroit Diesel 149 Series engines."

"Since they switched to our synthetic lube, the boat hasn't had an oil-related failure in more than 4,000 hours. The engines have less wear. Oil consumption has decreased. And the vessel's oil drain interval has increased from 250 to over 2,000 hours."

"In fact, Catalina Express cancelled a planned overhaul of the boat because of the synthetic oil's performance. They're now projecting savings of more than \$80,000 in maintenance costs by the end of 1996."

"How can we help you? Please call me if you'd like to discuss your vessel's lube requirements. My phone number is 1-800-MIAMI-79, extension 1826."

Circle 235 on Reader Service Card

**If we can't save you money, we don't deserve your business.**

**Mobil**

© 1995 Mobil Oil Corporation

# KIENE

**With you worldwide – wherever diesels work**

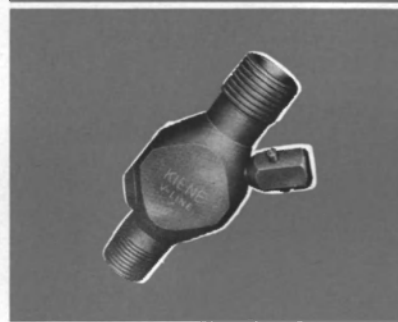
### Diesel cylinder indicators K-Series Indicators for measuring cylinder compression and firing pressures

- Optimize fuel consumption
- Reduce maintenance costs
- Pinpoint engine problems
- Improve engine availability
- Recommended and used by major engine builders

### Indicator valves provide direct access to engine cylinders

- Allows compression and firing pressure testing
- Required for engine performance analyzer and monitoring instruments
- Eliminates accidental valve opening
- Easy to install and exceptionally reliable
- Complete line of extensions and adapters available

KIENE DIESEL ACCESSORIES, INC.  
325 S. Fairbanks St.  
Addison, IL 60101  
PHONE: 708/543-5951



**... for greater diesel reliability**

**KIENE**  
DIESEL ACCESSORIES, INC.

Circle 229 on Reader Service Card



## DEL GAVIO MARINE HYDRAULICS, INC.

HYDRAULICS \* ELECTRIC \* MACHINE WORK \* VALVES

- \* COMPLETE REPAIRS ON ALL TYPES OF ELECTRO-HYDRAULIC STEERING SYSTEMS & DECK MACHINERY.
- \* UL LISTED FOR FULL SERVICE ELECTRICAL REPAIRS ON MOTORS AND GENERATORS IN HAZARDOUS LOCATIONS.
- \* HYDRAULIC PUMP AND MOTOR REBUILDING.
- \* HYDRAULIC CYLINDER OVERHAUL AND TESTING.

**DENISON Hydraulics**

Authorized Marine Service Centers

"Serving the Marine Industry for over twenty-five years"

Circle 214 on Reader Service Card

619 Industrial Road  
Carlstadt, NJ 07072  
(201) 843-4700  
(201) 843-6470 Fax

2900 Main Street  
Bldg. #140-C  
Alameda, CA 94501  
(510) 523-3100  
(510) 523-3390 Fax

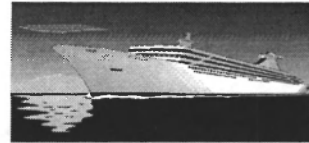
33 Restor Street  
New York, NY 10006  
(212) 425-1996  
(212) 363-3292 Fax

Anthony Del Gavio  
President

Marine Interior Specialists

## JOINER CONTRACTOR

CRUISE SHIPS • DINNER BOATS • FERRY BOATS • CASINO VESSELS



**CSI**



Custom Shp Interiors, Inc.

P.O. Box 237 • Lusby, MD 20657 • Fax: 410-326-9125

**410-326-9122**

Circle 215 on Reader Service Card

## MARITIME REPORTER & ENGINEERING NEWS

Editorial & Executive Offices

118 E. 25th St., NY, NY 10010

tel: (212) 477-6700;

fax: (212) 254-6271

e-mail: [shippedit@ix.netcom.com](mailto:shippedit@ix.netcom.com)

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

**EDITORIAL**  
Editorial Director: Charles P. O'Malley  
Editor: Gregory R. Trauthwein  
Senior Editor: Dan Maniatis  
Assistant Editor: Bridget A. Murphy  
Editorial Assistant: Nina D. Miller  
Editorial Consultant: James R. McCaul  
International Editors: Graeme MacLennan  
Alan Thorpe  
Contributing Editors: Carol Fulford  
Andy Smith

**PRODUCTION**  
Production Manager: Patricia Kennedy  
Asst. Production Manager: Jean Wanamaker  
Circulation Manager: Dale L. Barnett

**SALES**  
Regional Sales Manager: Lucia Annunziata  
Regional Sales Manager: Christopher Goldshall  
Regional Sales Coordinator: Jean M. Vertucci

**SALES INFORMATION  
IN THE CONTINENTAL U.S.:**  
(212) 477-6700

**Representatives**  
Gulf Coast: MR. JAMES N. McCLINTOCK  
Simpson Corporate Park  
Indigo House, Suite A  
206 South Tyler Street  
Covington, La. 70433  
Telephone: (504) 893-5099  
Telefax: (504) 893-5024

Scandinavia: MR. STEPHAN R. G. ORN  
AB Stephan R.G. Orn  
Box 184, S-27100 Ystad, Sweden  
Telephone: 46 411-18400  
Telefax: 46 411 10531

United Kingdom: MR. MICHAEL J. DAMSELL  
Euromedia Ltd.  
P.O. Box 122, Hayward's Heath  
West Sussex RH16 1YF England  
Telephone: +441 444 417360  
Telefax: +441 444 417360

Italy/Switzerland: Ediconsult Internazionale  
Piazza Fontane Marese,  
3-16123 Genova, Italy  
Telephone: (010) 583684  
Telefax: (010) 566578

France: MR. Daniel Solnica  
Ediconsult Internazionale,  
25 rue Saulnier 75009 PARIS  
Telephone: (33) 1 4246 9571  
Telefax: (33) 1 4246 8508

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/Engineering News

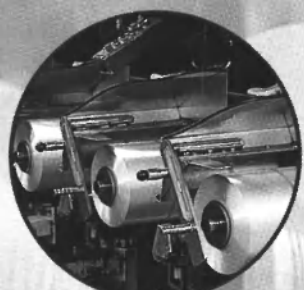




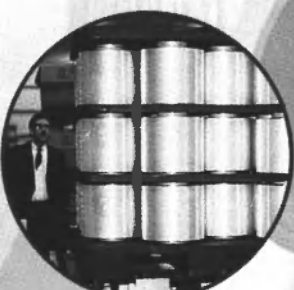
# MEETING WORLDWIDE COMMITMENTS



*For Advanced Polyester Fibers*



**Moncure, North Carolina**  
(Manufacturing)



**Longjumeau, France**  
(Technical Center/  
Manufacturing)

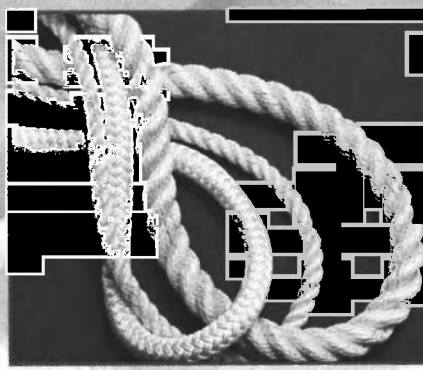


**Petersburg, Virginia**  
(Technical Center)



**Hopewell, Virginia**  
(Manufacturing)

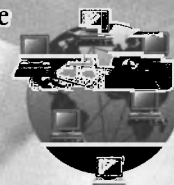
For almost three decades, AlliedSignal Fibers has been a leading global innovator and supplier of advanced polyester fibers. Backed by a strong commitment to R&D, AlliedSignal has achieved a significant global market position in industrial fibers by introducing continually improved generations of products that meet the changing needs of customers.



Today, AlliedSignal Fibers manufactures more than 80 polyester products for thousands of end-use applications. And, with an emphasis on customer satisfaction, AlliedSignal stands ready to meet the global challenge for more demanding performance requirements in all product offerings.

**On the InfoBahn**

Customers can visit us on the Internet at the Global Polymer Resource Center Site, Akron, Ohio, USA. See a full listing of our products and their properties at: (<http://polysort.com/allied/>).



**For further information, contact:**

AlliedSignal Fibers, 224 West 35<sup>th</sup> Street, Suite 1500  
New York, NY 10001, email: [canonsbea@aol.com](mailto:canonsbea@aol.com)

**AlliedSignal**  
FIBERS

Circle 200 on Reader Service Card



## EDITOR'S NOTE

Addressing a group of 60 influential U.S. maritime executives recently, Dr. Jürgen Rohweder, chairman of the advisory board of SMM '96 and public relations director of Kiel-based HDW, said, "The American shipbuilding industry is on the way to returning to merchant shipbuilding." He was in town to garner support for SMM '96, which has selected the U.S. as its partner country (see related story, page 54). The December luncheon came on the heels of a MarAd-sponsored trade mission to Germany, which involved 14 U.S. marine manufacturers visiting five German shipyards to discuss business. The bottom line: international owners have already shown considerable interest in building ships in the U.S.; now international yards are looking to U.S. manufacturers for bids on equipment and services.

This resurgence comes at a particularly interesting time, as most projections of the worldwide market indicate a stable if not good year. In 1996, each edition of Maritime Reporter will explore the prospects and recent performance of a particular vessel segment. This month features a containership market report (page 24), and next month will feature extensive coverage of the cruise ship industry, as part of MRJEN's annual Outstanding Cruise Ship feature.



Also profiled in this edition is the U.S. Gulf Coast, an area with justifiably high hopes for 1996. As reported in the feature starting on page 50, there are currently contracts totaling more than \$1.2 billion earmarked for yards in this region, orders that are already in the MarAd Title XI pipeline and waiting approval. And it appears that deepwater oil exploration in the Gulf of Mexico will advance considerably this year and beyond, helping to buoy all segments of the offshore sector.

Gulf Coast yards are featured prominently in our annual Outstanding Passenger Vessel gallery as well, which starts on page 28. This year's collection of profiled vessels includes a wide sampling of types from builders around the world. For example, the opening page features a traditional riverboat casino from Florida's Atlantic Marine, and a 40-knot fast ferry from Western Australia's Austal Ships. In all, the section is a tribute to the diversity of designers, builders, suppliers and owners of all passenger vessels.

Gregory R. Trauthwein, editor

e-mail: SHIPEDIT@ix.netcom.com; fax: (212) 254-6271

**Pauluhn  
Electric  
Mfg. Co., Inc.**

**Lighting  
Products  
For  
Marine  
Applications**

1616 N. Main  
Pearland  
Texas 77581  
Tel (713)485-4311  
Fax (713)485-4398

Circle 290 on Reader Service Card

**CONFIDENCE...**

is knowing that your R/O System will continue to perform when you need it! Whether you are on a Trans Atlantic voyage or an exploration vessel in the Pacific, OML builds the most efficient and rugged systems in the world!

Utilizing advanced Reverse Osmosis technology, OML offers some of the most efficient and dependable fresh water systems in the world. Our unique process utilizes media filtration, ultraviolet sterilization, chemical injection, charcoal filtration and finally reverse osmosis. Only OML designs, manufactures, tests, services and markets, all under one roof so that we can completely control the quality of our products and provide the optimum of service to our customers. In fact we are so confident of our quality that we offer an unprecedented Lifetime Guarantee on our pressure vessels!

Sea-Quencher™ series offer a complete line of systems; from the compact, economical Aegean model, and the high-output, modular Baltic system, to the commercial-duty Caspian models and custom-designed plants that can produce over a million gallons a day.

All Sea-Quencher™ systems come complete with top-of-the-line components, parts and features. When you compare our features, quality, service and price you'll see why we are the leader in the industry since 1978. For complete information see your dealer or contact us for specifications and the dealer in your area.

**OffShore Marine Laboratories**  
Manufacturers & Designers of R/O Water Purification Systems  
22894 El Toro Rd., Suite 105, Lake Forest, CA 92630  
Phone: (714) 455-0711 / Fax: (714) 455-0736  
See us at Workboat Booth # 617

Circle 291 on Reader Service Card

## ABB Unit Awarded NNS Double Eagle Contract

Newport News Shipbuilding has awarded a unit of ABB Inc. a multi-million dollar contract to build internal bulkhead structures for four of its new "Double Eagle" double-hulled tankers.

Under terms of the agreement, Newport News also has the option to expand the order to cover additional ships.

ABB C-E Power Products Manufacturing, Chattanooga, Tenn., will supply 22 bulkhead assemblies and related components per ship. The largest assembly is 40 ft. (12.2 m) tall, 50 ft. (15.2 m) long and 4 ft. (1.2 m) wide.

The structures, weighing a com-

bined 2,500 tons per ship, are to be shipped by barge to the Mississippi River, through New Orleans, then around Florida to the NNS yard in Newport News, Va.

There they will be installed in Double Eagle tankers being built for Eletson Corporation of Piraeus, Greece. ABB was scheduled to

begin shipping the sections last month.

For more than 60 years, ABB's 136-acre Chattanooga facility has been a major builder of large-scale fossil and nuclear power plant components. The fabrication of these bulkhead structures for ships represents a departure from

its traditional activities. With its location along the Tennessee River and its large-scale manufacturing capabilities — including a 39-ft. (12-m), 6,000-ton press that will form the bulkheads — the facility is one of only a few shops in the U.S. capable of meeting this project's requirements.

## MarAd supports "TechShip" design

MarAd has entered into a cooperative agreement with the Senesco Consortium located in North Kingstown, R.I. The Senesco Consortium will develop and market a new class of high-technology vessels targeted to supporting the transportation needs of rapidly-expanding developing countries. The "TechShip" modular design is based on a unique double-hulled structural system. The TechShip has the ability to operate in shallow water and to both load and unload its own cargo with minimum port facilities. In order to improve access to shallow draft ports, the TechShip has a variable draft feature that will significantly reduce the operating draft while in port. MarAd, an agency of the U.S. Department of Transportation, is acting as an agent for the Department of Defense's Advanced Research Project Agency (ARPA). The consortium consists of Vibtech, Inc. (North Kingstown, R.I.); South Eastern New England Shipbuilding Corporation (North Kingstown, R.I.); Rhode Island Technology Transfer Center, (North Kingstown, R.I.); Naval Surface Warfare Center, Carderock Division, (Bethesda, Md.); and Guigne International (Newfoundland, Canada). The cooperative agreement, awarded on a competitive basis, is part of Maritech, a program designed to enhance the competitiveness of American shipyards.

The total value of the 12-month agreement is \$1,436,500. The government will fund \$588,000, with the Senesco Consortium providing the remainder in cash and in-kind services.



So you were surprised to get the entire design package so fast! That's because you haven't visited our offices recently. Our Autoship systems have speeded up our work — and they let us use all of our knowledge, experience and creativity to develop the design that best meets the needs.

How do we do it now?

Once we've optimized the ship numerically, we design the hull form in **Autoship**. It's a full NURBS-based 3-D modeling program and it's automatically faired.

Throughout, we can check hydrostatics and resistance on-line with **Autopower**. That saves us a lot of time, and we use it to look for extra speed.

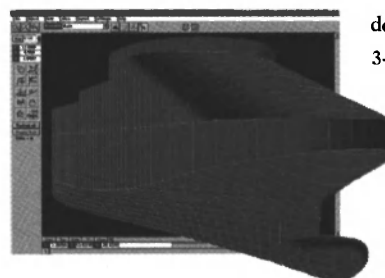
Next, we define all the tanks and compartments in **Autohydro**. Calculating volumes and balancing the ship is easy and quick, so we can spend more time to optimize the layout.

We define the structural members in **Autobuild**; the program automatically checks for interference and generates a bill of materials and a complete list of weights. That eliminates manual drafting, saves the yard manhours, and reduces the usual worry about weight.

To save even more, we can export directly to NC cutting machines, radically reducing lofting and nesting costs.

Yes, all these programs come from the same place — Autoship Systems, the world's largest developer of Windows™-based marine software. With Autoship, the entire design process, from concept to cut plates, is a smooth, seamless flow.

Autoship helps us produce better designs, faster, with lower construction costs...benefits you appreciate, and our competitive edge!



Autodesk  
Registered Application Developer

**Gain the competitive edge!**  
Contact Autoship today for your free demo disk and catalog

Windows is a trademark of Microsoft Corporation.  
The Autodesk logo is registered in the U.S. Patent and Trademark Office by Autodesk, Inc.

- ◆ Design
- ◆ Hydrostatics
- ◆ Power & Resistance
- ◆ Construction

autoship  
Systems Corporation

HEAD OFFICE  
403 - 611 Alexander St.  
Vancouver BC  
Canada V6A 1E1

Tel 604.254.4171  
Fax 604.254.5171  
Net bpedret@autoship.com

USA • JAPAN  
NORWAY • GERMANY  
UK • FRANCE • AUSTRALASIA  
POLAND • CROATIA • RUSSIA

Circle 235 on Reader Service Card



## Maritime Administration News

### Permission Sought

#### Aquarius seeks Maritime Subsidy Board OK

Aquarius Marine Co. and Atlas Marine Co. have asked the Maritime Subsidy Board for contractual authority to use operat-

ing-differential subsidy (ODS) which has been available but not used under two subsidy contracts. The vessels covered under these contracts were the *American Heritage*, *Golden Monarch* and *Charleston*, under a subsidy-sharing arrangement. The companies request each con-

tract be extended by four years, to expire October 15, 1999, and December 30, 2000. Subsidy would not be paid for more than 1,188 voyage days of operations in subsidized service during the additional term, under whichever of the two contracts such operations may take place. In the alternative,

Aquarius and Atlas request a new four-year ODS contract covering the operations of the *Charleston*.

The applicants state the *American Heritage*, which entered subsidized service in 1976, was withdrawn, sold, and scrapped in 1994. The *Golden Monarch* entered service in 1975. It was withdrawn, sold, and transferred to foreign registry earlier this year. The *Charleston* entered subsidized service in 1993.

In addition, the applicants advise that the *American Heritage* performed no subsidized service after June 5, 1993, and the *Golden Monarch* operated sometimes in and sometimes out of subsidized service after October 25, 1992. As a result, they say, the two vessels will have accumulated more than 2,500 voyage days of "unused subsidy."

They further advise that allowing for the absorption of 1,370 of these unused days by subsidized operations of the *Charleston*, there still would remain 1,188 unused days of entitlement to subsidy. They are, therefore, proposing that the contracts be extended to enable them to absorb the 1,188 days by continuing the subsidized operation of the *Charleston*.

### Companies seek ODS OK

Margate Shipping Co. and Chestnut Shipping Co. have asked the Maritime Subsidy Board for contractual authority to use operating-differential subsidy (ODS), which has been available but not used under two subsidy contracts. The companies request each contract be extended by five years — or in the alternative, a new five-year ODS agreement — for the purpose of using the available unused days. In connection with their request, the applicants asked the board to extend the subsidizable lives on five vessels, so that the vessels would remain eligible to operate with ODS under the extended contracts, or new contracts, as the case may be. The vessels and extended dates are noted below. They include:

Vessel	Extended Date
<i>Caronado</i>	December 28, 1998
<i>Cherry Valley</i>	July 10, 1999
<i>Chelsea</i>	February 28, 2000
<i>Chestnut Hill</i>	December 1, 2001
<i>Kittanning</i>	March 1, 2002

### Noble wants to transfer units to Panamanian registry

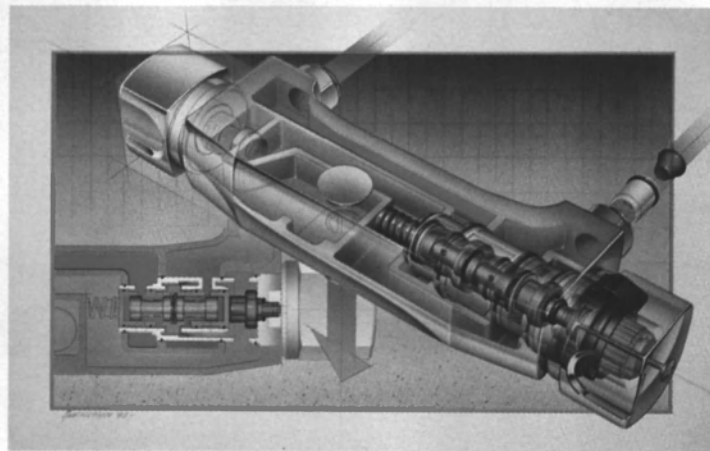
Noble Offshore Corp., Houston, has asked permission from MarAd to transfer to Panamanian registry three mobile offshore drilling units. The units are the 4,816-gt *Ed Holt*; 4,783-gt *Lloyd Noble*; and the 4,469-gt *Tommy Craighead*. The units were built in Brownsville, Texas, in 1984; in Vicksburg,

## What makes a shower safe?

- ✓ Automatic shut down if the hot or cold water is interrupted
- ✓ Thermostatic *and* Pressure Balancing valve holds water temperature to  $\pm 1^\circ\text{C}$
- ✓ Hot water "child" safety lock

Our shower is thermostatically controlled *AND* pressure balanced. The revolutionary design can hold outlet temperatures to  $\pm 1^\circ\text{C}$  under extreme variations in water system temperature and pressure. A mere thermostatic shower can't do that.

**Safety, luxury and avoiding liability.** That's why more and more boat builders, owners and cruise lines are choosing shower valves by FM Mattsson.



The water conserving, anti-scald shower with automatic shut-down.

Ask about our Water Miser water conserving faucets and Space Saver faucets too!

For information on these and other innovative marine faucets contact:

**Soanmix Corporation**  
230 Bartlett St. (207) 782-1884  
Lewiston, Maine 04240 fax (207) 782-1914

Circle 240 on Reader Service Card

# The ORIGINAL

## SIMPLEX COMPACT 2000

by Blohm+Voss



There's no substitute for Blohm+Voss quality, reliability, safety and experience. And there's no comparing the service, attention, expertise and value you get from STI along with the lowest possible prices on stern tube seals and seal spares!



New York City Area  
TEL: (718) 460-1220 FAX: (718) 460-1464  
Buffalo New York Office  
SIMPLEX-TURMAR INC. TEL: (716) 695-0142 FAX: (716) 695-0144

Circle 207 on Reader Service Card

## TAKE THE GUESSWORK OUT OF VENTILATION

Ventilation systems from inlet to outlet for the yacht & shipbuilding industry.

- Marine Grade Axial Fans
- Fire/Smoke Dampers
- Air Mist Eliminators
- Set & Forget Control Systems
- Complete Systems Engineering



**DELTA T SYSTEMS, INC.**

2955 STATE ROAD 84, SUITE 1, FT. LAUDERDALE, FLORIDA 33312 U.S.A.  
TEL: 954-587-9300 FAX: 954-587-0903

Circle 289 on Reader Service Card



Miss., in 1983; and in Pascagoula, Miss., in 1982, respectively.

#### Marmac asks to sell barge

MarAd has received a request from Marmac Corporation, New Orleans, La., for permission to sell the 1,048-gt barge, *U-730*. The proposed purchaser is Shimmer International Cameroon Limited, of West Africa. The barge was built in 1976 in Braithwaite, La. If approved, the barge would be used for hauling general cargo in Cameroon, West Africa.

#### Permission Received

##### Fishing vessel transferred to Russian registry

Trident Seafoods Corporation, Seattle, Wash., received approval from MarAd to transfer the fishing vessel *Bountiful* to Russian registry, without change in the vessel's U.S. ownership. The 1,032-gt vessel was built in 1978 in Tell City, Ind.

##### Atwood given go-ahead to transfer registries

Atwood Deep Seas Ltd., Houston, has received approval to transfer the mobile offshore drill units *Hunter* and *Eagle* to Panamanian registry, without change in the vessels' U.S. ownership.

##### Atlantic Drilling Okd to sell rig

Atlantic Drilling Company, Ltd., a Bahamian corporation, has been given permission to sale the undocumented drilling rig *Pacesetter III* to Falrig Offshore, Inc., a Delaware corporation. The vessel will be transferred to Panamanian registry.

##### Neptune granted permission to sell

Neptune International, Inc., Elk Grove Village, Ill., has been given approval to sell the undocumented LASH carrier *Belofin Kestrel* to Neter Navigation S.A., a Panamanian corporation. The vessel will be resold to Gujarat Ship Trading Corporation, an Indian partnership, for scrapping in India.

##### Lykes given OK to terminate voyage

Lykes Bros. Steamship Co., Inc., has received approval from MarAd to terminate the *Thompson Lykes'* current voyage in Haifa, Israel, following major repairs. MarAd also approved the resumption of subsidized operations inbound in Haifa following the idle status period.

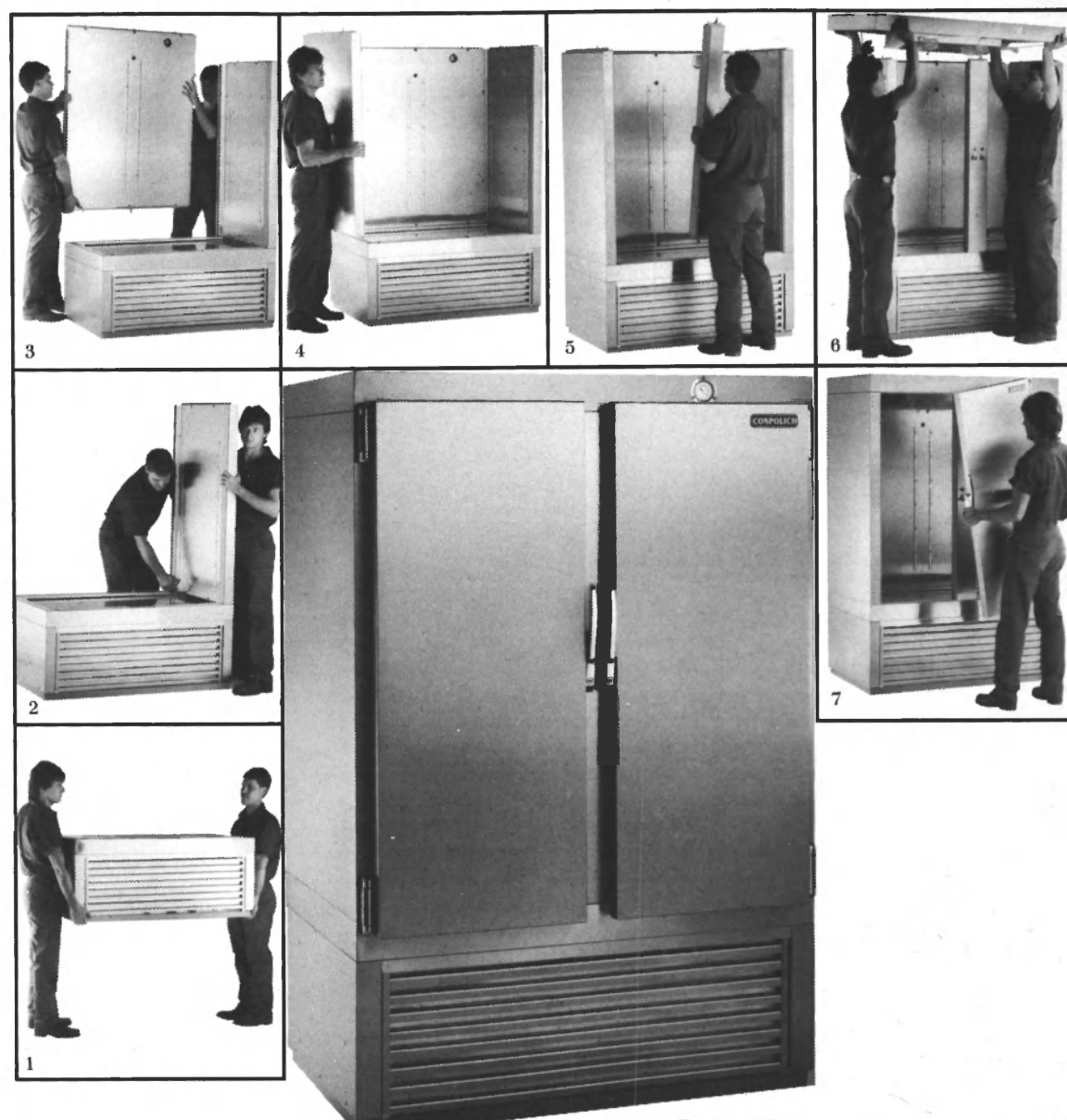
##### Farrell Lines given OK

MarAd has granted a request from Farrell Lines, Inc. to permit the company to charter and operate a foreign-flag vessel for one round-trip voyage between U.S. Atlantic Coast ports and ports in the Mediterranean Sea (Trade Route 10/13), which commenced in the Mediterranean late December 1995.

Section 804 of the Merchant Marine Act, 1936, as amended, precludes subsidized U.S.-flag operators or their affiliates from operating foreign-flag vessels which compete with essential U.S.-flag shipping services unless the Secretary of Transportation waives the provision of this section for a specific period of time.

In its application, Farrell noted the request was made in order to provide a relief vessel for the *Export Freedom*, which is devoted to this service and is scheduled for drydocking early this year.

January, 1996



## REPLACE YOUR MARINE REFRIGERATION WITHOUT COSTLY CUTTING AND DRY DOCKING

Cospolich "hatchable" modular marine refrigerators eliminate costly cutting through decks, bulkheads, and accessways.

They are designed to be assembled in your space by ship's personnel. Pipefitters, mechanics, electricians and special skills are not required.

All you need is a screwdriver and two wrenches. Cospolich kits come with easy, step-by-step instructions. Polarized wiring is pre-installed so it can't be plugged in to the wrong place. It's easier than programming a VCR!

And, all Cospolich modular refrigerators meet U.S. Navy standards, and the latest amendments to MIL-R 21098E.

Available from 20 cu. ft. to 200 cu. ft.

Cospolich. Like having a refrigerator built to your specifications.

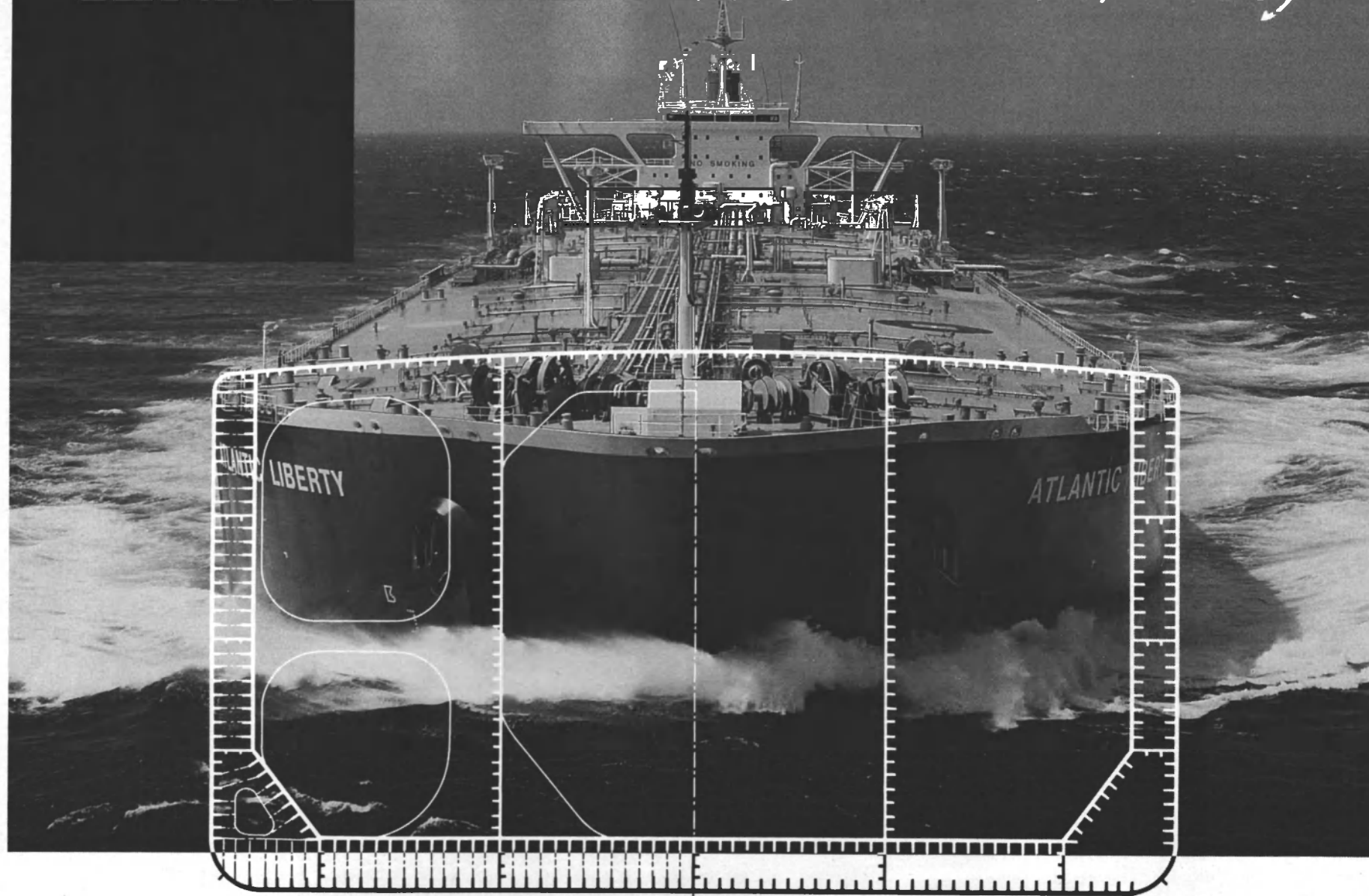
### COSPOLICH

REFRIGERATOR CO.

949 Industry Road, Kenner, LA 70062 USA  
Tel. 1-800-423-7761 Fax. (504) 469-1819

Circle 210 on Reader Service Card

## The Double-Hull VLCC *Atlantic Liberty*



The *Atlantic Liberty* is the second double-hull VLCC built by Hitachi Zosen.

This new vessel is double-sided and double-bottomed, and has a deadweight of 310,000 tons. The high-quality double-hull tankers from Hitachi Zosen are exceptionally easy to operate and maintain thanks to careful design and highly automated and integrated construction. Hitachi Zosen has an abundance of technology and experience in the construction of VLCCs.

Hitachi Zosen's Ariake Works is one of the most modern and automated in the world.

The works features a FCuB single-side welder that is 2.5 times faster than conventional automated welders, NC cutting machines, proprietary 20-electrode line welders and portable NC welding robots (HIROBO).

For double-hull VLCCs with efficient and user-friendly automated operation, advanced design and the highest quality, contact Hitachi Zosen, and judge for yourself.

*We build industries*  
**Hitachi Zosen**  
HITACHI ZOSEN CORPORATION

TOKYO OFFICE 1-1-1 Hitotsubashi, Chiyoda-ku, Tokyo 100, Japan Phone: 03-3217-8435 Fax: 03-3217-8546  
OVERSEAS OFFICES AND SUBSIDIARIES • Dusseldorf Graf-Adolf-Strasse 24, D-40212 Düsseldorf Phone: 0211-133011/4 Fax: 0211-327343 • Beijing Room No. 1201, Beijing Fortune Building, 5, Dong San Huan Bei Lu, Chao Yang Qu, Beijing 100004 Phone: 01-501-4315/6 Fax: 01-501-4315 • Shanghai Room 304A, Golden Bridge Mansion, 2077 Yan An Road (W), Shanghai 200335 Phone: 021-2193887 Fax: 021-2193845 • Jakarta Wisma Antara, 14th floor, Jalan Medan Merdeka Selatan 17, Jakarta 10110 Phone: 021-3845943, 3845948 Fax: 021-3845927 • Bangkok 7th floor, Harindhorn Tower, 54 North Sathorn Road, Bangkok 10500 Phone: 02-266-3162/3163 Fax: 02-266-3166 • Taipei Room 902, Chia Hsin Bldg., No. 96 Sec. 2 Chung Shan N. Rd., Taipei 10449 Phone: 02-568-2022/2023 Fax: 02-568-2030 • Singapore (Hitachi Zosen Singapore Limited) 15, Benoi Road, Singapore 2262 Phone: 861-6622 Fax: 861-4393 • Singapore (Hitachi Zosen Engineering Singapore <Pte.> Ltd.) UOB Building, 325 Boon Lay Place, Jurong, Singapore 2264 Phone: 264-1344 Fax: 265-1952  
OVERSEAS AGENTS • Hitachi Zosen Europe Ltd., London 6th floor, 38 Finsbury Square, London EC2A 1PX Phone: 0171-628-3891 Fax: 0171-638-1309 • Hitachi Zosen U.S.A. Ltd., New York 150 East 52nd Street, 20th floor, New York NY10022 Phone: 212-355-5650 Fax: 212-308-4937 • Hitachi Zosen U.S.A. Ltd., Chicago 1699 Wall Street, Mt. Prospect, Illinois 60056 Phone: 708-427-8353 Fax: 708-427-1856 • Hitachi Zosen Company (HK) Ltd., Hong Kong Room 1009, Tak Shing House, 20 Des Voeux Road, Central, Hong Kong Phone: 524-6237/522-0597 Fax: 845-9039

Circle 280 on Reader Service Card



## Maritime Administration News

In its approval, MarAd noted that Farrell needed a vessel to maintain operating schedule integrity in its services while the *Export Freedom* undergoes required drydocking, thereby continuing to meet the needs of Farrell's shipping customers. In addition, MarAd found and determined that no suitable U.S.-flag vessel is available on any practical basis for the period coinciding with the required drydocking schedule of the *Export Freedom*.

### Cenac granted approval to sell barges

Cenac Towing Co., Inc., Houma, La., has received approval from MarAd to sell the barges *CTCO 3024* and *CTCO 3025* to Compania Argentina Depetroleo S.A., an Argentinean corporation. The barges will be transferred to Argentinean registry. The 1,713-gt barges were built in Houma, La.

### Updated U.S. Merchant Marine Data Sheet available

MarAd has updated its quarterly report, *U.S. Merchant Marine Data Sheet*, as of October 1, 1995. Limited copies are available from MarAd's Office of Congressional and Public Affairs, 400, 7th St., SW, Washington, D.C. 20590, tel: (202) 366-5807.

### MarAd enters agreements to enhance U.S. shipyard competitiveness

MarAd has entered into several cooperative agreements to enhance the competitiveness of American shipyards. An agency of the U.S. Department of Transportation, MarAd is acting as an agent for the Department of Defense's Advanced Research Projects Agency (ARPA). Cooperative agreements under ARPA's Maritech program are awarded on a competitive basis. Participation in the industry-initiated Maritech program is one element of the President's plan to strengthen America's shipbuilding industry. One goal is to retain the critical shipyard journeyman skills necessary to build future naval combatants and to help preserve a shipbuilding mobilization base in the U.S.

MarAd has entered into a cooperative agreement with Halter Marine, Inc., Gulfport, Miss., to develop a high-technology, high-capacity, environmentally-friendly passenger/vehicle ferry. The ferry will be designed to be built using aluminum construction with gas turbine engines. It would carry 2,000 people and 450 vehicles at a competitively high speed. The total value of the 30-month agreement is \$5,041,414. The government

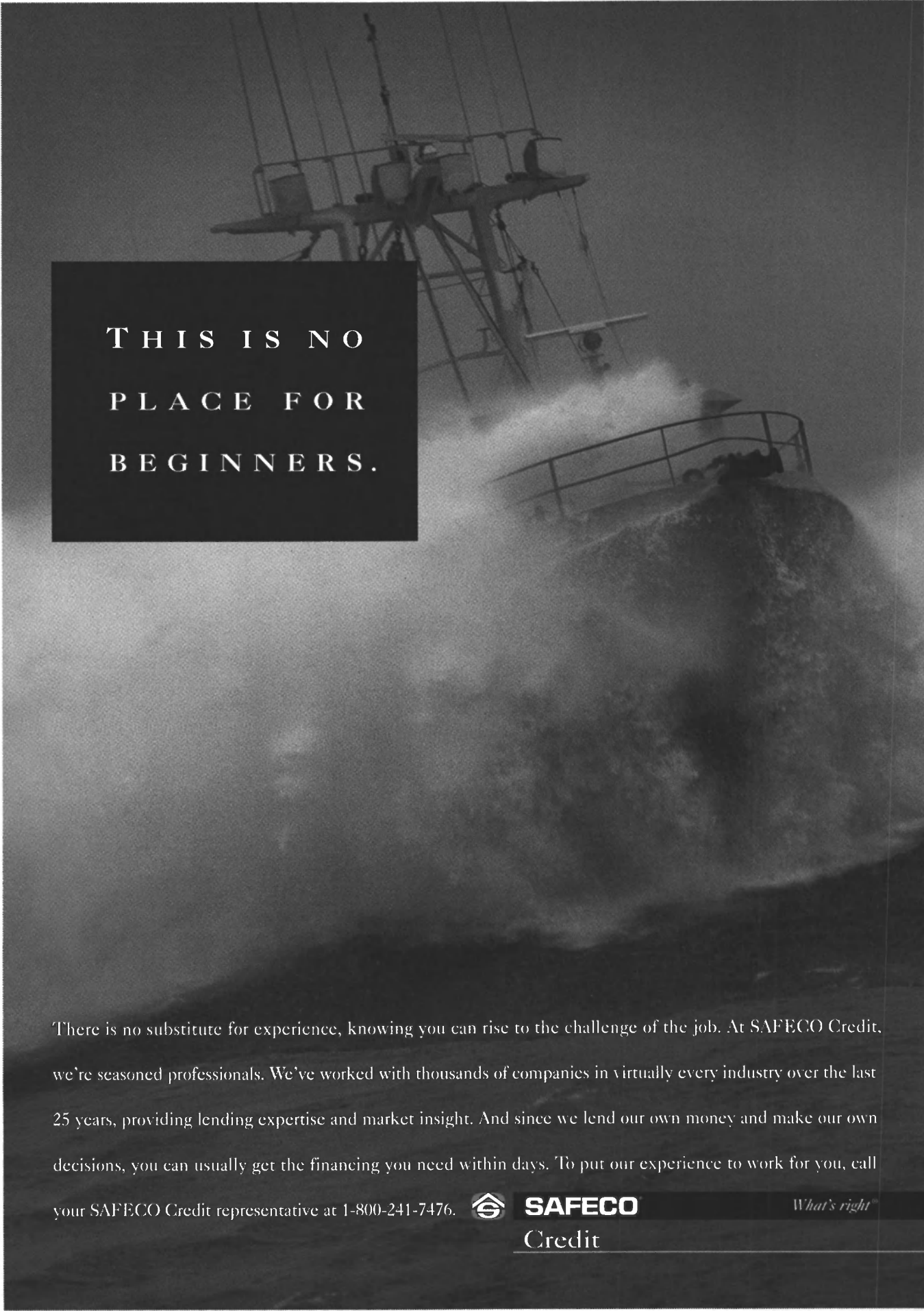
will fund half the cost, with Halter Marine, Inc. providing the remainder in cash and in-kind services.

The agency has entered into a cooperative agreement with the Smartbridge Consortium located in Syracuse, N.Y. The technology

involved is a total bridge and ship integration system. The system would accommodate a combination of upgraded and new sensors (radar-infrared, electro-optical) and a navigational display which could evolve into a fully compliant elec-

tronic chart display. It also would include an information system (ECDIS), an integrated sensor display and an automated advisory/decision aid for piloting and

(Continued on page 54)



THIS IS NO  
PLACE FOR  
BEGINNERS.

There is no substitute for experience, knowing you can rise to the challenge of the job. At SAFECO Credit, we're seasoned professionals. We've worked with thousands of companies in virtually every industry over the last 25 years, providing lending expertise and market insight. And since we lend our own money and make our own decisions, you can usually get the financing you need within days. To put our experience to work for you, call your SAFECO Credit representative at 1-800-241-7476.

 **SAFECO**  
Credit

*What's right™*

Circle 236 on Reader Service Card



# CAD/CAM FOR BOAT AND SHIP:

## A Range of Design Applications, From Modeling To Manufacturing

The efforts of all ship and boat builders to become more efficient has been an ongoing struggle, and far from undocumented. But when someone has a product that makes operations more efficient and cost-effective — and customers happier with the product and its delivery time, and therefore more likely to place repeat orders — you can bet every shipbuilder the world over will stop and listen.

Few technologies can impact a manufacturing operation's efficiency like CAD/CAM, and this holds true both for large and smaller scale manufacturing. For this issue's CAD/CAM feature, we profile some of the products being offered for both these ends of the vessel building spectrum.

### Autoship 6 For Windows Offers Major Upgrades

Autoship Systems Corporation has released the latest version of its flagship program, Autoship, for ship design and modeling. The new version of the program has a tri-modal user interface:

- **Select Mode**, in which objects may be selected by pointing, and then manipulated. Those objects can include points, curves, surfaces, polygons and groups. The mode allows transform operations such as moving, scaling, rotating, mirroring, and shearing, as well as deletion and surface-to-surface trimming operations.
- **Edit Mode**, in which NURBS (Non-Uniform Rational B-Spline) objects are manipulated. Users familiar with Autoship version 5 will recognize this as the essential mode of Autoship 6's predecessor, which allows the reshaping of objects by manipulating control points.
- **Create Mode**, for creating new objects. Points and curves can be created, among other ways, by simply drawing them with the mouse. Recently added Platonic Solids may also be created in this mode.

Autoship 6 offers several new curve generation methods, some in response to user requests. The one most requested, according to Autoship Systems, was the lofted curve — generated from a list of points such as that found in a spreadsheet, and which can be cut-and-pasted from other Windows applications. Another new curve Autoship 6 can generate is a match curve, to create a free space curve that closely matches an embedded or projected curve.

The program also offers new surface generation capabilities, such as the tube surface. This feature creates a tube or pipe following any curve after the user specifies the curve and the tube radius.

Creating object groups (called assemblies in Autoship version 5) is accomplished by an intuitive Windows standard — holding down the SHIFT key and selecting multiple objects, then selecting Group from the Arrange menu. 3-D, polar or spiral groups can be created via the Array command as well.

The new version of the program offers a new, simplified approach to trimmed surfaces. The user

selects a surface, hits the Trim icon, and selects the cutting curve. The result splits the surface into two or more poly objects, and the user deletes the extraneous bits.

For impressive presentations, Autoship incorporates High Quality Z-Buffer rendering. This feature offers Gouraud shading, accurate hidden surface removal, up to 10 light sources, and material properties that allow simulation of dull or shiny materials of any color. All that is accomplished between six and 10 times faster than the flat shaded rendering of Autoship 5. Version 6's Camera Mode allows virtual reality (VR) style navigation around and through a computer-generated model, while providing a true perspective view.

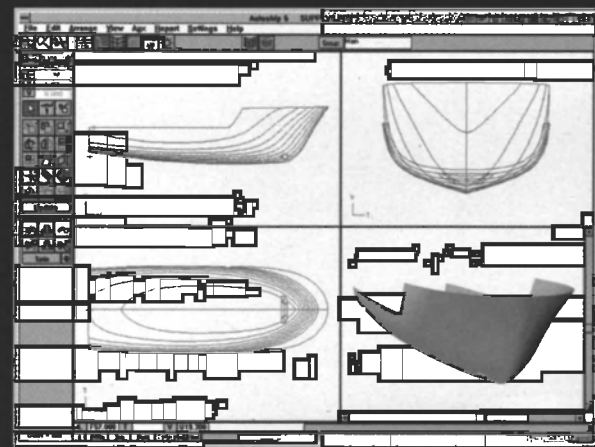
Duane D. Branch, design engineer for Gold Coast Yachts, has been using Autoship — as well as AutoCAD and a variety of other spreadsheet and custom programs, for more than five years. "Now when confronted with a new design challenge it is a simple process to quickly look at many hull shape permutations before finally selecting the one we want," he said. "Then with a quick modem call to the Mill Wright Shop all the frames are NC cut, shipped, assembled and readied for planking in a couple of weeks. The final result is a superior product fully expressing the designer's creativity."

"The hull shape of our new line of Patented Wave Piercing Calamarians would have been very difficult — if not impossible — to loft without Autoship," Mr. Branch said. (For more information on Gold Coast Yachts' wave-piercers, see MR/EN November 1995, p. 40.)

Autoship is part of a suite of programs designed to interact seamlessly with each other, including Autohydro, a hydrostatics and stability program; Autopower, a resistance and powering prediction program; Autobuild, an internal structural modeling application; AutoNC, an program for torch, laser, waterjet and router applications; and Autoload for monitoring of onboard loading and stability.

For example, files created in Autoship can be exported directly to AutoNC (Numerical Control) for torch cutting, nesting and milling.

For more information on Autoship Systems  
Circle 130 on Reader Service Card



### Computervision Offers Two Products For Hull, Structural Modeling Applications



This model was created by Ingalls Shipbuilding staff using Computervision products.

Computervision Corporation of Bedford, Mass., introduced two new CADD5 5 applications for the shipbuilding industry, providing solutions for design and manufacturing of ship hulls and structures.

CV Hull and Advanced Structural Modeling extend the company's unique Electronic Product Definition strategy for the shipbuilding industry, facilitate the design automation process and address key time-to-market issues for shipbuilders by reducing costs, delivery and production cycles while ensuring quality. The CV Hull Package, an integrated solution designed to directly meet the needs of shipbuilders for hull and structural design, combines CADD5 5 hybrid modeling features with specialized structural functionality, delivering a comprehensive design and fabrication package.

The CADD5 5 Advanced Structural Modeling module is software that addresses the requirements of the most complex structural design elements and structural systems. CV Hull and Advanced Structural Modeling are integrated with CADD5 5 applications and Computervision's Optegra product data management family to deliver a comprehensive Electronic Product Definition strategy for the shipbuilding industry.

"With these new CADD5 5 solutions, Computervision targets a key factor which is driving today's highly competitive shipbuilding industry," said Roland Scott of Computervision's shipbuilding product marketing. "Computervision's comprehensive ship electronic product definition strategy — which now includes CV Hull and Advanced Structural Modeling — broadens the integration, flexibility and access to electronic information. With this integrated approach to hull and outfitting design, manufacturing, and life-cycle data management, shipbuilders can reduce time-to-market cycles, decrease costs, and increase their global competitiveness."

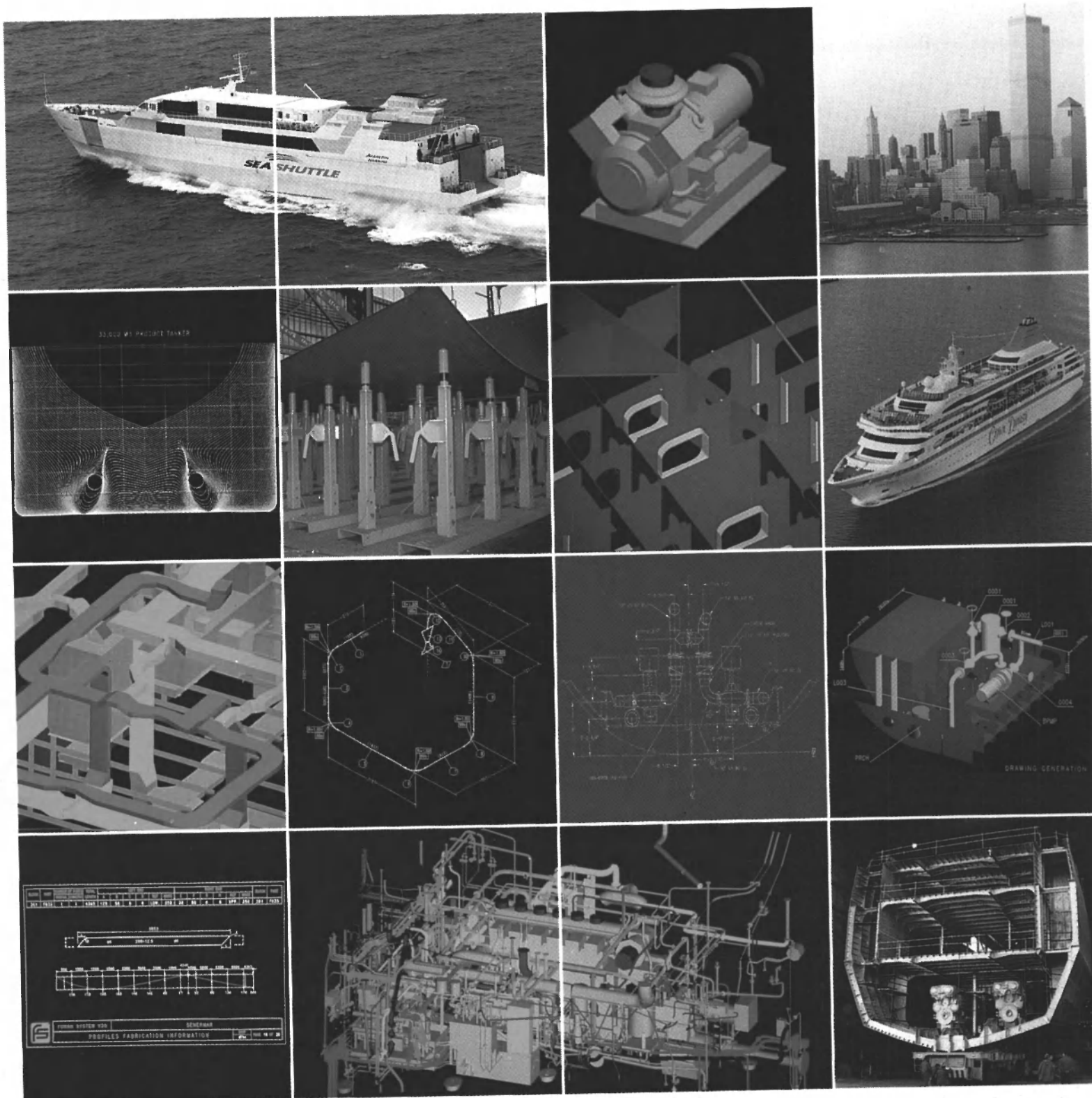
For more information on Computervision  
Circle 129 on Reader Service Card

### AeroHydro's MultiSurf Moves From DOS To Windows

Having recently transitioned their MultiSurf modeling software from the DOS to the Windows environment, AeroHydro claims that far from losing speed in the shift, MultiSurf is running up to 20 times faster than before. The new version has also been imbued with enhanced viewing, editing and calculation features.

# FORAN

*The leading edge of shipbuilding CAD/CAM/CIM*



Basic Design • Hull Structure • Outfitting • Distributed Systems  
Drafting • 3D Product Model Database • Workshop Information  
Concurrent Engineering



SENERMAR, Severo Ochoa, 4, PTM. 28760 Tres Cantos, Madrid, SPAIN - Phone +34-1-807-7000 / 807 7151. Fax +34-1-807-7203  
Circle 295 on Reader Service Card



## CAD/CAM

MultiSurf's reportedly precise control of complex shapes derives from the program's Relational Geometry framework. According to AeroHydro, this framework allows the designer to capture a wide variety of relationships while building a design — relationships which come in handy as the model is updated, because MultiSurf then updates the other elements of the design automatically.

MultiSurf is not a NURBS (Non-Uniform Rational B-Spline)-based program, but it does support NURBS as one of 20 supported surface types.

Those with Internet connections and World Wide Web browsing software can download a fully-functional version of MultiSurf (stripped only of its file-exporting capabilities) from AeroHydro's site on the Web; the "address" — URL,

or Uniform Resource Locator — is <http://www.netins.net/showcase/aerohydr/msdemo.html>.

For more information on AeroHydro  
Circle 128 on Reader Service Card

### MIL Davie Adopts TRIBON

MIL Davie, Inc., in Lévis, Canada, recently adopted the TRIBON system from Kockums Com-

puter Systems (KCS). An initial group of 15 users was trained for all disciplines covered by TRIBON, including hull, outfitting, mechanical and electrical.

The first task for which TRIBON was employed was the lengthening of a containership, a task which required application of all disciplines the program covers. Reportedly, the project was very successful and TRIBON helped the project team reduce excess amounts of steel.

For more information on KCS  
Circle 131 on Reader Service Card

### Indonesian Yard Adopts Senermar's FORAN

PT PAL, one of the largest shipbuilders in Indonesia with 6,000 employees, has signed a license for the FORAN V.30 CAD/CAM/CAE system for ship design and production.

The FORAN system is not unfamiliar to PAL, which in 1982 was licensed to use version 10 of the system. The program was developed by Senermar, the Spanish firm of naval architects.

Implementation of version 30 will be carried out at the Surabaya yard, but part of the general design modules will also be implemented at the company's offices in Jakarta. The FORAN system is licensed for use in 121 shipyards in 21 countries worldwide.

For more information on FORAN  
Circle 132 on Reader Service Card

### Seastar Offers New Propeller Design Software

Seastar Software Developers International released its CAD program for propeller design, PropellerSoft for Windows. The software automates the conventional propeller drafting process. With PropellerSoft, the designer can reportedly create high-quality two- or three-dimensional propeller drawings automatically. By clicking a mouse, the designer can obtain laser-quality drawings and information such as blade volume, hub volume, and propeller moment of inertia.

The program was developed by registered professional engineers with hands-on naval architectural and marine engineering experience. The independent file structure of blade, foil, hub and nozzle (duct) used by the software not only offers an easy way of electronic storing and cataloging of propeller designs, but also reportedly makes creating new variations of propellers faster and easier.

PropellerSoft can save 3-D propeller models in .DXF format for exporting into other CAD programs. Seastar says PropellerSoft can also be used as a pre-processor for lifting-surface or finite-element analysis programs.

For more information on Seastar  
Circle 133 on Reader Service Card

## Steel Cad AB

### ENGINEERING AND DESIGN SERVICES

#### Committed to the complete design of ships and oil platforms

A member of the HR Group, **Steel Cad AB** is one of the biggest and most important ship design companies in Sweden. We have a wealth of experience with all manner of vessel types for both newbuilding and conversion work.

We use the STEERBEAR and TRIBON systems  
with which we have more than 25 years experience

**Steel Cad AB** is currently providing expert design support to National Steel and Shipbuilding Company (NASSCO), the first US shipyard to fully adopt the KCS/TRIBON system. NASSCO is using the TRIBON Hull Application in its Sealift New Construction program, to design the first of a class of 290 m Panamax RO/ROs for the US Navy.

**Steel Cad** engineers have provided NASSCO with detail design of hull module structure, shell development, fairing and nesting. This support has also included user training in the TRIBON system.



*"Steel Cad has made a major contribution to our implementation of this new system. Their expertise has provided us with a strong user base as we come up to speed with the TRIBON system."*  
says NASSCO.

William B. Hale



With the most up to date computers and software we have the know-how and the equipment. Call us today to see how we can help you with your project.

### SteelCad AB

Stora Varvsgatan 11E  
S-211 19 Malmö  
SWEDEN  
Tel: +46 40 348462  
Fax: +46 40 348420



Circle 247 on Reader Service Card

Maritime Reporter/Engineering News





### Major Salvage Operation Prevents U.K. Pollution Disaster

A major spill in U.K. waters was averted when a Smit Tak and Cory Towage joint salvage team successfully refloated the grounded Norwegian tanker *Barga*, laden with 112,189 tons of North Sea crude.

Five tugs pulled the 123,665-dwt tanker free from the rocky coast at St. Ann's Head, Milford Haven. The refloating was performed on a rising tide, following an overnight ship-to-ship (STS) transfer of 7,674 tons of cargo to the lightering tankers *Ecoman*, 6,000 dwt, and *White Crest*, 3,500 tons. *Barga* grounded at Mill Bay and Smit Tak and Cory Towage obtained a Lloyd's Open Form (LOF) 1995 salvage contract. Four Cory harbor tugs, each with 3,500 hp, and the powerful anchor-handling tug/supply vessel *Anglian Earl*, 8,000 hp, responded to the casualty.

Smit Tak General Manager **Geert Koffeman** commented, "The prompt rescue of the *Barga* makes the point, once again, that rapid salvage response can prevent major pollution disasters. The environmental consequences of the loss of over 100,000 tons of crude oil on the Welsh coast were unthinkable."

The LOF salvage contract was obtained from Bergen-based owner J. Ludwig Mowinckels. Smit Tak mobilized Senior Salvage Master Captain **Bert Kleweght** and a group of experienced divers and other salvage personnel, together with survey equipment and diving

gear. As lightering continued, the joint salvage team assembled and assessed the situation. An initial diving survey was performed and the team formulated a plan for refloating the casualty. The divers reported that the areas of damage were not extensive, and centered on three double bottom tanks and the forepeak. There was no leakage of oil from the tanker's double hull. *Anglian Earl*, with a 100-ton bollard pull, required only half power during this operation. Reportedly, no pollution occurred.

*Barga* was towed to an available berth at Milford Haven, where another diving inspection took place. After salvage services were terminated, the tanker proceeded to the Texaco terminal for discharge of the cargo.

For more information from Smit International  
Circle 10 on Reader Service Card

### McDermott To Lead Offshore Base Conceptual Design

McDermott Shipbuilding, Inc. will provide the technical lead in a \$5.9 million contract awarded to McDermott's Contract Research Division by the Naval Surface Warfare Center, Carderock Division. The contract calls for conceptual and preliminary designs and three-dimensional computer models of a Mobile Offshore Base (MOB), a floating platform which could be used as a military logistics support base. The contract, which is sponsored by the Advanced Research Projects Agency (ARPA) of the U.S. Department of Defense (DOD), contains an option which could raise the total value to \$20 million over three years. McDermott Shipbuilding is based in St. Rose, La.; Contract Research Division offices are in Alliance, Ohio, and Lynchburg, Va. In addition, McDermott's Hudson Engineering Corporation, located in Houston, and its Research and Development Division, located in Alliance, will be involved in the project.

For more information on McDermott Shipbuilding  
Circle 55 on Reader Service Card

### Moran Embarks On Tug Conversion Program

Moran Towing Corp. has commenced an innovative tug conversion program for its single-screw tugs. When converted, the new Mortrac class tugs will have a forward-mounted, fully-retractable, 360-degree azimuthing thruster in addition to single-screw propulsion systems. Mortrac tugs will also have completely redesigned superstructures. As a result of the conversion, Moran says, these tugs will have significantly increased horsepower, exceptionally enhanced maneuverability and unobstructed, 360-degree pilothouse visibility. The first conversion under this program involves the tug *Sewells Point*. With the addition of the 640-hp thruster unit, the tug's total maximum horsepower will be increased to 3,005 hp. Moreover, its maneuverability will be enhanced to a point where it can "walk" sideways and turn within its own length. According to Moran, the program is a response to the increasing size and demanding configurations of today's commercial and naval vessels, as well as the need for improved maneuverability in safely moving oil barges.

### Freeport To Expand Capacity

Freeport Shipbuilding and Marine Repair is adding a new 20,000-sq.-ft. fabrication building to its expanding boat building facility. The new building will be used in conjunction with Freeport's existing 15,000-sq.-ft. fabrication building in constructing large passenger vessels, including futuristic high-speed ferries. The fabrication building is now in the design/engineering phase. The new construction is a result of a recent licensing agreement between Freeport and Advanced Multi-Hull Designs (AMD) of Sydney, Australia, under the terms of which Freeport will build AMD-designed modern high-speed ferries up to 150 ft. (46 m) in length at its Freeport, Fla., shipyard.

For more information on Freeport Shipbuilding  
Circle 58 on Reader Service Card

**THE NO. 1 FENDER FOR SHIP ASSIST WORK!**

Five years ago when our clients were asking us to build them a softer and stronger fender, we did something about it.

*The result is the Model SR3D Soft Loop Style Fender.*

**SCHUYLER RUBBER CO.**  
EST. 1950  
16901 WOOD-RED RD.  
WOODINVILLE, WA 98072  
(800) 426-3917 FAX (206) 488-2424

Circle 273 on Reader Service Card

**Commercial Aluminum FERRY BOATS**  
by *Munson Hammerhead*

**65 LAKE CHELAN specifications**

Length	65'	Speed	30 knots
Beam	21'	Engines	Detroit 12192s
Displacement	45 tons	Passengers	140

Munson Hammerhead Boats • P.O. Box 597, La Conner, Washington 98257  
Phone: (360) 466-5925 • Fax: (360) 466-5921

Circle 237 on Reader Service Card

Antarctic Support Associates (ASA), under contract with the National Science Foundation (NSF), an independent agency of the United States Government, will release a Request for Proposal around the 1st of February 1996 for interested sources to provide an ice-strengthened ocean-going tanker to carry fuels to resupply McMurdo Station, Antarctica. Three types of fuel are required: 1) 7,000,000 USG (est.) Turbine Fuel, Aviation Grade, Type AN-8, NSN: 9130-01-373-0208, MIL-SPEC: MIL-T 83133D; 2) 1,000,000 USG Diesel Fuel Marine, (NATO F-76) Naval Distillate, NSN: 9140-00-273-2377, MIL-SPEC: MIL-16884H; 3) 250,000 USG Gasoline Mid-Grade, Unleaded, (MUM), Volatility Class D, NSN: 9130-01-272-0983, ASTM-D-4814. Tanker will be met at ice shelf by USCG Polar Class Ice-Breaker and escorted to McMurdo Station. Tanker is to have approximately 34' draft and be ABS Ice Class B-0. Delivery will be in January 1997, if decision is made to procure. Letters of Interest and qualification statements are required for inquiry. Such letters should contain proposed vessel (s) specifications, including ice class and society, capacities, and vessel particulars. Vessel owner/operators interested in proposing to supply the stated cargo fuels, as well as the tanker, should so indicate their interest. All written correspondence shall be addressed to: Antarctic Support Associates; 61 Inverness Drive East, Suite 300; Englewood, Colorado 80112; ATTN: Reginald Thomas; Manager, Contracts. Responses are due by 30 January 1996. No telephone calls.

Circle 202 on Reader Service Card



**LEEVAC**  
SHIPYARDS, INC.

**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 231 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**

FISH EXPO BOOTH #1840

**BAYWOOD, INC.**

Bellingham, WA  
TEL (360) 734-3900  
OR 1-800-386-6156  
FAX (360) 647-0740

Circle 255 on Reader Service Card

## SNAME Ship Production Symposium Set For San Diego

**International Commercial Competitiveness in the Year 2000, Fleet Support & Maintenance**

Widely regarded in the industry as "the" place to discuss ship production technology, the 1996 Ship Production Symposium and Workshop is scheduled for February 14-16 in San Diego. Dubbed "International Commercial Competitiveness in the Year 2000, Fleet Support and Maintenance," the event is sponsored by the Society of Naval Architects and Marine Engineers (SNAME) in conjunction with the National Shipbuilding Research Program (NSRP).

The symposium is the only annual event in the United States to present shipbuilding technologies through technical presentations and exhibits ranging from computer-aided design and robotics, to predictive maintenance, marine coatings and training," said Peter Jaquith, conference committee chairman.

### The Latest Technologies

The symposium targets executive management at shipbuilding and ship owning companies, as well as ship conversion and maintenance personnel and technical management. The three-day symposium offers a little bit of everything, including a CAD/CAM/CIM workshop which is designed especially for engineers, designers and other production personnel. The workshop is a function of the NSRP-sponsored project "Evaluate the Shipbuilding CAD/CAM Systems." In the workshop, partic-

ipants will be exposed to the strategies of companies that have changed both management and process cultures to remain competitive in what can best be described as a difficult commercial shipbuilding market. The workshop aims to help attendees gain an understanding of how some of the best shipyards in the world have gone about planning, developing and implementing system and process improvements to boost performance. The full symposium, however, offers an array of seminar topics, including: Commercial Marketing (panel discussion); Design and Production Processes; Commercial Maintenance and Repair; Navy Maintenance and Repair; Maritech Options for the Future; The Reason for Robotization in Shipbuilding; and Environmental Compliance in the 90s.

### More Than A Conference

The conference is accompanied by an exhibit, and over the 2.5 days of the symposium there will be approximately 40 to 50 exhibits for attendee inspection, including operating robotics and automatic manufacturing equipment. There is also a full schedule of after-hours and social functions scheduled, including a NASSCO shipyard tour and a cruise after the symposium.

For further information on attending the symposium, call (619) 535-0050.

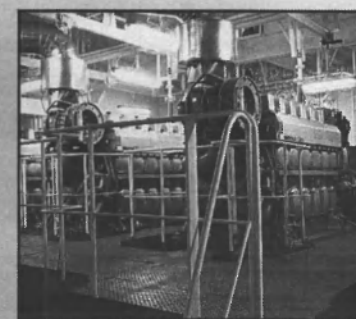
## Wärtsilä 20 Designed For Maximum Power, Minimum Wear

The first pilot installation for Wärtsilä Diesel's new Wärtsilä 20 engine began in November 1993. It reportedly followed approximately 2,000 hours of exhaustive testing in Vaasa, Finland, of Wärtsilä's 6L20 test engine under high and frequent load changing. The pilot installation comprised three six-cylinder Wärtsilä 6L20 engines, installed at the Daewoo shipyard in South Korea, as auxiliary generating sets on the *M/V Kairo*, one of five container vessels built for German owners. In the two years that have since elapsed, more than 300 Wärtsilä 20 engines have reportedly been ordered. A milestone of 10,000 operating hours will be reached this fall for two main engines installed on a tugboat in southeast Asia; several other engines have accumulated 5,000 or more operating hours. The Wärtsilä 20 engine — with a 200-mm cylinder bore, 280-mm stroke, BMEP of 24.6 - 22.5 bar, and an output per cylinder of 130 - 165 kW — is designed for marine duty as both an auxiliary and a main engine.

The cylinder liner of the engine was designed with an anti-polishing ring, mounted in the top of the cylinder liner above the TDC for the upper compression ring. This design facilitates the reduction of any wear or ovality of the cylinder liner because the carbon deposit build-up on the piston crown does not come in contact with the cylinder liner, instead causing wear on the anti-polishing ring. As a result, the anti-polishing ring will reach the expected lifetime of 24,000 operating hours with the cylinder liner still within manufacturing tolerances.

The piston is of composite design, with steel crown and modular cast iron skirt. The Wärtsilä 20 is equipped with a starting air motor for all cylinder configurations, allowing for optimal cylinder head stiffness. Injection pump housing includes integral low-pressure fuel channels for maximum safety and access, as well as a guide block for the valve tappets.

For more information on Wärtsilä  
Circle 40 on Reader Service Card



View of engine room.



*M/V City of Tunis*, one of four sister vessels equipped with three Wärtsilä 6L20 auxiliary engines.

Maritime Reporter/Engineering News



### SMI Accomplishes Tough Repair

Service Marine Industries (SMI) completed in-the-water bowthruster housing repairs aboard the Baton Rouge casino vessel, *Casino Rouge*, a job completed without drydocking the boat. Following two site visits by SMI and diver inspection by a Baton Rouge-based diving services firm, it was determined that the vessel would have to be ballasted by the stern and that temporary closures would have to be installed on the tunnel ends to allow for the inspection and repairs, while the vessel remained afloat, dockside.

For more information on Service Marine  
Circle 53 on Reader Service Card

### USCG Interim Rule Brings Major Changes For OSVs

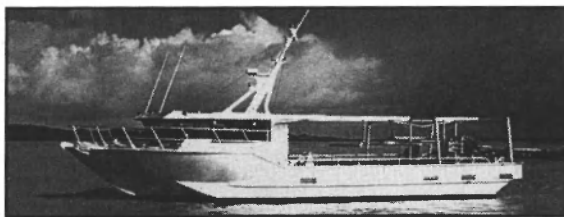
The U.S. Coast Guard (USCG) announced an Interim Rule (IR) establishing a new set of regulations that govern the inspection and certification of offshore supply vessels (OSVs), including liftboats.

The rule contains many changes to existing regulations and policy governing conventional OSVs and, for the first time, includes regulations for liftboats that currently do not require inspection. Existing OSVs and OSVs under construction that receive a certificate of inspection from the USCG within 24 months after the effective date of the IR will have the option of complying with the new IR or continuing to comply with existing regulations.

The most significant impact of the new regulations is the consolidation requirements for offshore supply vessels. Existing OSVs have been inspected and certificated under a number of regulations — Cargo and Miscellaneous Vessel Regulations; and Small Passenger Vessel Regulations — depending on their age and tonnage. The USCG said the new regulations will remove uncertainties and inconsistencies by consolidating existing standards and policy into a single subchapter.

Comments on the regulations (CFR 82-004 and CGD 86-074) must be received on or before February 14, 1996. They may be sent to Commandant (G-LRA/3406), U.S. Coast Guard Headquarters, 2100 Second St. SW, Washington, D.C., 20593-0001.

### Q-West Produces Unique Tri-Hulled Vessel



Seatruck trimaran *Yellowfin*.

After receiving an order to build a large fishing boat offering good cargo-holding capacities and speed, the Q-West shipyard produced F/V *Yellowfin*, a Seatruck trimaran made of aluminum with a Volvo Penta diesel engine as its power source. The vessel has been designated a "Tri-Hull Albatross Seatruck Fast Aluminum Longliner." The three hulls are made of a welded 8-mm aluminum sheet plate construction, and the overall length of the vessel is 55 ft. (16.7 m), with a 21-ft. (6.2-m) beam, draft of 4 ft. (1.4 m), and a displacement of 20 tons. Volvo Penta's TAMD163P diesel engine, developing 500 kW (680 hp), serves as the power source.

For more information Q-West  
Circle 41 on Reader Service Card

## The NAVIGATOR

The Most Advanced High Precision DGPS System Made

The NAVIGATOR is a precision navigation instrument with a 12 channel parallel processing receiver. With position accuracy of 1-3 meters, our detailed chart shows your movement directly on the screen.



The NAVIGATOR is built to the following MIL-SPEC Specifications: Water resistance & salt exposure: MIL-T 28800c para 4.5 6.2. Vibration 1.5g 10-100HZ Shock 5G peak.

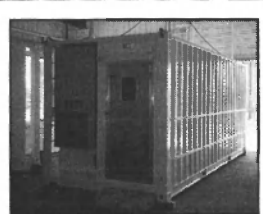
- Shows all depth markings and bottom contours.
- Add/Delete Nav Aids.
- Worldwide Vector Digitized Chart Database.
- Chart Update Program.
- Voyage Recorder.
- Automatic Beacon Selection.
- Vessel Traffic Surveillance Capability.
- Automated Dependent Surveillance.
- Pole to pole data communications via satellite.
- Portable Pilot Pack Version.

**ELECTRONIC MARINE SYSTEMS, INC.**

800 Ferndale Place

Rahway • New Jersey • 07065 • USA  
• 908-382-4344 • fax • 908-388-5111

Circle 261 on Reader Service Card



### Remote and Mobile Systems

SAIC's custom enclosures are designed to suit client application and environment requirements.

- Electronic/Navigation/Communications Shelters
- Hangars and Electrical/Mechanical Shop Space
- Office Space/Conference Room
- Operation Mission Control
- Crew Lounge and Berthing
- Laboratories
- Climate Controlled Area



**SAIC** Science Applications International Corporation  
3990 Old Town Ave., Suite 206B, San Diego, CA 92110  
Tel. (619) 686-5600 Fax (619) 686-5604

Circle 241 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 243 on Reader Service Card

YOU DON'T HAVE TO PAINT ... YOU HAVE A CHOICE!

## BIO-KOTE™

BALLAST TANK PRESERVATIVE ...

- Non Hazardous
- Safe
- Firm Film
- Resists Washout
- Not Slippery
- Long Life
- Single Package
- Minimal Surface Prep
- Easy to Apply
- World Wide



**ESGARD PROTECTS YOUR INVESTMENT AND PRESERVES YOUR DOLLARS™**

P.O. Drawer 2698, Lafayette, LA 70502  
TEL (318) 234-6327 • FAX (318) 234-0113  
1-800-888-2511

ESGARD INTERNATIONAL GmbH  
Pulchener Weg 6  
21107 Hamburg GERMANY  
TEL 49-40-751457 • FAX 49-40-755805

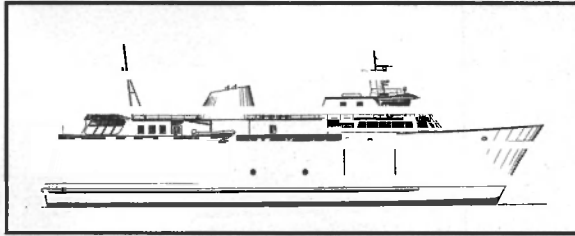
Circle 215 on Reader Service Card

## Elliott Bay To Design Passenger/Vehicle Ferries For Alaska

Elliott Bay Design Group (EBDG) of Seattle has been selected to design a pair of new passenger/vehicle ferries for service to and from Prince of Wales Island in southeast Alaska. One of the two vessels will operate between Ketchikan and Hollis on Kasaan

Bay; the second will run from Coffman Cove to Wrangell, and then to Blind Slough on Mitkof Island for the Petersburg traffic. The Kasaan Bay ferry will operate year-round, with the Coffman Bay boat running from May to September.

According to EBDG officials, the preliminary design calls for a single-ended ship with an open stern and a side door to allow vehicle loading. Arrangements will be compatible with existing Alaska Marine Highway System (AMHS) terminals at Hollis and Wrangell; new terminals will be built at Ketchikan and Blind Slough. The new ferries will



be capable of handling all highway-legal vehicles per current AMHS standards.

"We're proud to have been selected by the island communities to help them develop these new vessels to meet their needs," said EBDG Project Manager **Jim Cole**. "While vehicle capacity is important, the emphasis in our design is on the passengers. We're enthusiastic about the level of service these vessels will bring to the people they serve," he concluded.

The concept design calls for a vessel that will be approximately 190 ft. (58.5 m) long with a 51-ft. (15.5-m) beam and a depth of 19 ft. (8.8 m). The Kasaan Bay ferry would have seating for 164 passengers, while the Coffman Cove boat would have 109 seats.

Elliott Bay is now working on a reconnaissance design for presentation to the Prince of Wales Island community groups and the State of Alaska early this year. It is hoped that construction bids can be solicited by mid-1996, with construction to begin shortly thereafter. Delivery is projected for the spring of 1997.

For more information on EBDG  
Circle 57 on Reader Service Card

PFC; RAC; CAC; RIB; PCR; FPB; PBR...

The missions are specific but  
the propulsion choice is universal...

... Hamilton Jet



With over 20,000 installations worldwide, it's not surprising that HamiltonJet has links with most of today's hull forms. Whether a sophisticated military assault craft or a hard working crew boat, HamiltonJet will have a suitable waterjet propulsion system in their

extensive range to help you achieve optimum propulsion coefficients. Experience based pre and after sales services support all projects, ensuring a continuous connection between your hull and its destination, whatever the mission.

Link up  
with the waterjet  
specialists...

**HamiltonJet**

Manufactured in New Zealand by CWF Hamilton and Co. Ltd, P.O. Box 709, Christchurch, New Zealand, Ph: 64-3-348 4179, Fax: 64-3-348 6969  
Worldwide Distributors — Italy, Spain, UK, USA, Canada, India, France, Germany, Holland, Australia, Finland, Hong Kong, Indonesia, Korea, Norway, Greece, Singapore, Sweden, Taiwan, Japan, Malaysia, Thailand, Denmark, Philippines, Panama, South Africa.

Circle 220 on Reader Service Card

CWF 0923

## Texas Drydock To Upgrade Two Semi-Subs

**Don Covington**, president and CEO of Texas Drydock, Inc. (TDI), announced the signing of a contract with subsidiaries of Diamond Offshore Drilling, Inc. for the major upgrade and modification of two Diamond Offshore Victory class semi-submersibles — *Ocean Quest* and *Ocean Countess* — for deep water drilling in the Gulf of Mexico. The stability and deck load of each unit will be substantially upgraded by the addition of approximately 3,000 tons of steel to the lower hulls, stability columns and main deck. The mooring system will be retrofitted with an eight-point chain wire system, driven by weight combination traction winch/windlasses, resulting in an increased operating water depth of 3,500 ft. (1,067 m) for *Ocean Quest* and 4,500 ft. (1,372 m) for *Ocean Countess*.

TDI will convert both rigs at TDI South, its new 20-acre facility in the Sabine Neches Waterway in Sabine Pass, Texas. However, substantial fabrication will also be done at the TDI Orange yard.

TDI positioned itself to enter the semi-submersible upgrade market with the recent acquisition of the BethShip Sabine Yard in Port Arthur, Texas, from Bethlehem Steel.

For more information on TDI  
Circle 59 on Reader Service Card

Maritime Reporter/Engineering News



### Companies Form Tank Container Lessors Assoc.

A group of six companies recently agreed to form the International Tank Container Lessors Association (ITCLA). The six companies — which hold a substantial share of the world's tank containers — are: Cronos; Ermewa; Eurotainer; Stolt-Nielsen Leasing; Transamerica; and Trans Ocean. The first item of business was to adopt Acceptable Container Conditions (ACC), which will enable companies to agree on the conditions under which tank containers are transferred among lessees, lessors, depots and others.

For more information  
Circle 65 on Reader Service Card

### New Book Focuses On Marine Technology

Computational Mechanics has made available a new book entitled *Marine Technology and Transportation*. The book contains the papers presented at the first International Conference on Marine Technology (ODRA '95), which was held in Szczecin, Poland, in September 1995.

For information on the new book  
Circle 66 on Reader Service Card

### Zodiac Expands Line

Zodiac, a manufacturer of inflatable boats and liferafts, expanded its line of U.S. Coast Guard-approved liferafts with the introduction of a new series of Inflatable Buoyancy Apparatus (IBAs). The new product is designed for use by inshore fishing boats and excursion vessels. The chief attributes of the new product are the use of copolymer-coated fabrics and the unique techniques used in construction.

For more information on the new line  
Circle 67 on Reader Service Card

### New Alabama Yard Gets USCG Business

Dohrman Machine Production of West Point, Neb., has been awarded a contract to design and build a series of 65-ft. (19.8-m) self-propelled buoy tending barges for the U.S. Coast Guard (USCG). According to Travis Short, president of Dohrman, the buoy tenders will be built in Bayou LaBatre, Ala., at Dohrman's recently acquired facility. The Gulf Coast operation will be known as Owen-Short Marine, a division of Dohrman Machine Production, Inc. Overing Yacht Design of Ocean Springs, Md., was tapped to perform the design and provide working drawings for the project.

From 1987 to 1993, Dohrman Machine Production manufactured modular cargo delivery systems for the U.S. Naval Sea Systems

Command, and recently delivered a series of powered mooring and towing hawser reels to Avondale Industries for installation on the USCG WAGB icebreakers. The West Point facility will manufacture the shafting and steering systems for the USCG self-propelled buoy tending barges.

For more information on Owen-Short  
Circle 69 on Reader Service Card

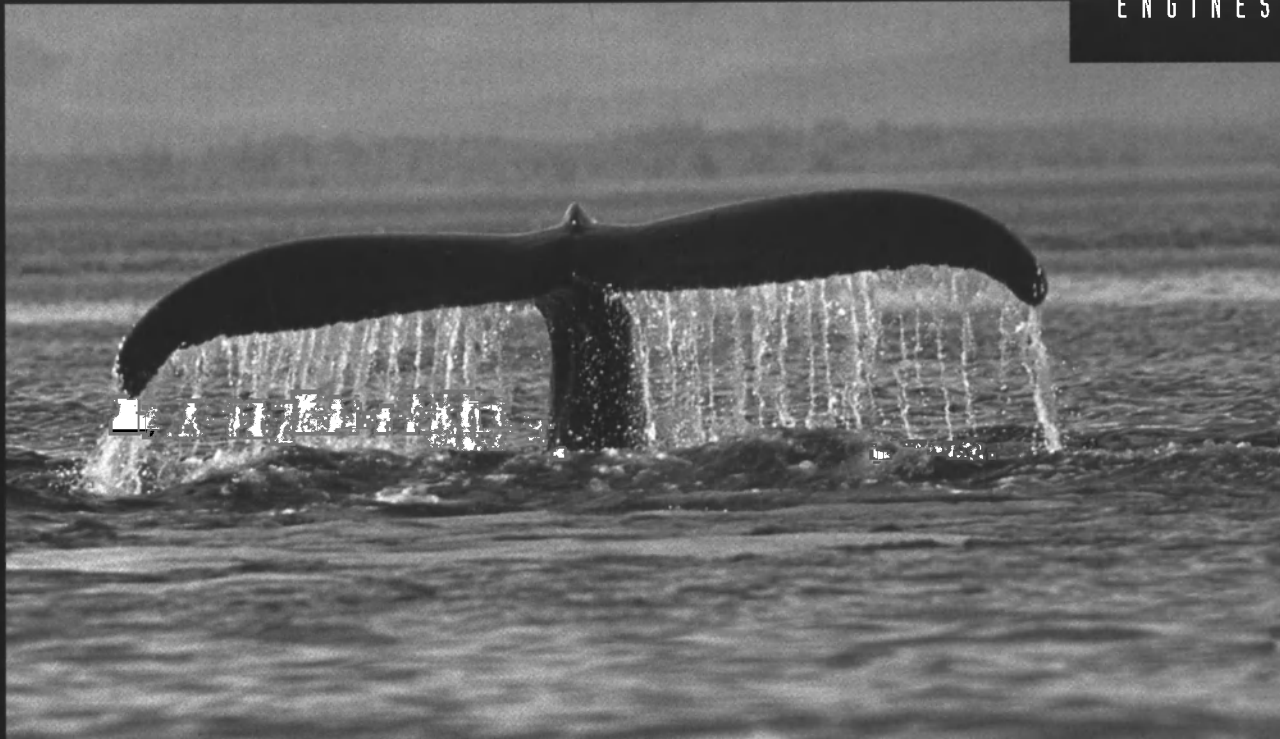
### Stolt Comex Seaway Awarded Contracts

Stolt Comex Seaway was awarded its first-ever contracts in Mexican waters. A contract from Pemex, the Mexican state oil company, commenced in early December 1995, and involves hyperbaric repairs to an offshore installation

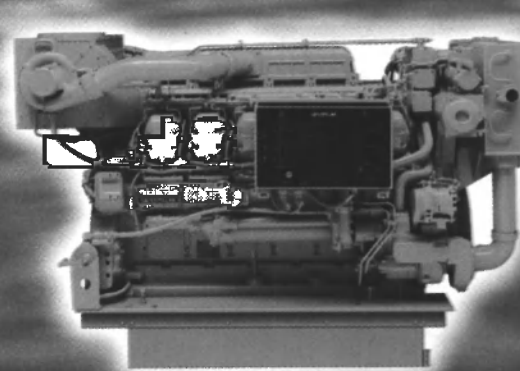
damaged by Hurricane Roxanne in September. *Seaway Pelican*, Stolt Comex's repair vessel, is committed to a minimum of three months of work on this project. The other contracts for work in March 1996, have been awarded for Stolt Comex's *Seaway Condor* to undertake umbilical installation work for Agip on the East Breaks Development and for Mobil Yukon on the Green Canyon field.

Since working on the water is anything but predictable, it pays to have an engine that is. That's why the most important element we engineer into every Caterpillar® Marine Diesel Engine is reliability. A process dedicated to keeping your operating costs low and your business running smooth. Call 1-800-321-7332 for a free brochure.

COMMERCIAL  
MARINE  
ENGINES




THERE ARE SEVEN  
WONDERS OF THE WORLD.  
KEEPING YOUR BOAT RONNING  
SHOULDN'T BE THE EIGHTH.



MARINE PROPULSION  
ENGINES RANGING FROM  
65 TO 6050 BHP.  
MARINE GENERATOR  
SETS RANGING FROM  
65 TO 4840 EKW.

CATERPILLAR



Circle 272 on Reader Service Card

## R. Allan-Designed Fireboat 2 Commissioned For Hong Kong Service

In November 1995, the Royal Hong Kong Marine Department (RHKMD) commissioned its Fireboat 2 for service within all coastal territories of Hong Kong.

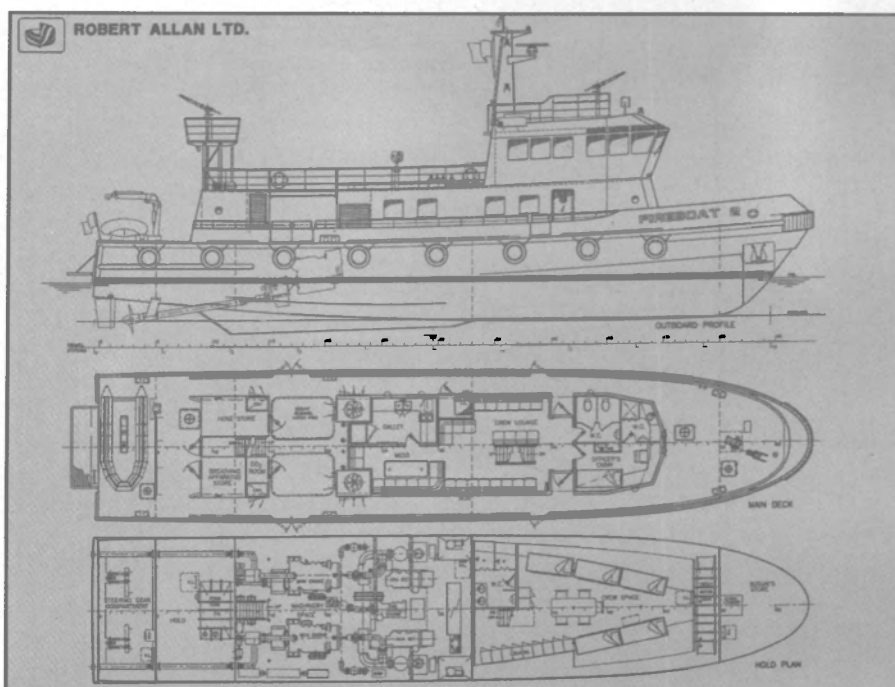
The latest addition to the RHKMD fleet was designed by Robert Allan Ltd. of Vancouver, Canada, and constructed in Singapore by Greenbay Marine Pte. Ltd. after an internationally competitive tender. The basic configuration and operational requirements were defined by RHKMD.

Hull construction is all-welded ABS-grade steel. The deckhouse,

wheelhouse and upper works are of welded marine-grade aluminum alloy. Classification and survey was done directly by the Royal Hong Kong Marine Department.

The vessel configuration consists of a main hull comprising fore-peak, crew accommodation spacer, machinery space, foam tank space/hold, and steering flat. The main deckhouse forward includes officers' accommodations, firefighting crew seating space, galley and mess area. The wheelhouse features all-around visibility.

The propulsion system is a con-



ventional twin-screw configuration with Caterpillar 3508TA main engines, each rated 716 kW at 1,800 rpm, driving Ulstein model 22-AGSC controllable-pitch propellers through an Ulstein reverse/reduction gearbox.

The vessel's firefighting system comprises three main fire pumps, two of which are driven by PTO off the front end of each main engine, one driven by an independent diesel. The system's pump capacity is 5,400 lpm (x 3) at 15 bar.

The vessel also features a 14.8-ft. (4.5-m) RIB rescue boat and a hydraulic stores/utility crane with a 3.6-ton capacity.

Vessels of the same class but with increased firefighting capacity are currently under development.

For more information on Robert Allan  
Circle 61 on Reader Service Card

### Fireboat 2 Particulars

Designer	Robert Allan Ltd.
Builder	Greenbay Marine Pte. Ltd.
Length o.a.	105 ft. (32 m)
Beam, molded	21.3 ft. (6.5 m)
Depth, molded	10.9 ft. (3.3 m)
Load draft	5.6 ft. (1.7 m)
Speed (full load)	15 kn

### Fireboat 2 Equipment

Main engines	Caterpillar
Propellers	Ulstein
Reverse/reduction gears	Ulstein

## Comsat Upgrades Inmarsat-C Service In POR

Comsat Mobile Communications has completed a major upgrade of its C-Link satellite messaging service in the Pacific Ocean Region (POR). The service provider reports that customers will now find it easier, faster and less expensive to send e-mail, telex and fax messages via C-Link.

For more information from Comsat  
Circle 70 on Reader Service Card

## NNSWC Lab Efforts Rewarded By EPA

In recognition of the Navy's exceptional contributions to global environmental protection, the Environmental Protection Agency (EPA) presented the Naval Surface Warfare Center's Annapolis Laboratory with the 1995 EPA Stratospheric Ozone Protection Award.

As one of 61 organizations from 14 countries that conferred during the 1995 International Chloro-fluorocarbon (CFC) and Halon

Alternatives Conference, the Annapolis Laboratory received this honor for its technical leadership in CFC refrigerant phaseout.

Beginning in 1999, backfit modification kits using HFC-236fa, an acceptable refrigerant alternative to the current ozone-depleting CFC-114 fluid, will transition the fleet. Widespread commercial use is expected from the Navy's lead in developing this alternative.

New construction destroyers, aircraft carriers and submarines will receive high-efficiency HFC-134a air conditioning systems designed and developed by Mr. Dick Helmick and his team. The culmination of all these research and development efforts will be the elimination of the Navy's use of the ozone-depleting CFC-114 refrigerant by 2008.

## NNS Receives Top Rating

Tenneco's Newport News Shipbuilding (NNS) has received the U.S. government's highest rating for excellence in workplace health and safety. With the award, the shipyard becomes one of approximately 200 work sites in

America to have the "Star" rating from the U.S. Department of Labor's Occupational Safety and Health Administration. NNS's 19,000 employees make it the largest single workplace in the upper echelon of OSHA's Voluntary Protection Program.

For more information on NNS  
Circle 71 on Reader Service Card

## Oceaneering Awarded Contract To Provide FPSO

Oceaneering International said a subsidiary company has been awarded a contract by Mobil Equatorial Guinea Inc., a subsidiary of Mobil Corp., to provide a floating production, storage and offloading (FPSO) system. The contract is a day rate lease arrangement which has an initial term of three years, with a targeted commencement date of August 1996. Oceaneering will purchase and convert an existing 268,000-ton crude oil tanker into an FPSO system for use by Mobil at an estimated capital cost of \$70 million.

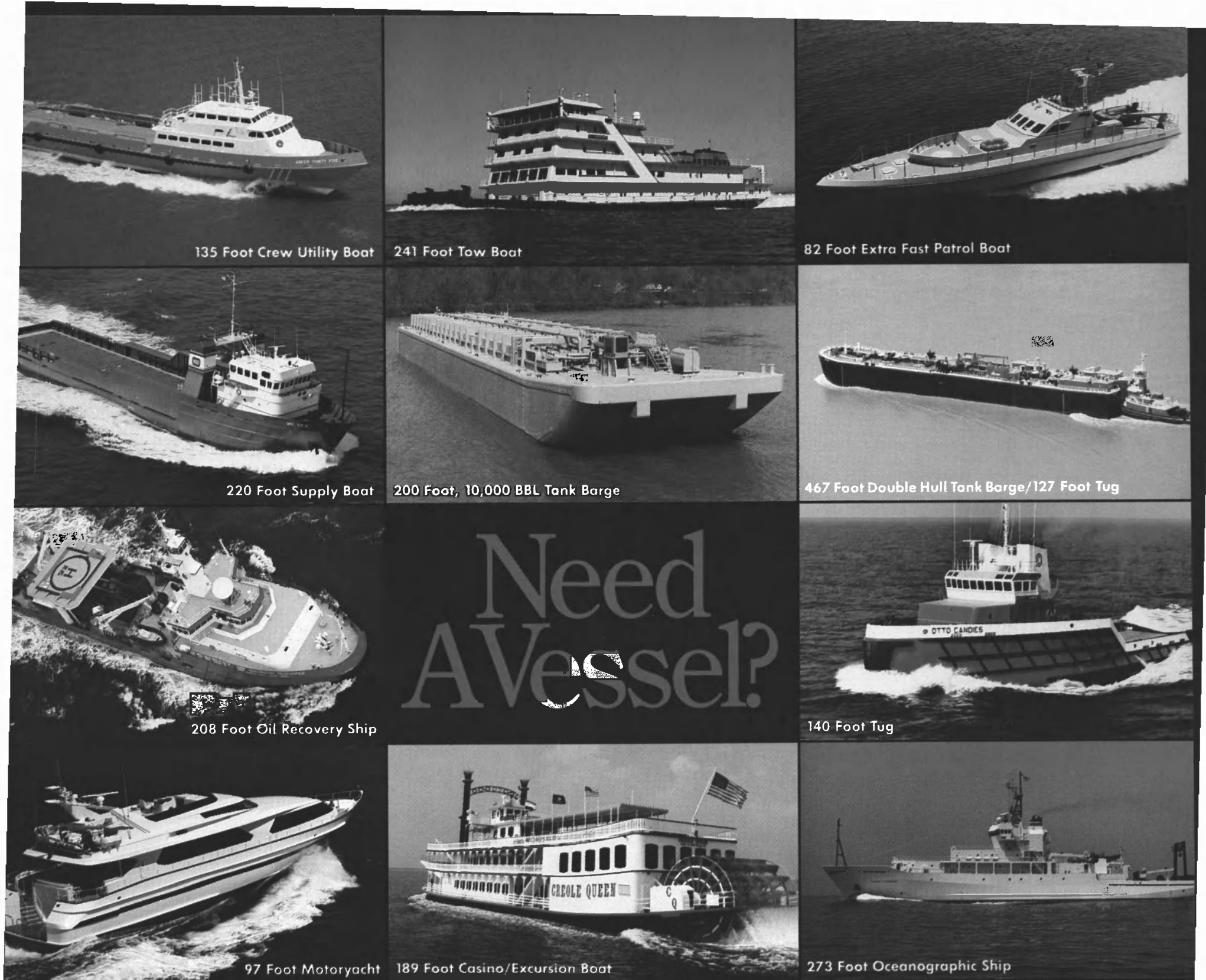
Oceaneering intends to arrange debt financing to fund the required

capital expenditures. The new FPSO will have oil storage capacity of about 1.2 million barrels and will be equipped with a 12-point spread mooring system for installation in about 600 ft. (182.8 m) of seawater at the Zafiro field, Block B, offshore the West African nation of Equatorial Guinea. The vessel will initially accept production from eight subsea wells. Two 40,000-barrel-per-day production trains will be installed to process the crude oil, which then will be offloaded through a floating hose to export tankers that will be moored in tandem with the FPSO.

## DNV Offers ISM Course Instruction

Det Norske Veritas (DNV) is offering a two-day training course focusing on the International Safety Management (ISM) Code. It will also discuss basic principles on how to develop a safety management system in compliance with the ISM Code. The course is scheduled for mid-January in New Jersey. For information call (201) 343-0800.





Need  
A Vessel?

## Trinity's Probably Already Designed And Built It.

Since the 1800's, our 13 shipyards have designed and built over 14,000 ships, boats, and barges. Name the type of vessel you need, and we've probably already designed and built many. You can use one of our designs, modify one, or let us design to your specifications. And we meet the requirements of worldwide regulatory agencies.

We employ leading edge technology in design and construction, and are

backed by the financial strength and stability of our parent company, Trinity Industries, Inc., a "Fortune 500" company.

Because of our high quality and on-time

deliveries, we have built vessels for 27 foreign nations, scores of private customers, and the U.S. Navy, Army, Air Force and Coast Guard. We also have five dry docks for ship repair, overhaul and conversion.

No other shipbuilder can match Trinity's experience in building such a wide variety of vessels in steel, aluminum and GRP. We can, and want to build your next vessel.



**TRINITY MARINE GROUP**

Trinity Industries, Inc.

13085 Industrial Seaway Road, Gulfport, MS 39503 USA  
Tel: 601-896-0029, Fax: 601-897-4828, Telex: 6821246, Cable: HALMAR, Easylink: 62218740

Circle 249 on Reader Service Card

## CONTAINERSHIP MARKET

# Containership Project Prospects Look Good

by Greg Trauthwein, editor

The containership market is perhaps best defined by two decidedly different forces — expansion and convergence. While the demand for and size of containerships has grown rapidly over the past few years, the continuing consolidation of fleets and ports is leading to fewer, larger owner/operators and the development of "mega-hubs."

"The trend is toward the further development of a hub and spoke system," and the continuing development of a few mega-hubs and emergence of a number of regional hubs, said **Jim McCaul**, president, IMA Associates, Inc., a Washington, D.C.-based consulting firm. "It looks to me like there is really a potential for growth in the big (post-Panamax size) ship segment, as there seems to be a lot of activity of companies looking to order post-Panamax size ships."

As the ships get larger (8,000-TEU vessels have been discussed), so too do all issues surrounding the construction and servicing of the ships. Mr. McCaul notes that as the ships get bigger, they have to get faster to maintain schedule — increasing speeds to at least 25 to 26 knots — meaning there will be a need for bigger, more powerful power plants.

The employment of increasingly larger ships will have a ripple effect on the feeder ship market, as a larger fleet of smaller capacity vessels will be needed to transport containers to and from the mega-hubs. One owner positioning

itself to capitalize on this development is Monaco-based MC Shipping, which operates a fleet of 10 vessels ranging in size from 800 to 2,000 TEU (16,000 to 23,000 dwt). MC Shipping President **Guy Morel** said that his company will "continue disposing of old fleet when we get the price we want," and will concentrate on acquiring modern (secondhand and new) feeder containerships. He said at this point, ordering new ships is not as attractive, as it involves trying to determine feeder ship needs in a quickly evolving industry. Regardless of whether the next MC Shipping ship is new or used, the critical factor (aside from quality) is speed.

### New Orders Flowing

Market trends and analysis aside, there is nothing like orders placed and ships delivered to make a convincing case for signs of a growing market. And in the past few months, there have been several significant ships contracted and christened.

It was just two months ago that Evergreen announced an order for ten 4,173-TEU containerships from Japan's Mitsubishi Heavy Industries. For those keeping score, the total number of containerships ordered from Japan by Evergreen since 1993 is 35.

Also, APL recently took delivery of the last of its 4,800-TEU containership series, an order split between Germany's HDW and Korea's Daewoo.

Daewoo built three of the innovative new containerships (see related story, page 27) for APL. The vessels, classified by the American Bureau of Shipping, can

carry a maximum of 4,823 TEU, powered by a B&W 11K 90MC-C diesel engine (MCR 48,840 kW at 104 rpm) to a service speed of 24.6 knots.

The vessels were designed and built by Daewoo with several goals in mind: increased service speed; larger container capacity under deck; improved measures for safety and maintenance; high quality management systems; advanced container securing arrangement; and improved maneuvering capability via a bow-thruster. A total of eight holds (six forward, two aft) are arranged with cell guides based on TEU, FEU and 45-ft. (13.7-m) units, and accommodated 2,452 TEU in up to nine tiers. On deck, 2,380 TEU can be stacked up to five tiers high and the arrangements allow for containers of 20-, 40-, 45- and 48-ft. (6.1-, 12.2-, 13.7-, 14.6-m) lengths to be stowed.

A total of 43 pontoon hatch covers were supplied by MacGregor. Lashing bridges were arranged for stowage of containers above the weather deck. Hold access is made through a longitudinal/transverse passageway below the upper deck and vertical ladders on centerline of the weather deck. Dangerous goods cargo holds (Nos. 1, 2, 3, 4 and 8) are provided with natural supply and mechanical exhaust ventilation with ducts. The other holds are provided, with natural ventilation.

The vessel is outfitted with the latest in propulsion and electronic equipment, including an HHI B&W diesel engine; a semi-spade type rudder operated by an electro-hydraulically driven 485 t-m Tong Myung steering gear, ram cylinder type; and a Lips BV 2,000-kW

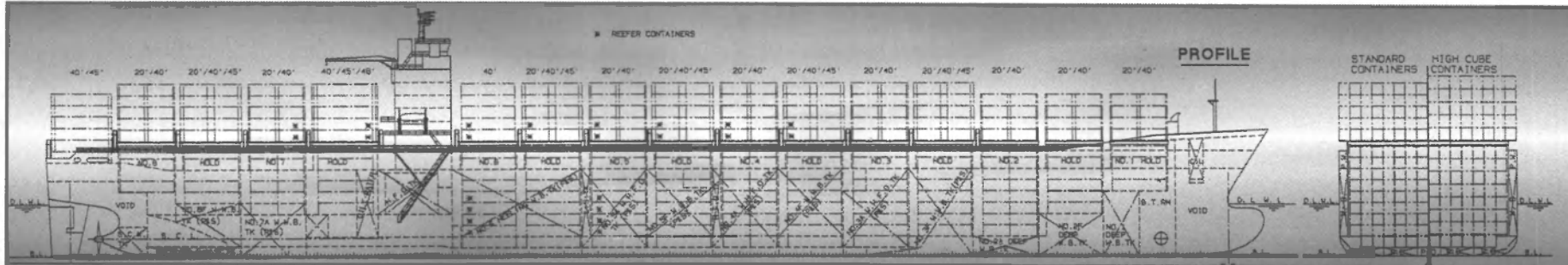


The IHI-built *Jervis Bay*, one of a series of seven 4,236-TEU containerships built for P&O Containers, features Marlow Steeltite H.M.P.E. mooring ropes, which reportedly exhibit the strength and extension of conventional steel wire rope while being only one-sixth the weight of a wire rope of equal strength.

For more information on Marlow Ropes  
Circle 50 on Reader Service Card



One of a series of three of innovative containerships built by Daewoo for APL.





bowthruster with a controllable-pitch propeller. Auxiliary power is supplied by three MAK 6M453C engines. The wheelhouse is designed in accordance with DNV class notation W1 (one man bridge operation), and is equipped with an up-to-date total navigation system. Electronics, including radars, INS, gyrocompass, doppler speed log, RDF and GMDSS console, were all supplied by Sperry. JRC supplied the standard A satcom terminal; Radio Holland supplied standard C. Daewoo has also recently delivered a smaller, yet still significant, series of four container ships from a Westfal-Larsen & Co. A/S order. The vessels are for open hatch general cargo/container carrying forest products, containers and bulk cargoes such as coal, ore or grain. The vessels, delivered in the middle of last year, each have a container capacity of 1,928 TEU and measure 653 ft. (199 m) long, and 102 ft. (31 m) wide with a 39-ft. (12-m) design draft.

The ships are powered to a service speed of 16 knots by a propulsion package consisting of a B&W 6S60MC main diesel engine driving a four-bladed propeller. Auxiliary power is provided by a combination of three MAN B&W Holeby engines; bow and stern thrusters are Ulstein Propeller make, with 1,470 kW and 735 kW of power, respectively.

The ships — dubbed *Star Hardanger*, *Star Heranger*, *Star Hosanger* and *Star Høyanger* — also feature a full complement of the latest electronics, including: Atlas radars and Doppler speed log; Saraco gyrocompass; SAIT RDF; and ABB standard B and Thrane & Thrane standard C sat-

com terminals.

German shipyards have enjoyed great success in the containership market to date. Mr. McCaul offers a possible reason: "For some reason the Germans have made major penetration in that market, and

you have to ask why. What is it about German technology which has given them the image as a leader among containership builders? A possible answer is that quality owners are willing to pay for quality ships, more so than

other vessel sectors." Major containership owners generally buy with the objective of keeping the ships in service their entire lives, rather than buying a vessel to turn around and sell some seven years later.



Anixter brings solutions and an inventory to the workboat and shipbuilding industries that fulfill the demands of the Coast Guard, American Bureau of Shipping and just as importantly, your requirements for quality cable. Whether you are looking for U.L. Listed Marine Cable (ie Type NI/NIA), IEEE-45 1983 Type XI/XIA, U.S. Navy Cable, or the new IEEE-45 1993 Low Smoke Commercial Cable, Anixter has the solution for you.

## WE'VE GOT THE CABLE YOU NEED. WHEN YOU NEED IT

Cruise ships, casino boats, tugboats, container ships, large yachts... Anixter provides you with the best cable for your needs. And Anixter ships the cable to where you need it, when you need it! Anixter also carries a full line of other related wire & cable products to the shipbuilding industry including Shore Power, Welding, Type SO/SOW-A, Tray, Power & Control, Building Wire, Electronic, Communications, & Computer Cable, or any other wire & cable product you desire.

MAN B&W has released a new brochure, entitled *Noise and Vibration Optimized 11-cylinder Diesel Engine for Propulsion of 4,800-TEU Container Vessel*. The brochure outlines a project to measure the vibration characteristics of an 11-cylinder MAN B&W diesel engine type K90MC-C, developing up to 6,210 bhp/cyl.

For a free copy from MAN B&W Circle 51 on Reader Service Card

# ANIXTER

Marine  
Wire & Cable  
Group

2617 Edenborn Avenue • Metairie, LA 70002  
Tel: 504-888-8737 or 800-662-7700  
5000 Cox Road • Glen Allen, VA 23060  
Tel: 804-747-1516 or 800-842-0076  
4905 East Hunter Ave. • Anaheim, CA 92807  
Tel: 714-779-0845 or 800-432-7925

Circle 27C on Reader Service Card

## CONTAINERSHIP MARKET

HDW, whose APL containership was prominently featured on the cover of the December 1995 edition of *MR/EN* as well as in the "Great Ships of 1995" feature (page 32, December 1995), offers a standard program of containerships. In fact, high-tech containerships are continuously under construction at HDW, and on the basis of the yard's many successes in the market, HDW is continuing to research and develop its designs. Within the system, HDW has built and delivered containerships for Norasia Lines, APL, Hapag Lloyd, Cosco, Zim, Megaslot and DSR. The yard's actual building program consists of a new design of sheltered, open-top containership, carrying 2,830 TEU, as well as of its new generation of post-Panamax containership, leading to container capacities of more than 6,000 TEU. Dr. **Jurgen Rohweder** at HDW views the containership market as promising in 1996. "The market will be stable. We see that as the world economy grows, Europe, the Far East and America will become closer via shipping ... and containerships will play a large part in that." He notes, however, that the biggest challenges lie not so much in the technical aspects of building containerships, but in the political problems involved with overcapacity and decreasing prices.

## Not an open and closed case

*AIMU Study Points Out Pluses, Minuses Of Open-Top Containerships*

A recent report on Open-Top Containerships from the American Institute of Marine Underwriters (AIMU) concludes that hull/machinery underwriters are at no greater risk in insuring these vessels than when insuring conventional type vessels, due in large part to the stringent requirements set forth by the IMO and governing authorities concerning the design and construction of open-top containerships.

However, the report also concludes that for cargo underwriters, the risk of water damage to the contents of the containers is greatly increased by the fact that all containers in open-top holds are exposed to the elements. The other potential danger lies in the fact that the containers on open ships are stacked up to

13 tiers high. AIMU said that if older containers are stowed in the lower tier, and show some metal fatigue in their corner posts, the whole stack could collapse. On a more positive note, however, AIMU said the risk of losing containers overboard from open-top containerships is greatly reduced. The cell guides on these ships are extended upwards from the hold to the fourth layer on deck, so that all containers are embraced by cell guides.

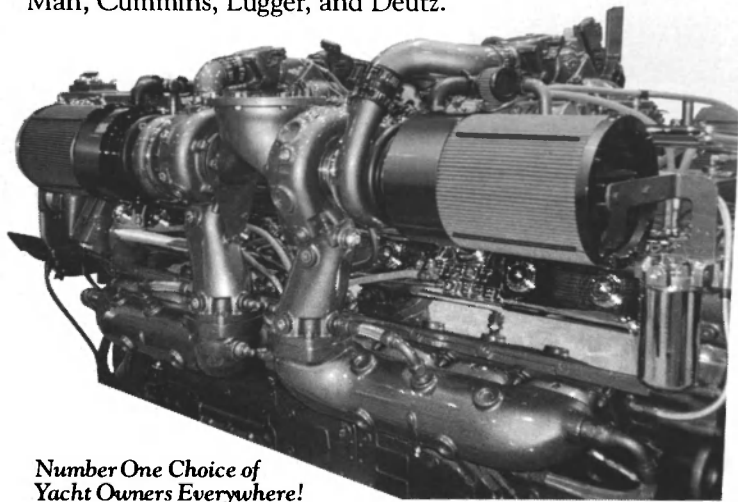
The report, prepared by AIMU's technical services committee, said several issues must be at the forefront of insurer's agenda:

- The condition of the container will become more critical due to the increased potential for water exposure and crushing damage, especially for those containers that might be stowed near the bottom of the hold;
- Ocean cargo policies are often written with a "below deck" coverage warranty. Obviously, hatchless containerships will require underwriters to reconsider how, or even if, this type of warranty can be used;
- In the event of either flooding of a hold or crushing/collapse of the containers, causing damage to the contents of those containers stowed in the bottom tiers, could the concept of general average be applied?

## Why Diesel O.E.M.s Trust the Walker AIRSEP®

*The Walker AIRSEP® is three distinct systems all in one.*

- The first system is an air-oil separator that is 100% efficient in closing your crankcase. Unlike other systems on the market, it requires no maintenance ... No more messy, oil-saturated sponges or filters to clean!
- The AIRSEP also features an engine air filtration system with its own high-quality, reusable marine air filter.
- The system's Air In-Take Silencer Unit reduces the turbo whine associated with most diesel turbo-chargers.
- The Walker AIRSEP is the only factory-authorized, closed-crankcase breathing system for Detroit Diesel, Caterpillar, Man, Cummins, Luggar, and Deutz.



*Number One Choice of  
Yacht Owners Everywhere!*

Walker Engineering Enterprises  
8321 De Celis Place, North Hills, CA 91343  
Tel: (818) 895-7788 FAX: (818) 895-7785



Circle 252 on Reader Service Card



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 225 on Reader Service Card



### APL Christens Daewoo-Built Containership

American President Lines, Ltd. (APL) christened the last of its six new C11 class containerships at the Daewoo Heavy Industries shipyard in Okpo, Korea. The 4,800-TEU "Post-Panamax" containership will soon join its five sisterships in the trans-Pacific services of APL and its partners in the multi-trade Global Alliance.

Speaking at the christening ceremony, APL Executive Vice President **Michael Diaz** said, "By completing our string of C11s, we have now put into place one of the most important elements for APL and for our partners in the Global Alliance — a fleet of vessels that set the world standard for capacity, reliability and economy." Mr. Diaz also paid tribute to Daewoo Heavy Industries for its contributions to "the spectacular success of such a huge and complex project." The *APL Philippines* is expected to enter sea trials in late December.

Daewoo Heavy Industries constructed three of the six APL C11-class containerships, including the *APL Philippines*, the *APL Singapore* and the *APL Korea*.

Howaldtswerke-Deutscher Werft (HDW) shipyard of Kiel, Germany, constructed *APL China*, *APL Japan* and *APL Thailand*. The six identical sisterships feature a 66,385-hp MAN B&W diesel engine, capable of powering the vessels at speeds up to 24.6 knots. Other features include advanced bridge navigation equipment, a large capacity shaft-powered main generator, and an on-deck lashing bridge container securing system developed by APL.

### Containership Coordination Details Announced

American President Lines, Ltd. (APL), Mitsui O.S.K. Lines, Ltd. (MOL) and Orient Overseas Container Line (OOCL) announced more details on the Global Alliance deployment for the trans-Pacific route, which will begin this month. By coordinating the sailings of 32 containerships, the three carriers will offer their respective customers six weekly vessel sailings (five westbound) between all the main ports in north and south Asia and the U.S. West Coast. The deployment will feature direct line-haul vessel calls at ports in such fast-growing markets as the People's Republic of China, Thailand and Malaysia.

The Global Alliance members said the six weekly sailings will be phased into service during the month of January, beginning with the sailing of *OOCL California* from Port Kelang on January 1, and with the last service beginning on January 7. Temporary adjustments in vessel schedules will be

made during the first quarter of 1996, as new ships enter service.

The three carriers said, "the new service will provide customers with highly competitive service coverage, increased sailing frequency and improved transit times in several key trade lanes."

### Carrier Signs Contract With U.S. West Coast Port

South Pacific Container Line and the Port of San Diego have negotiated a five-year contract for the container carrier to call the

port.

Operations began December 4, 1995, when the *M/V Kourov* made its initial visit to the 10th Avenue Marine Terminal to offload containers carrying tuna and bagged salt from the Van Camp Seafood Co.

## THE BEST IN PEOPLE MOVERS



**MARTHA'S VINEYARD** - 230' x 60' passenger/vehicle ferry operating between Woods Hole and Martha's Vineyard. The double-ended ferry was built for Woods Hole, Martha's Vineyard and Nantucket Steamship Authority and has the capacity to transport 1387 passengers, 17 crew members and 70 vehicles.



**EMPRESS III** - 280' x 74' casino vessel built for Empress River Casino Corporation. 35,000 sq. ft. of casino area can accommodate 1800 passengers.



**MARGARET CHASE SMITH** - 166' x 40' double ended ferry boat with a capacity of 226 passengers and 30 autos built for the State of Maine, for transportation between Isleboro and Lincolnville, Maine.



**KANESVILLE QUEEN** - 272' x 72' built for Harveys Casino Resorts for service in Council Bluffs, Iowa on the Missouri River. Two full decks and a partial third deck will provide 30,000 sq. ft. of casino area for 1700 passengers.



**CANIMA** - 116' 6" x 31' passenger tender built for the Government of Bermuda with a capacity of 750 passengers to serve the Port of Hamilton, Bermuda.



**TAMBOR** - 130' x 45' double ended passenger/vehicle ferry. The Tambor has a capacity of 375 passengers and 16-24 vehicles.

These vessels are built just as tough as the jobs they have to do. Built by proud Florida shipbuilders who bring generations of craftsmanship to every project

They carry on their skilled tradition in one of the South's best equipped yards. Spacious assembly

buildings, five assembly locations, sophisticated welding capabilities and year round good weather make it possible to build a wide variety of vessels and to build them well.

We deliver the best boat for the money . . . and we deliver on schedule.

"See Us At Passenger Vessel Association Booth No. 72"



## Atlantic Marine, Inc.

8500 Heckscher Drive • Jacksonville, Florida 32226  
(904) 251-3111 • Fax: (904) 251-3500

Circle 25 on Reader Service Card

## MARITIME REPORTER'S

Yard  
Type  
Name

**Trinity**  
**Passenger/Vehicle Ferry**  
**Cedar Island**



Moss Point Marine of the Trinity Marine Group delivered the passenger/vehicle ferry *Cedar Island* to the North Carolina State Department of Transportation, Ferry Division. The ferry can carry 300 passengers and 50 vehicles at a top speed of 14.5 knots and a cruising speed of 11.5 knots. The *Cedar Island* is 220.5 ft. (67 m) long with a 50-ft. (15-m) beam. It features bow and stern loading and unloading, fore and aft pilothouses, extended bridgeways, air-conditioned interior seating, covered outdoor seating, facilities for disabled passengers, a souvenir shop in the passenger lounge and special accent striping in the colors of East Carolina University.

*Cedar Island* is powered by a pair of Caterpillar 3508 diesel engines developing 805 hp each at 1,300 rpm, driving 60-in. diameter Michigan Wheel bronze propellers through Twin Disc MG540 reverse/reduction gears. Electrical power is provided by two Caterpillar 3304 diesel generators developing 105 kW each. The ferry has a remote "walk-around" control box with controls for the engines and rudders on a 30-ft. (9-m) cord for use on either bridgeway. The portable system eliminates the need for duplicate fixed controls on both bridgeways. *Cedar Island* can carry 8,000 gallons of fuel, 75 gallons of oil and 4,000 gallons of potable water. The vessel is the fourth ferry built for the state of North Carolina by Trinity Marine shipyards.

For more information from Trinity  
Circle 76 on Reader Service Card

Yard  
Type  
Name

**Atlantic Marine**  
**Casino Riverboat**  
**Kanesville Queen**



*Kanesville Queen* — built by Atlantic Marine of Jacksonville, Fla., and designed by Guido Perla & Associates, Seattle — accommodates 300 crew and 1,700 gaming patrons as part of an entertainment complex in Council Bluffs, Iowa, and is operated by Harveys Iowa Management Company.

*Kanesville Queen* has an overall length of 278 ft. (84.7 m), and beam of 78 ft. (23.4 m) with hull depth to the main deck at 14 ft. (4.3 m). The vessel offers 30,000 sq. ft. of casino area in two full decks and a third partial deck. A sophisticated central air conditioning system was installed on the vessel for excellent air quality.

Harveys' *Kanesville Queen* is powered by four Caterpillar 3516DITA generator sets, driving three 600-hp Schottel stern Z-drives and a Schottel Jet Pump bowthruster. Design speed is 11 knots. The propulsion system was designed to handle strong currents which occur periodically in the Missouri River. This riverboat is the 10th casino vessel built by Atlantic Marine.

For more information from Atlantic Marine  
Circle 89 on Reader Service Card



Yard  
Type  
Name

**Astilleros Espanoles SA**  
**Ferry**  
**Volcan de Tauce**

The 393.7-ft. (120-m) ferry, *Volcan de Tauce*, was delivered to its owner, Naviera Armas, by the Barreras yard of Astilleros Espanoles in Vigo, Spain. The ship's two main diesels drive a variable-pitch propeller through two separate shaft lines. Safety equipment includes fire detection and suppression systems, along with sprinkler systems in the garage decks. The vessel is also equipped with a variety of deck and cargo-handling equipment.

Significant automation and remote control are built into the vessel's systems, including control panels in the wheelhouse for fire detection, accommodation firescreen doors, hydraulically-driven watertight doors in the engine room, sprinkler firefighting systems in the accommodation sections, navigation signals and ventilation controls. The vessel's bridge electronics include depth sounder, autopilot, ARPA radars, GMDSS systems and two GPS satellite positioning receivers. *Volcan de Tauce* is classed by Bureau Veritas.

For more information from AESA  
Circle 78 on Reader Service Card



Yard  
Type  
Name

**Austal Ships**  
**High-Speed Ferries**  
**Shun De and Hai Yang**

Western Australia shipbuilder Austal Ships celebrated the delivery of its 24th and 25th high-speed ferries to China. *Shun De* and *Hai Yang* were ordered by Yuet Hing Marine Supplies of Hong Kong, on behalf of the Shun Gang Passenger Transportation Corp. (*Shun De*) and the Ahunai Jiuzhou Port Shipping Co. (*Hai Yang*).

*Shun De* has a service speed of 40 knots, and a passenger capacity of 332. The vessel represents the owner's fourth Austal-built vessel and second gas turbine ferry, and will replace an original vessel of the same name which has been sold to another area operator. *Hai Yang* has a service speed of 33.5 knots, and a passenger capacity of 338.

For more information from Austal  
Circle 80 on Reader Service Card



## OUTSTANDING PASSENGER VESSELS OF 1995

**Yard** Meyer Werft  
**Type** Passenger Vessel  
**Name** *Tilangkabila*

Meyer Werft shipyard of Papenburg, Germany, delivered the *Tilangkabila* to the Indonesian Ministry of Communication/Directorate General of Sea Communication in Jakarta. The vessel, a 4,000-grt passenger ship, is the 16th in a series of 24 ships being constructed at Meyer Werft for the Indonesian interest.

*Tilangkabila* has a capacity of 2,000 passengers, and in the next two years will be joined by a set of twin vessels.

This ship is propelled by a twin engine plant with reduction gear and fixed-pitch propellers, specifically MaK four-stroke diesel engines, type 6Mu 453C, each with an output of 1,600 kW (2,176 hp) at 600 rpm. Enhanced maneuverability is provided by a bowthruster plant with 480 kW (653 hp) of power and a thrust of about 7.2 tons with a controllable-pitch propeller. Electrical power is provided by four diesel generator sets, each with 456 kW (620 hp) at 1,000 rpm.

*Tilangkabila* was built in compliance with the regulations of Indonesian classification society BKI, and under the survey of Germanischer Lloyd to the class notation 100A 4 I "Passenger Ship" + SMO.



For more information from Meyer Werft  
Circle 85 on Reader Service Card

**Yard** Bazan  
**Type** Fast Ferry  
**Name** *Albayzin*

Bazan of Spain delivered the first of a new family of monohull fast ferry designs, the 316-ft. (96.2-m) *Albayzin*, featuring an aluminum alloy deep-V hull form. The vessel — which cost approximately \$25 million to build — was intended to help reduce crossing time on the route between Barcelona and Palma de Mallorca: from the 9.5 hours it takes on conventional ferries to just 3.5 hours.

*Albayzin* can carry 450 passengers and is powered by four Caterpillar 16-cylinder medium speed engines, each with an MCR output of around 5,000 kW. These drive four KaMeWa waterjets — the outboard pair are steerable, and the inboard pair are fixed "boosters." Longitudinally, the vessel is divided into eight watertight compartments under the garage deck, and the two engine rooms and a propulsor room are arranged in the aft zone. Emergency evacuation arrangements comprise four ramp slides, two on each side, and each side has a 100- and a 50-person liferaft.

For more information from Bazan  
Circle 77 on Reader Service Card



**Yard** Avondale  
**Type** Casino Riverboat  
**Name** *Belle of Orleans*

The *Belle of Orleans*, a casino riverboat delivered by Avondale Industries, Inc., for Bally Entertainment, is 350 ft. (106.6 m) long, accommodates 2,450 passengers and 300 crew, and has 30,000 sq. ft. of gaming space. The interior design was furnished by Yates and Silverman, who favored an 1890s theme. Propulsion is provided by a combination of paddlewheels and propellers. Two 96-in. propellers turn inside two 97-in. nozzles. The propeller drive engines are two Caterpillar 3508 DITA rated at 960 hp, turning through Reintjes 7.47:1 reverse reduction gears. The paddlewheel is powered by two 425-hp EPD DC electric drive systems. Three Caterpillar 3516 DITA 1,500-kW generator sets supply the main power. The *Belle* features two bowthrusters and one sternthruster, all are Schottel model STT-170 and driven by a 300-hp DC electric motor.

For more information from Avondale  
Circle 82 on Reader Service Card

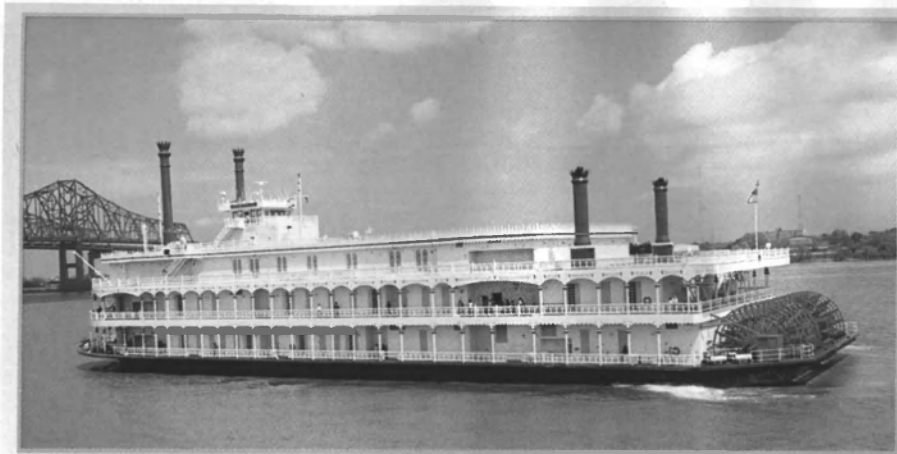


**Yard** Service Marine Industries  
**Type** Casino Riverboat  
**Name** *Shreve Star*

On February 16, Service Marine Industries, Inc. (SMI) of Morgan City, La., delivered the 254 x 78 x 14-ft. (77.4 x 23.8 x 4.3-m) casino riverboat *Shreve Star* to Harrah's Casino in Shreveport, La. *Shreve Star* replaced the smaller riverboat previously built by Service Marine, *Shreveport Rose*. *Shreve Star* is the fourth self-propelled vessel to be built by SMI for Promus Companies and Harrah's Casino. The three-deck riverboat is a diesel-electric propelled, 19th-century style sternwheeler, incorporating 30,000 sq. ft. of gaming space. The vessel was designed under 1,600 gross tons, and is certified by the U.S. Coast Guard to carry up to 1,650 passengers and 275 crew members. *Shreve Star* is powered by three 1,440-kW Caterpillar diesel generators and is cooled by three 200-ton chiller units, for a combined total of 600 tons of air conditioning. *Shreve Star* is one of 19 floating casino projects either delivered or under construction by SMI.

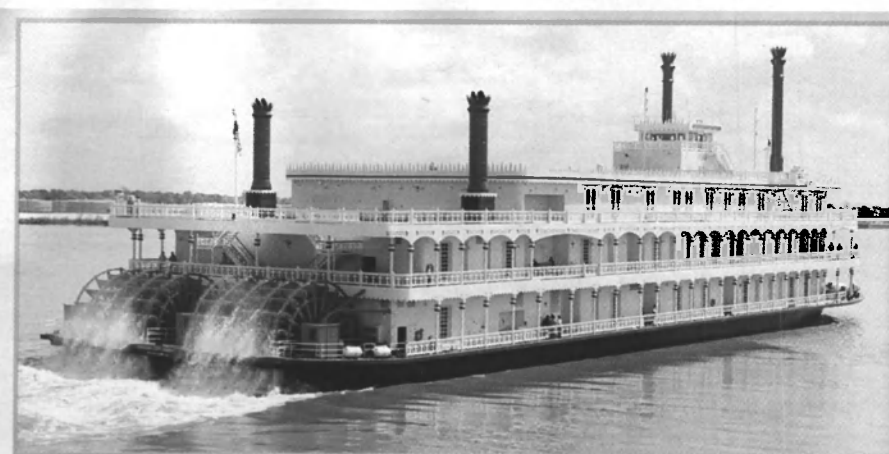
For more information from SMI  
Circle 88 on Reader Service Card





**Yard** Bender  
**Type** Casino Riverboats  
**Name** Crescent City Queen & Grand Palais

Bender Shipyard, Inc., of Braithwaite, La., delivered *Grand Palais* on February 8, and *Crescent City Queen* on March 23. These two 360-ft. x 99-ft (109.7-m x 30.2-m) sister casino riverboats were built for Grand Palais Riverboat, Inc. and Crescent City Capital Development Corp., respectively.



Built in the style of 19th-century sternwheelers, *Grand Palais* and *Crescent City Queen* each have 30,000 sq. ft. of gaming space, with 1,200 gaming stations for slot machines and 48 table games. The vessels can accommodate 2,000 passengers and 500 crew, and cruise the Mississippi River, powered by six Caterpillar engines with two 920-kW Schottel Z-drives and two 900-hp DC motor-driven paddlewheels.

For more information from Bender  
 Circle 84 on Reader Service Card



**Yard** Service Marine Industries  
**Type** Passenger Vessel  
**Name** Odyssey III

Service Marine Industries' (SMI's) *Odyssey III*, located in Washington, D.C., holds 600 passengers and 70 crew. It measures 240 ft. (75.2 m) in length overall, with a breadth at the hull of 47 ft. (14.3 m) and breadth at the main deck of 63 ft. (19.2 m), the vessel is propelled by two Caterpillar 3412 DIT "B" diesel engines, producing 300 bhp at 2,800 rpm. Main engines are mounted utilizing a Lo-Rez coupling and mounting system. *Odyssey III's* main generators are made up by one Cat 3412 diesel rated at 500 kW at 1,800 rpm and one Caterpillar 3408 rated for 350 kW at 1,800 rpm.

For more information from Service Marine Industries  
 Circle 104 on Reader Service Card

## 50 YEARS OF QUALITY MARINE SEATING & FURNITURE

TURNBULL

- Modular Aluminum
- Corrosion Resistant
- Lightweight

SEE US AT RIVERFEST '96  
 BOOTH NUMBERS 86-89

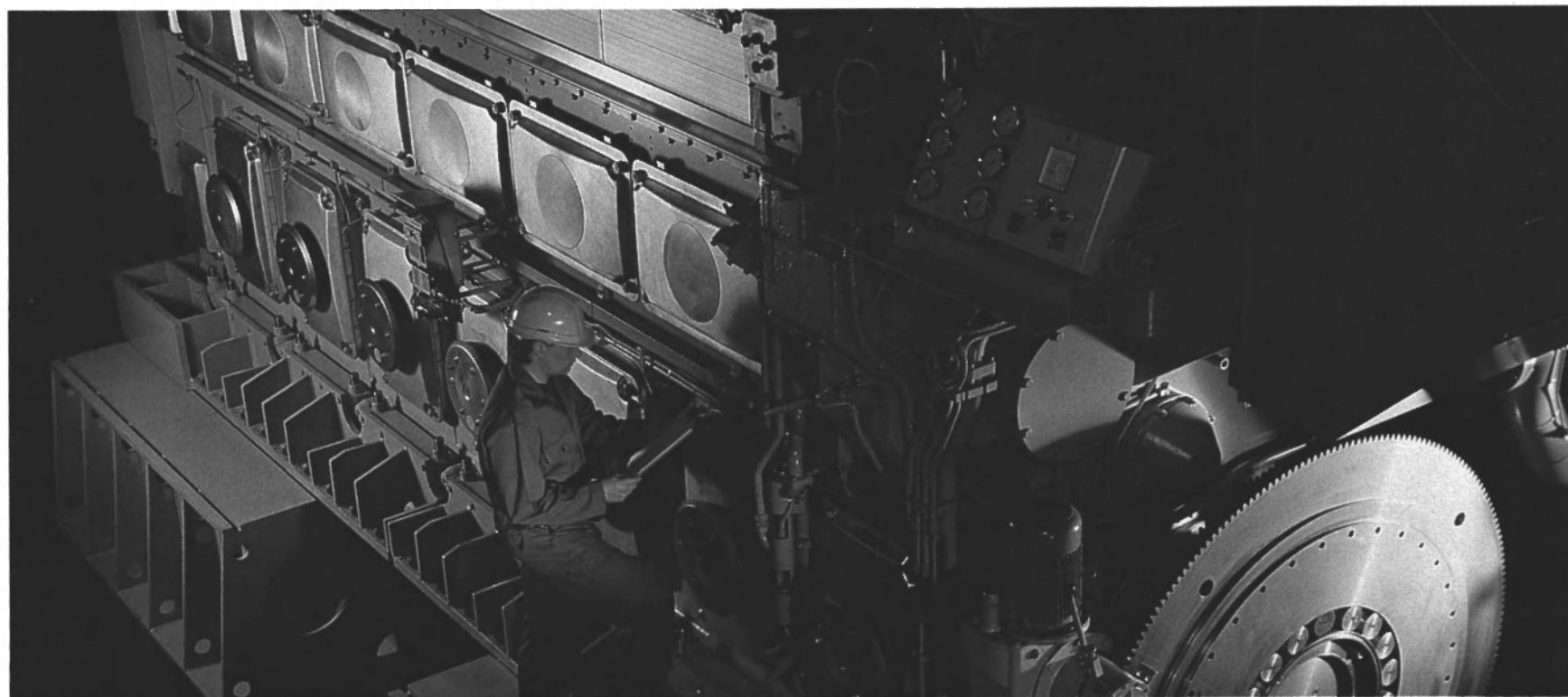
TURNBULL OF WASHINGTON, INC.  
 3818-134TH ST. N.E. • MARYSVILLE, WA. 98271  
 PHONE: 360 658 9682 FAX: 360 653 4312  
 call or fax for quotes & catalog information

PASSENGER VESSEL ASSOCIATION MEMBER

Circle 256 on Reader Service Card



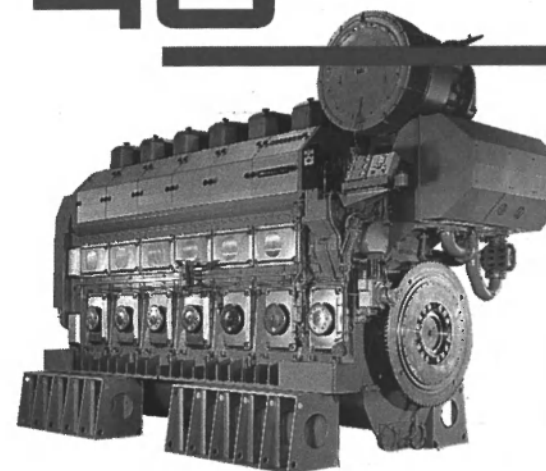
## Make reliability and economy meet in your engine room



### With the Wärtsilä 46

The Wärtsilä 46 proves that a modern reliable medium-speed engine offers a competitive alternative to slow-speed main engines. - Not only in total economy and performance but also when it comes to optimized emission control. The compact size and low weight of the Wärtsilä 46 allow a smaller engine room thus contributing to a bigger payload capacity and bigger profits. The low noise and vibration levels of the Wärtsilä 46 are the result of its rigid design and unique resilient mounting which make it ideal for even the most demanding marine applications. Combined with the fact that the Wärtsilä 46 comes from the leading manufacturer of medium-speed engines, there is only one conclusion left; The Wärtsilä 46 is truly an engine you can put your confidence in.

**WÄRTSILÄ**  
**46**



*The Wärtsilä 46 engine has an output range of 3,620 to 18,900 kW.*

**WÄRTSILÄ DIESEL**

**Wartsila Diesel Oy**

P.O. Box 252, FIN-65101 Vaasa, Finland  
Telephone +358-61-3270. Telefax +358-61-356 7188

Circle 253 on Reader Service Card

**Wartsila Diesel, Inc.**

201 Defense Highway, Annapolis, MD 21401  
Telephone (410) 573 2100. Telefax (410) 573 2200

**Yard Trinity**  
**Type High-speed ferry**  
**Name Caribe Cay**



Aluminum Boats, Inc., of the Trinity Marine Group, delivered the 95-ft. (28.9-m) high-speed aluminum ferry *Caribe Cay* to Transportation Service of St. John in the U.S. Virgin Islands. The 30-knot, 276-passenger ferry is the third built by Trinity shipyards for the Virgin Islands tour and ferry operator.

Overall, *Caribe Cay* is 95 ft. long, with a 24-ft. (7.3-m) beam and a 9.6-ft. (2.9-m) depth. Loaded draft is 5.5 ft. (1.7 m). The vessel can

carry approximately 2,800 gallons of fuel and 250 gallons of potable water. *Caribe Cay* is powered by five Cummins KTA19M3 diesel engines driving Twin Disc reverse/reduction gears with a 1.92:1 ratio. Each engine produces 700 hp at 2,100 rpm. Electrical power is produced by two Cummins 300-kW generators and the boat is equipped with two hydraulic steering stations.

For more information from Trinity  
 Circle 105 on Reader Service Card

**Yard Blount Industries**  
**Type Oceangoing Ferry**  
**Name Cayo Norte**



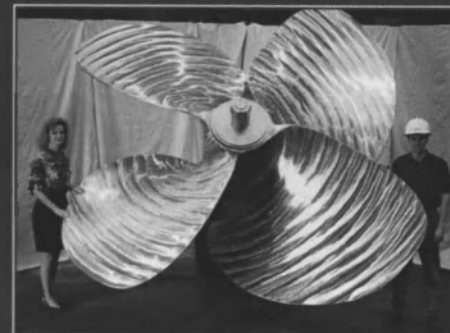
Blount Industries delivered M/V *Cayo Norte* to the Puerto Rico Ports Authority in San Juan. The 156-ft. (47.5-m) oceangoing ferry accommodates eight full-size trailers. Its air-conditioned passenger space seats 125, plus four disabled passengers on runs between Fajardo and the islands of Vieques and Culebra. The vessel also meets ADA compliance for the disabled. *Cayo Norte* is fitted with Twin Disc gears and an Ellis four-blade propeller. She has a Furuno radar, an Icom radio and a Ritchie compass. The vessel is the 291st to be built at the Blount Shipyard in Warren, R.I., and the 19th ferry to be built by Blount for the Puerto Rico Ports Authority.

For more information from Blount  
 Circle 79 on Reader Service Card

## SOMETHING WORTH CELEBRATING



Since 1946, the Bollinger philosophy has been simple... listen to the customer, please the customer, stand behind your work. Fifty years later, that philosophy remains the same. Bollinger Shipyards, Inc... Let our past become a part of your future.



*Celebrating 50 Years*  
 OF QUALITY SERVICE TO THE MARINE INDUSTRY



P.O. Box 250 • 8365 Highway 308 South • Lockport, LA 70374 • Phone: 504/532-2554 • Fax: 504/532-7225

Circle 257 on Reader Service Card

# Thermax

**FIRE PROTECTION**

**AROUND THE WORLD ...**

**NAVAL ARCHITECTS, INTERIOR DECORATORS, MATERIAL SPECIFIERS, SHIPBUILDERS, JOINERS, AND CABINET MAKERS LOOK TO THERMAX FOR:**

- NON-COMBUSTIBLE marine construction boards per requirements of SOLAS and IMO resolutions
- Marine rated construction boards for bulkheads, walls, ceilings, and doors
- Marine Regulatory Body Certifications (USGC/UL, Canadian Coast Guard, UK DOT, Lloyds, DNV, et al.)
- Excellent core material for marine furniture fabrication
- Environmentally friendly construction materials (no fibers, no formaldehydes, nontoxic)
- Technical Support
- Inventory in the USA ready for immediate shipping
- Laminating services available
- Metal profiles for bulkhead systems upon request
- Design, production, and sales of marine products according to requirements of DIN ISO 9001 / EN 29001

**Sales and Warehousing**  
 Panel Specialists Inc.  
 3115 Range Road  
 Temple, TX 76501  
 TEL: 800-947-9422  
 FAX: 817-774-7222

## ISO 9001

Registered and Certified

THERMAX • Subsidiary of ISOVOLTA AG • Austria  
 A Constantia Industrieholding A.G. Company

Circle 282 on Reader Service Card

**North American Sales**  
 Thermax N.A.  
 13115 Dulaney Valley Road  
 Glen Arm - Baltimore County  
 MD 21057-9601, USA

TEL: (410) 592-8540  
 FAX: (410) 592-3185

**Yard McDermott**  
**Type Sternwheeler**  
**Name American Queen**

*American Queen*, constructed by McDermott Shipyard of Amelia, La., and designed by Rodney E. Lay & Associates of Jacksonville, Fla., was delivered to the Delta Steamboat Co. The 418.5-ft. (127.5-m) steamboat is reportedly the largest overnight passenger vessel built in a U.S. shipyard since the 1950s, built at a cost of \$65 million. Hopeman Bros. provided production joiner work at McDermott as well as finish joiner work, a contract totaling \$15 million. *American Queen* features antique steam engines salvaged from the steam dredge *Kennedy*. The vessel cruises the inland waterways of the Mississippi River and its tributaries.

For more information from McDermott  
 Circle 90 on Reader Service Card

**Yard SkipperLiner**  
**Type Sternwheeler**  
**Name Genesee Belle**

SkipperLiner delivered the *Genesee Belle*, an 81-ft. (24.7-m) sternwheeler, to its owner, Genesee County, Flint, Mich. The vessel is operated by Genesee County Parks and Recreation at the historical Crossroads Village on Mott Lake. Propulsion is by a Cummins 6BT5.9G2-M, driving the generator and hydraulic pump. The 150-passenger vessel could not be delivered via waterway, which required the boat to be designed and built at SkipperLiner, in a manner making it possible to transport the vessel overland to the lake.

For more information from SkipperLiner  
 Circle 83 on Reader Service Card



RADAR • SOUNDERS • SONAR • CHART PLOTTERS • DGPS

# Choosing Furuno® was the easy part.



# Narrowing it down may take some time.

With the largest product line in the marine electronics industry, Furuno has just the right size product for you. Best known for our highly visible, leading edge radar, we also offer a wide selection of chart plotters, fishfinders, sonar, GPS, satcom and a host of other units to meet every application.

What's more, virtually every Furuno product can be inter-connected through our programmable NMEA 0183 interface system.

Each Furuno product is designed, manufactured and backed by the people at Furuno. Products that are so rugged, dependable and innovative they've won the National Marine Electronics Association Awards of Excellence more than 98 times since 1971. That's more than any two manufacturers combined. It's also why

marine electronic engineers and technicians believe Furuno sets the international standard for excellence.

What's more, Furuno's extensive world-wide sales and service network has the most highly trained personnel in the industry, ready to assist you with your selection and installation of our products.

Whether you need an integrated system or simply one unit, demand the best. Demand Furuno.



**Demand The Best.™**

LEARN MORE ABOUT FURUNO'S FULL LINE OF MARINE ELECTRONICS, CONTACT FURUNO U.S.A., INC.  
271 HARBOR WAY, SO. SAN FRANCISCO, CA 94080 • PHONE 415-873-9393 • FAX 415-872-3403  
WORLDWIDE OFFICES: ENGLAND, FRANCE, DENMARK, SPAIN, NORWAY, JAPAN



SOUNDERS • SONAR • CHART PLOTTERS • WEATHER FAX

SOUNDERS • SONAR • CHART PLOTTERS • AUTOPILOTS • VHF RADIOS • SSB RADIOS • SONAR

SOUNDERS • GPS • SSB RADIOS • VHF RADIOS • SATCOM B & C

Circle 216 on Reader Service Card



**Yard** Westport Shipyard  
**Type** Excursion Vessel  
**Name** *Alaskan Explorer*

Kenai Fjord Tours, which hosts excursions out of Seward, Alaska, to Kenai Fjord National Park, took delivery of *Alaskan Explorer*, a 100-ft. (30-m) boat built by Westport Shipyard, Inc., of Westport, Wash. The 149-passenger, U.S. Coast Guard-certified vessel is

licensed for coastwise service. Designed by Jack Sarin Naval Architects of Bainbridge Island, Wash., the vessel is powered by 3512 DITA Caterpillar engines developing 1,750 hp at 1,800 rpm, and operates at a top speed of 28 knots. The Caterpillar engines drive propellers through 2.5449:1 ZF 460 marine gears.

*Alaskan Explorer* was designed to operate off the coast of the Kenai peninsula in Alaska. The boat will operate at 22-28 KTS and features: Twin Disc's Power Commander engine controls with monitors at two control stations; advanced propeller tunnels; foiled and faired rudders; and a yacht quality interior and exterior finish. Ride control involves the Koop Nautic Sea Rocq 2030 system, from the Netherlands, which reduces roll, corrects for listing and incorporates electronic gyro, AVA sensor and 9.5-sq.-ft. fins.

For more information from Westport Shipyard  
 Circle 81 on Reader Service Card



**Yard** Trinity  
**Type** Passenger/vehicle ferry  
**Name** *Pocahontas*

*Pocahontas*, a 263-ft. (80.2-m), 500-passenger/70-vehicle ferry, was delivered to the Virginia Department of Transportation by Moss Point Marine, Inc., of the Trinity Marine Group, for operation between Jamestown and Scotland, Va.

*Pocahontas* has a 65.3-ft. (19.9-m) beam and a 10-ft. (3.05-m) normal operating draft. She is powered by two General Motors EMD 12-645 E6 diesel engines developing 1,300 hp each at 800 rpm, which drive Voith Schneider propulsion and steering units mounted below the bow and stern.

Electrical power for the *Pocahontas* is provided by three Lima/Marathon 7AK-150 generators driven by three Detroit Diesel V71-N diesel engines. She is equipped with two Raytheon radars and four Icom radios, and has a capacity for 20,000 gallons of fuel and 4,500 gallons of potable water.

*Pocahontas* is ABS-classed AI Ferry Service and certified by the U.S. Coast Guard.

For more information from Trinity  
 Circle 106 on Reader Service Card

(Continued on page 38)

# BENDER FORGES AHEAD!

For more than 75 years Bender Shipbuilding & Repair Co., Inc. has forged new ground in shipbuilding. The innovative team at Bender has brought a tradition of quality to a long list of vessels including casino riverboats, passenger vessels, offshore supply vessels, patrol boats, shrimp boats, oil rigs, factory trawlers, oil spill recovery vessels and tuna seiners.

This list continues to grow as Bender meets the challenges of modern shipbuilding with versatility and innovation. When a landlocked location presented obstacles to building America's largest casino riverboat last year, Bender mobilized an entire shipyard to build the vessel on-site, on-time and on-budget.

Any vessel. Any challenge. Bender is the clear choice for your next project.

**BENDER**  
 SHIPBUILDING & REPAIR CO., INC.  
 265 South Water Street • Mobile, AL 36603  
 P.O. Box 42 • Mobile, AL 36601  
 Phone: (334) 431-8000  
 Fax: (334) 432-2260





## Ship Shape

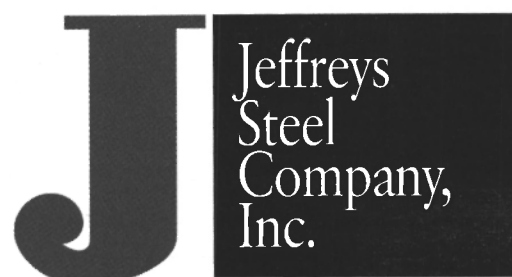
Providing our customers with the perfect form, just the right angle, that certain element of processing that makes your project work — that's what Jeffreys Steel is all about.

As a complete steel service center, we're dedicated to providing the marine, construction, and related steel industries with a wide variety of customized steel components. With equipment designed especially to burn, sheer, paint, cut, form, and roll steel — all at one location. Steel that's processed efficiently, economically, and environmentally safe.

In short, we'll do whatever it takes to make sure you get the reliable products and service you're looking for.

Because when it comes to the steel business, we pride ourselves on running a pretty tight ship.

*Corporate Office 205/456-1200*



 Member Steel Service Center Institute

Mobile, AL • Muscle Shoals, AL • Columbus, MS • Attalla, AL • Kenner, LA • Jacksonville, FL • Ft. Lauderdale, FL • Tampa, FL

Circle 228 on Reader Service Card

# SEA FORCE®

By Willard Marine Inc.



*"We run circles  
around the competition!"*



For the best rigid inflatable boat on the market today,  
contact our professional sales representative nearest you:

Cal Preston . . . . 714-250-0880	Bill Chew . . . . . 813-571-3616
Russ Copley . . . . 714-250-0880	David Stewart . . . . 401-825-5833
Thom Badler . . . . 206-548-9863	Jim Studley . . . . . 904-651-2515
Norman Bender . . 717-283-1758	Michael Morelli . . . 808-262-2777
Chip Bradley . . . . 708-998-6169	Thom Omdorff . . . . 703-260-2944
	Homer Lambert . . . 714-338-5060

Established  
1956

WILLARD MARINE, INC.

1250 N. Grove Street, Anaheim, CA 92806 U.S.A. • Ph: 714-666-2150 • Fax: 714-632-8136

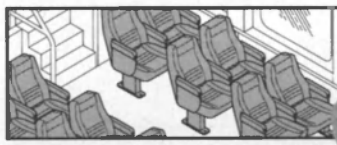
Circle 255 on Reader Service Card

## Proven Performance

With 50 years of innovative seating  
design and manufacturing experience.



- 5 Full Year Performance Warranty
- Ergonomically Designed For Comfort
- Total Adjustability
- Commitment To Marine Design



3600 Series

**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

4925  
Series



Circle 258 on Reader Service Card

Marine Specialist

## AIR CONDITIONING

HEATING • VENTILATION • PLUMBING • SMOKE REMOVAL



**Bill Brown**  
ENTERPRISES, INC.

4995 Ocean Pines • Berlin, Maryland 21811 • (410) 641-5782 • Fax: (410) 641-6283

CALL FOR FREE ESTIMATES  
**1-800-221-1506**

Circle 20 on Reader Service Card

## CATALINA EXPRESS SAVES ON COSTS WITH MOBIL SYNTHETIC LUBRICANT

With costs and competition continuously rising, operators of fleets of all sizes are tasked with finding any means possible of reducing overhead and fattening the bottom line.

Reports from Catalina Express indicate the innovative passenger vessel company is doing just that, using synthetic Mobilgard SHC 120 to reduce engine wear, extend oil drain intervals and save a projected \$80,000 in overhaul costs by the end of 1996.

Catalina Express operates a fleet of six vessels ranging in size from a 56-ft. (17-m) passenger boat to a pair of new, sleek 100-ft. (30.5-m), 149-passenger monohull vessels outfitted with enclosed passenger seating, roll stabilizers and sophisticated navigational equipment. The 14-year-old company offers year-round passenger service from Long Beach and San Pedro, Calif., to Catalina Island.

Roger McElroy, the company's vice president of Vessel Engineering, oversees the care and maintenance of a fleet that transports more than 700,000 passengers to Catalina Island each year. Mr. McElroy and his staff of seven work virtually around-the-clock to keep Catalina Express' vessels operating at peak performance. He believes a proactive approach to vessel maintenance is essential to his company's viability and its reputation for high-quality passenger service.

For three years, Mr. McElroy has worked with marine engineers from Mobil Oil and Detroit Diesel Corp. (DDC) to test the effectiveness of synthetic Mobilgard SHC 120 in his company's passenger boat, M/V Avalon Express. Catalina Express cooperation was secured after a review of a Mobil technical proposal, which advised that a switch to its synthetic lubricant would reduce the vessel's DDC 149 Series engine wear and extend its oil drain interval, despite severe operating conditions.

M/V Avalon Express makes multiple daily round trips to Catalina Island, with engines operating at full power as soon as the boat clears the dock. The vessel's DDC 149 Series engines then run at an average speed of 29 knots for nearly 60 minutes.

By the end of the three-year test, M/V Avalon Express' port and starboard engines accumulated approximately 4,000 hours. More than 3,000 engine hours were with synthetic Mobilgard SHC 120 lubricating the boat's engines with oil drain intervals every 2,000 hours. This is significant because M/V Avalon Express' normal oil drain interval with mineral oil is every 250 hours.

When marine engineers from Catalina Express, Mobil and Detroit Diesel inspected M/V Avalon Express' main propulsion engines' piston and liners, the team reported that the equipment was in good condition, with no scuffing evident. According to Mobil company reports, Detroit Diesel engineers participating in the inspection said that synthetic Mobilgard SHC 120 was expected to extend the projected lifetime of the boat's rings and liners by more than 40 percent. It would appear that the synthetic is also enabling the passenger vessel company to cut oil consumption, reduce waste oil, and decrease labor costs on M/V Avalon Express by one third.

Reportedly, since Catalina Express switched to the Mobil synthetic, the passenger vessel company has not experienced an oil-related failure on M/V Avalon Express, whose planned overhaul was cancelled, saving Catalina Express \$80,000 in overhaul costs by the end of 1996.

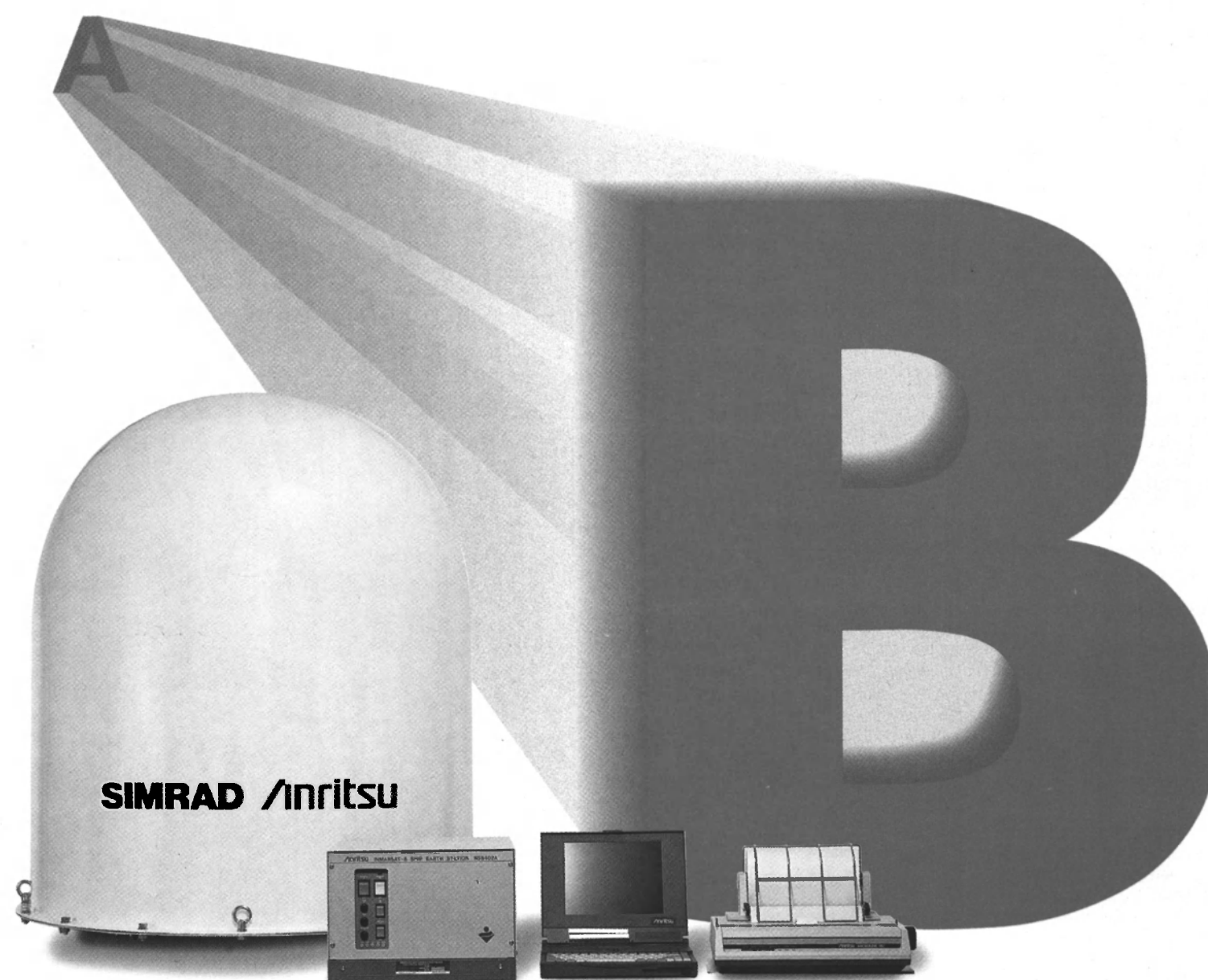
Later this year, Mobil Oil will introduce Mobilgard SHC 1, a zinc-free synthetic lubricant that is replacing Mobilgard SHC 120.

For more information from Mobil  
Circle 100 on Reader Service Card

For more information from Detroit Diesel  
Circle 101 on Reader Service Card



# The New Standard In SatCom.



Welcome to Simrad Anritsu's version of the information superhighway for marine vessels.

To keep up with growing communication needs, Simrad Anritsu introduces the first Inmarsat-B maritime terminal type accepted and deliverable in the United States.

Providing high quality digital communications and call savings, the Inmarsat-B is a step ahead of current analog systems.



Simrad Anritsu's unit, compact and lightweight, allows an array of options for telephones, fax, credit card calls, transfers and confidential telegrams. It provides

quality communication and privacy between vessels, and ships and shore.

Enclosed antenna consists of a 3-axis control unit with electronic motion sensors.

As the information superhighway becomes a reality, Simrad will take you there first. Contact your dealer or call us today.

Simrad, Inc.  
West Coast: 206-778-8821 Fax: 206-771-7211  
East Coast: 305-922-7700 Fax: 305-922-0707



© 1994 Simrad, Inc. All rights reserved.

Circle 244 on Reader Service Card

(Continued from page 34)

**Yard** Astra Bay Builders  
**Type** Wave-piercing  
catamaran  
**Name** AMD350

The AMD350 is a 139.4-ft. (42.5-m) catamaran featuring an Advanced Multi-Hull Designs (AMD) designed second generation wave piercing hull shape. The vessel's seagoing performance is enhanced by a computer controlled "T" foil ride control system developed by Maritime Dynamics. This system reportedly reduces and dampens the motion of the AMD350 to a point where vertical acceleration can be reduced by as much as 40 percent of those realized on similarly sized conventional catamarans with ride control systems.

The AMD350 features rounded stern sections and fine bow lines to project an image of speed. The fully air-conditioned interior offers panoramic views through large glass windows. The craft can be fitted with airline-style passenger accommodations and bars, cafeterias, VIP rooms and crew accommodations.

The vessel's propulsion system

consists of two MTU V16 396 TE74L engines driving KaMeWa 71 SII waterjets through Reintjes gearboxes. All major machinery is vibration mounted to reduce the level of noise and vibration in the passenger spaces. The AMD350 is built to DNV classification and designed to the new IMO Code for the Safety of High Speed Craft.

For more information from AMD  
Circle 87 on Reader Service Card



#### Casino Vessel Arrives In Iowa

Ameristar Casino Council Bluffs ended its 2,000-mile cruise, arriving at Ameristar's resort site along the Missouri River. It is the first riverboat casino to dock in the Omaha, Neb./Council Bluffs metropolitan area.

In less than three years, Ameristar has expanded from two land-based casinos in Nevada to developing a dockside riverboat casino in Vicksburg, Miss., and will soon open the riverboat casino in Council Bluffs.

Ameristar is now targeting a late January 1996 opening for the riverboat casino in Council Bluffs. The remainder of the resort owned and operated by Ameristar is scheduled to open in the spring of 1996.

Painted taupe with red and white Victorian exterior trim, the riverboat replicates the vessels that plied the North American rivers during the late 1800s. The vessel measures 272 ft. (82.9 m) long and 98 ft. (29.8 m) wide, and its 27,500-sq.-ft. casino will accommodate 1,000 slot machines and more than 40 table games.

#### AMSC Reports On Satellite Difficulties

American Mobile Satellite Corporation (AMSC) announced results from an investigation led by Hughes Space and Communications following the previously reported shutdown of two solid state power amplifiers (SSPAs) on the AMSC-1 satellite in July and October. Extensive testing has

(Continued on following page)

*Now,  
Every Mariner  
Can Operate  
In The Black.*



**Yard Bollinger**  
**Type Casino Riverboat**  
**Name Lady Luck**

The *Lady Luck* is a 284 x 97 x 14-ft. (86.5 x 29.5 x 4.2-m) riverboat casino vessel built for Lady Luck Gaming. The vessel was designed by Guido Perla, and the interior was designed by Bauer Interiors, Inc. The vessel was built, inspected and classed in

accordance with ABS "Rules for Building and Classing Steel Vessels Intended for Service on Rivers and Intracoastal Waterways." The boat is designed to accommodate 2,000 passengers and crew, and has a total of 29,800 sq. ft. of gaming space, including 16,100 sq. ft. on the main deck and 13,700 sq. ft. on the upper deck.  
For more information from Bollinger  
Circle 134 on Reader Service Card

**Yard SkipperLiner**  
**Type Entertainment Yacht**  
**Name M/V Anticipation IV**

The *M/V Anticipation IV* is a luxurious entertainment cruise yacht designed by Elliot Bay Design Group in conjunction with SkipperLiner. The vessel measures 111 ft. (33.8 m) long and is powered by twin Caterpillar 3208 DIT engines, driving four-blade

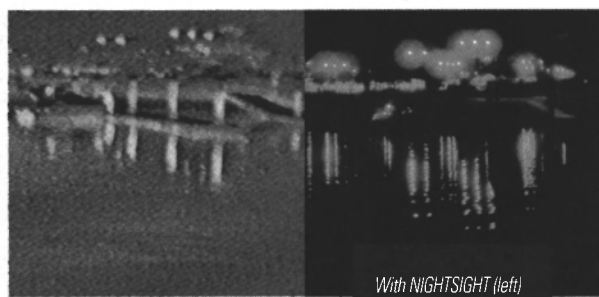
Michigan Wheel propellers through ZF gears. Other equipment on the 150-passenger boat, which is owned by Marine Hospitality Corp., includes: Hynautic steering system; Kahlenberg horns; Raytheon radios, Furuno radar; Magellen GPS; an Impulse depth sounder; and a Vetus propeller shaft coupler.

For more information  
Circle 135 on Reader Service Card

## Introducing NIGHTSIGHT



The weatherproof NIGHTSIGHT camera is available alone or with pan-and-tilt unit, remote control, cables, mounting ring and video monitor (left).



With NIGHTSIGHT (left) you spot boats, other objects and people in the water quickly, while some other night-vision systems (right) can leave you in the dark.



NIGHTSIGHT clarifies radar images with a life-like thermal picture of objects. It also helps separate these objects from cluttered backgrounds.

NIGHTSIGHT™ is one of the new family of Thermal Imaging Solutions from Texas Instruments.

### Revolutionary Technology For Only \$7,995.

Texas Instruments infrared imaging technology has been used to great advantage by the U.S. military for a number of years. Now it can help you navigate safely at night.

### Heat Detection Puts Night-Vision Technology In A Whole New Light.

The NIGHTSIGHT system uses Forward-Looking Infrared (FLIR) technology to detect the differences in heat that objects emit. So whether you're out in the open water or docking, NIGHTSIGHT can help you avoid danger even when there is no light. And unlike light-amplification systems, thermal imaging technology can help you distinguish objects and people in the water when visibility is limited by inclement weather, smoke or a cluttered background.

NIGHTSIGHT is a perfect complement to radar. Its black-and-white image helps you visualize objects that are creating echo signatures on your radar so you can quickly clarify whether they present a serious hazard.

### Ready To Cast Off?

The \$7,995 (US) price includes the entire NIGHTSIGHT system: infrared camera, pan-and-tilt unit with remote control, mounting ring, 33-foot cable assembly and video monitor. You can rotate the camera in a full 360-degree sweep to probe for hazards without leaving the bridge.

For stationary applications, the NIGHTSIGHT camera is available alone at \$6,995 (US). It's a quick and easy replacement for a standard or low-light-level camera in fixed-mount locations like a vessel deck, harbor wharf or marina. And the weatherproof case eliminates the need for a special camera cover.

### Start Seeing More Today.

Just call (214) 995-7511 to learn how the Texas Instruments family of Thermal Imaging Solutions can help you navigate safely day or night.

ruled out a number of possible causes. The satellite continues to meet all major performance specifications including the anticipated 10-year satellite life. The rigorous testing conducted highlights the robust design of the spacecraft and its components. Further testing continues in order to identify and better understand the anomaly.

"We are pleased with the report from Hughes and we are confident in the performance of the satellite as we begin offering our voice products this month," said **Brian Pemberton**, president and CEO of AMSC.

In 1995, AMSC will implement a full service mobile satellite system in the U.S., including Alaska, Hawaii, Puerto Rico, the Virgin Islands and 200 miles of coastal waters. The company currently offers fleet management mobile data and position reporting services to the maritime, trucking and rail industries throughout the U.S. via leased satellite capacity and its AMSC-1 satellite.

### Passenger Vessel Industry To Convene In St. Louis For Riverfest '96

The Passenger Vessel Association (PVA) — a national association representing the interests of owners and operators of dinner cruise vessels, sightseeing and excursion boats, gaming vessels, car and passenger ferries, private charter vessels, and overnight cruise ships — has scheduled its annual event, Riverfest '96, on January 20-23 in St. Louis, Mo., at the Regal Riverfront Hotel. Key suppliers to the passenger vessel industry, including marine architects, vessel builders and decorators, insurance companies, publishers, food supply firms, computer software vendors, marine equipment suppliers and engine manufacturers will all be in attendance at the event.

According to PVA officials, this year's event was organized with an emphasis on the passenger vessel industry's bright and challenging future. PVA reports indicate that the industry already transports more than 90 million passengers each year on its U.S. Coast Guard-inspected, Canadian Coast Guard-inspected, or state-inspected vessels. For more information on Riverfest '96, contact the PVA at (703) 807-0100, 1600 Wilson Boulevard, Ste. 1000A, Arlington, Va. 22209.

EXTENDING YOUR REACH™

 **TEXAS  
INSTRUMENTS**  
Circle 248 on Reader Service Card



© 1995 TI

38A

## Alabama Shipyard To Build Chemical Carriers For Dannebrog Rederi

Alabama Shipyard Inc. announced that Dannebrog Rederi AS of Rungsted Kyst, Denmark, has executed an order for two 16,000-dwt IMO chemical carriers with an option for a third. The contract is valued at approximately \$75 million, and Dannebrog was granted a Title XI loan guarantee from the U.S. Maritime Administration for the project.

The vessel will measure 472.5 ft. (144.1 m) overall, with a 75.4-ft. (23-m) breadth, a 40.7-ft. (12.4-m) depth and a 27.5-ft. (8.4-m) design draft. The ship will have a cargo tank capacity of about 19,000 cu. m. The vessel will be propelled by one medium-speed, single-screw diesel engine of approximately 4,800 kW. The vessels will have a crew of 18 and accom-

modations for 20. There will be six epoxy coated cargo tanks port and six starboard with a centerline bulkhead. The cargo system will have stainless steel piping and deepwell pumps.

It will be classed to Lloyd's highest class. For more information on Alabama shipyard Circle 124 on Reader Service Card

### H.O. Bostrom Introduces New Passenger Seat

H.O. Bostrom recently introduced the SeaPost Passenger seat. It is available in single, twin, trio and quad modules, and features high-strength 1-in. O.D. tubular steel seat frames, fire retardant materials to meet industry standards and modular contour slim styling. The aluminum seat mounting beam and pedestal posts are pre-drilled and designed for easy installation.

For more information Circle 125 on Reader Service Card

### Carrier Lands New Marine Orders

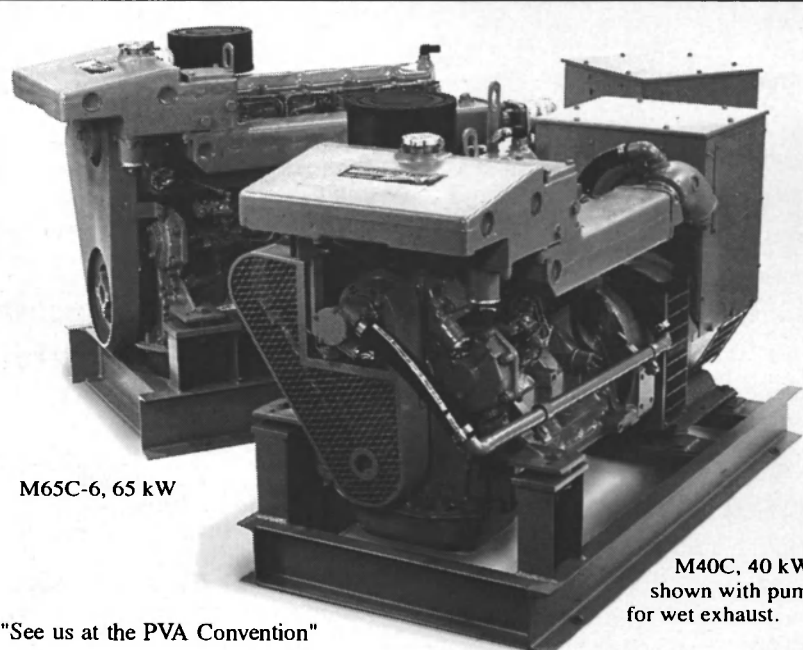
Carrier Transicold's Marine Systems Group finished strong in 1995 with a number of marine orders. For example, a complete heating, ventilating and air conditioning (HVAC) package is being supplied by Carrier for the *Trump Princess*, a triple-deck gaming vessel under construction by Atlantic Marine. The equipment includes three 200-ton chillers, 42 air handlers and 31 fan coil units.

For more information Circle 126 on Reader Service Card

### Ferry Being Repowered In Alaska

Since ferry service in the Aleutian Islands has been discontinued for the winter, the passenger/car ferry *M/V Tustumena* is being re-powered at Seward Ships Drydock in Seward, Alaska. A team comprised of the shipyard, the Alaska Marine Highways System and Bird-Johnson is working on the 3,068-ton vessel throughout the frigid winter, so when it re-enters service on one of the world's most demanding marine environment routes, it will do so with increased

horsepower and speed. Included in the repower will be a new EMD propulsion plant that includes a state-of-the-art propulsion control, alarm and monitoring system provided by Bird-Johnson's Control Systems Group. Bird-Johnson is performing the entire system integration function for the repowering, as well as providing the propulsion system hardware and software. Other new equipment: a steering system from Mathews Marine and new reduction gears and couplings from Falk. EDI is providing the consoles, under a Bird-Johnson/Control Systems Group subcontract.



M65C-6, 65 kW

M40C, 40 kW shown with pump for wet exhaust.

"See us at the PVA Convention"

The quality is a given, it's the price that will surprise you.

You know the Northern Lights reputation for quality and cast-iron reliability. What is surprising is that you can have a Northern Lights aboard your vessel at a price that is competitive with sets that offer you so much less.

#### 20 to 99 kW.

Six C-Series sets under 100 kW. Mix them with other Northern Lights sets from 5 to 708 kW to build the optimum system for your vessel.

#### Low life cycle costs.

Lugger powered Northern Lights give you low fuel and oil consumption, long engine life and extended TBO (time between overhauls). This adds up to lower life-cycle costs.

#### Lugger tough.

Designed for continuous duty, long stroke Luggers have low end torque to start large electric motors.

Northern Lights C-Series		
Model	M20CL	M30C
60 Hz 1800	20 kW	30 kW
50 Hz 1500	16 kW	24 kW
Model	M40 C	M65C-4
60 Hz 1800	40 kW	65 kW
50 Hz 1500	33 kW	50 kW
Model	M65C-6	M99C
60 Hz 1800	65 kW	99 kW
50 Hz 1500	50 kW	80 kW

#### Custom built versatility.

Order a set to meet your special needs with front PTOs and options that are designed to work together.

#### See your dealer or call...

NW 206-789-3880 Fax 206-782-5455  
SE 954-946-7601 Fax 954-946-7409  
NE 617-273-4223 Fax 617-273-4227

Alaska  
907-562-2222  
Fax 907-563-1921



© 1995 Alaska Diesel Electric A183

Circle 287 on Reader Service Card

## RESOLUTION MANAGEMENT CONSULTANTS INC.

SPECIALIZING IN PROGRAM MANAGEMENT & DISPUTE RESOLUTION

Norcross, GA  
770/246-9100  
770/246-0875(F)

Marlton, NJ  
609/985-5000  
609/985-5656(F)

Contact Joe Meredith

Contact Tom Cummings

"Damage Control" can't wait until you're underway. It starts before the vessel reaches the designer's boards or the builder's ways. We can assist you in maintaining budget and schedule

... or find out why you didn't ...

ANALYSTS IN PROJECT CONTROLS, CONTRACTS AND DISPUTES

Circle 286 on Reader Service Card

Maritime Reporter/Engineering News



### Keith Marine Completes Work On RCCL Tender Boat

Keith Marine Inc. completed the drydocking of the cruise ship tender *Coco Cutter I* for Royal Caribbean Cruise Lines (RCCL). The 86-ft. (26.2-m), 300-passenger tender was designed by DeJong & Lebet and built by Keith Marine in 1989. The vessel was in for changes to enhance maintainability and serviceability of the vessel. For more information on Keith Marine Circle 74 on Reader Service Card

### Telstra Launches Global Communication Service

Australia's Telstra Corp. has reportedly launched the country's first fully global satellite communications service with the recent expansion of its Satcom-B and Satcom-M digital mobile satellite systems into the Atlantic Ocean regions, east and west. The company can now provide its customers with access to all four ocean regions using the single access code, "222."

For more information on Telstra Circle 75 on Reader Service Card

### Seacor Ship Undergoing Major Conversion

*Veesea Diamond* is a 216-ft. (65.8-m) diesel-electric North Sea standby and rescue vessel undergoing a major conversion and minor repairs at Trinity-Gulf Repair in New Orleans. The vessel, owned by Seacor Marine, is being prepped for duty as a well stimulation vessel. Among the changes are: installation of a 650-hp stern-thruster; six new 1,000-cu.-ft. dry mud tanks; four 100-hp low pressure air compressors and associated piping systems; a dynamic positioning system; and conversion of some existing ballast and fuel tanks to liquid mud/gel tanks.

For more information Circle 127 on Reader Service Card

### Electronic, Interactive Repair Manual From GEC Alsthom

GEC Alsthom Diesels' Digital Documentation — Digidoc — is a fully interactive, multimedia program for engine repair and overhaul documentation. Digidoc programming, along with repair and overhaul instructions written in "Simplified English," reportedly make for unambiguous, easy-to-use instructions in electronic format. Parts can be selected on screen by use of a mouse, and are then automatically collated and downloaded onto a pre-designed form, ready for printing or onward transmission. Virtually all instructions in Digidoc are accompanied on screen by a digital pho-

tographic image. As a safety measure, on-screen warnings must be acknowledged before the program will allow the operator to continue. Where required, video sequences and voice-overs can be incorporated to clarify more difficult operations.

The documents can be provided on CD-ROM in either MS-DOS or Mac format.

For more information on GEC Alsthom Circle 26 on Reader Service Card

### 13 U.S. Yards Establish Shipbuilding Technology Conference

The National Shipbuilding Technology Conference (NSTC) was recently established by a group of 13 U.S. shipyard CEOs determined to revitalize commercial shipbuilding in the U.S., and make inroads on the international

market for U.S. ships. Goals of the NSTC include: improving communications within the industry to promote information sharing and efficient technology transfer; and the completion of a shipyard survey to determine the current scope of technology needs. Money for this initiative is being provided by the U.S.'s Maritech program. **George W. Gibbs III**, chairman and CEO of Atlantic Marine Holding Co., the host of the recent

# Nobody measures up to Midland's engineering.

One size does not fit all when making sure that your tank barge meets OPA '90 and USCG vapor control regs.

Unlike "me-too" high liquid level visual indicators, our B-610 can be custom designed to your required gauge rod color coding and scale markings, float sizes, gauging depths and more. We'll meet your needs.

Long-life designs assure low-cost ownership and peace of mind. Strength of the B-610's seamless gauge rod is matched only by its exceptionally strong magnet designed to stop rod and float from uncoupling during loading. Heavy-duty float and gauge tube resist impact, surges, and Butterworth cleaning as well.

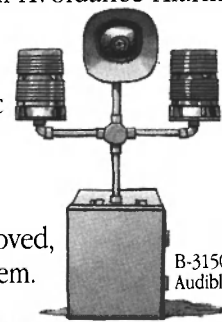


B-3595 Overfill Control System

Need more than a visual indicator? Choose one of our patented gauge rods that can activate sensors for our Overfill Control System and Audible/Visible Spill Avoidance Alarm, for maximum spill protection—including automatic shut down.

It all adds up to a Factory Mutual-approved, intrinsically safe system.

Nothing matches Midland...by design. Today or tomorrow. Call 1-800-615-6179.



B-3150 Audible/Visible Spill Avoidance Alarm

Filament wound epoxy gauge rod.

Rod bushing is calibrated for varying cargo densities.

Custom mounting available.

Ultra-high strength magnet prevents uncoupling of rod and float.

Custom float sizes available.

## MIDLAND

Protects ■ Transfers ■ Measures ■ Monitors  
7733 Gross Point Road  
Skokie, IL 60077  
PH: 708-677-0333 Fax: 708-677-0138

Circle 285 on Reader Service Card

inaugural NSTC meeting at his company's headquarters in Jacksonville, Fla., said: "The conference is a bold and creative step by the shipbuilding industry. It demonstrates that we are serious about catching up to the rest of the world's shipyards in terms of business practices, design and production processes."

For more information on the NSTC  
Circle 115 on Reader Service Card

#### LNG Carrier Named At KMY

In late November, the first of four LNG carriers for Abu Dhabi National Oil Company (ADNOC), newbuilding no. 1330, was named *Mubaraz* at Kvaerner Masa-Yards' Turku New Shipyard. The 135,000-cu.-m. LNG carrier, one of the largest carriers in the world, is scheduled for delivery this month, and will be

followed by delivery of three sisterships in June, January 1997, and May 1997.

For more information on Kvaerner Masa-Yards  
Circle 116 on Reader Service Card

#### Company Formed To Help Shipowners, Oil Terminals Comply With OPA 90

A new company has been established to serve shipowners and oil terminals seeking assistance in meeting all contingency plan/response contractor requirements under OPA 90 for tankers and petroleum facilities on the U.S. East and Gulf Coasts, Puerto Rico and the U.S. Virgin Islands. Four groups involved in marine environmental protection have joined forces to form Donjon Environmental Marine Services (DEMS). The partners are Donjon Marine Co.

Inc., Eklof Marine Corp., Garner Environmental Services, Inc., and Clean Venture Inc. DEMS will meet U.S. Coast Guard guidelines for a Level E Oil Spill Response Organization in all operating environments.

For more information on Donjon Environmental Services  
Circle 117 on Reader Service Card

#### Cascade General Wins First Major Navy Contract

Cascade General, the ship repair company at Portland Shipyard (PSY), was awarded a \$4.4 million contract from the U.S. Navy for the maintenance and overhaul of the USS *Ingraham* (FFG-61), a guided missile frigate which is homeported in Everett, Wash. The contract includes sandblasting and painting of the ship's hull and interior tanks, performing upgrades to crew areas and the overhaul of several major machinery items. "This keeps us on track toward our goal of making the Navy a significant portion of our business over time. It's a strategic win, and positions us to serve the Navy's growing presence in Puget Sound," said Cascade General Executive Vice President Andrew Rowe.

For more information on Cascade General  
Circle 118 on Reader Service Card

#### Singmarine Subsidiary Signs MOU To Set Up Malaysian Yard

Aluminium Craft Pte. Ltd., a subsidiary of Singmarine Industries Ltd., has signed a Memorandum of Understanding (MOU) with Mofaz Marine to set up a yard in Malaysia for the construction of marine craft. Mofaz Marine is a member of one of Malaysia's leading conglomerates, with business interests in marine, aviation, trading and tourism industry services sectors. Malaysian Prime Minister **Datuk Seri Mahathir Mohamad** officiated the signing ceremony which was held in Mofaz's Fixed Base Operation Complex. **Low Choon Ming**, high commissioner of the Republic of Singapore, also attended the ceremony.

#### Flender Werft Delivers Containership

In late December, Flender Werft AG, Lübeck, delivered its latest containership newbuild, No. 660, to Hamburg shipowner Claus-Peter Offen. Originally known as *Santa Elena*, the vessel

## ATTENTION: SHIPS, VESSELS & TANKERS

HIGH STRENGTH REPAIRS, FAST AND EASY.

### CORDOBOND STRONG-BACK

CORDOBOND STRONG-BACK is a two-part, epoxy system that is fast, versatile and economical. It provides repairs that have high tensile strength and strong adhesion to most surfaces. Repair anything from a pinhole to a complete break—pipes, pumps, vents, ducts, tanks, valves, machinery casings and much more.

For complete information, contact:  
Abdul Bakshi, Product Manager  
Liquid Coatings & Dispersions Division  
FERRO CORPORATION  
Tel: (219) 935-5131  
Fax: (219) 935-4261

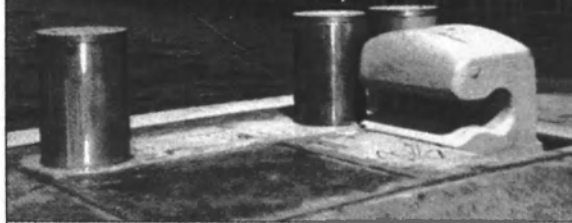


Circle 281 on Reader Service Card

#### HYDRAULIC TOW PINS available with cable hold-down and stern roller

30 YEARS  
PROVEN QUALITY

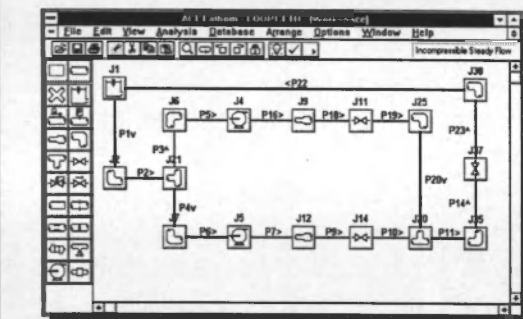
SPARE PARTS  
IN STOCK



**WESTERN MACHINE WORKS**  
1870 HARBOUR ROAD, NORTH VANCOUVER, B.C. V7H 1A1 CANADA  
TELEPHONE: (604) 929-7001 FAX: (604) 929-7051 OR 929-5320

Circle 285 on Reader Service Card

#### AFT Fathom™ Pipe Flow Analysis for Windows!



AFT Fathom 2.0 for Windows greatly simplifies the pipe flow analysis process by providing a powerful visual interface. Models are built by simple drag-and-drop operations thereby saving time and reducing errors. Full-featured Windows graphing is provided. English and SI units supported. Networks up to 1000 pipes can be modeled.

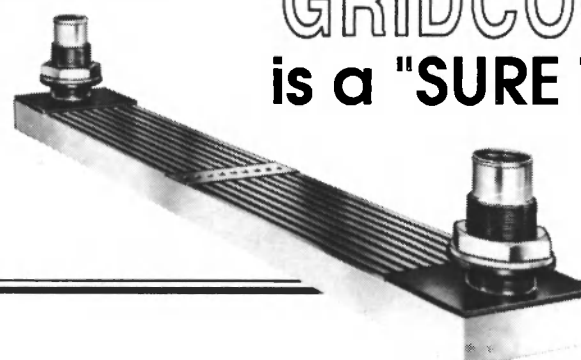
**Applied Flow Technology** **Free Demo!**  
7293 High St. NE  
Louisville, OH 44641 USA  
Fax: (216) 875-8812 **(216) 875-8810**

Circle 203 on Reader Service Card

#### WHY GAMBLE WITH DEPENDABILITY...

(906) 863-5553  
Fax: (906) 863-5634  
Telex: 26-3493

### FERNSTRUM GRIDCOOLER® is a "SURE THING!"



- Safeguards Engine Performance
- Factory-Tested
- Computer-Designed to Your Specific Needs
- Completely Assembled
- Easy to Install

Call or Write:  
**R. W. FERNSTRUM & COMPANY**  
1716 11th Ave. • PO Box 97  
Menominee, MI 49858

Circle 283 on Reader Service Card

#### International Fast Ferry Event To Kick Off In Copenhagen

On February 20-22, Copenhagen, Denmark, is scheduled to play host to the 12th International Fast Ferry Conference and Exhibition. According to organizers, exhibitors from maritime interests worldwide have confirmed attendance, including: ABB Stal and KalMeWa of Sweden; Austal Ships Pty. Ltd., Advanced Multi-hull Designs, Incat Designs, SBF Shipbuilders Pty. Ltd. and WaveMaster International Pty. Ltd. of Australia; Allied Signal Engines, Caterpillar Solar Turbines, G.E. Marine & Industrial Engines, Nichols Bros., Philadelphia Gear, Swath International Ltd. and The Cincinnati Gear Co. of the U.S.; FBM Marine Group, GEC Alsthom Diesels, Kelvin Hughes Ltd., and Vosper Thornycroft Ltd. of the U.K.; Fincantieri S.p.A. and Rodriguez Cantieri Navali S.p.A. of Italy; MTU and Reintjes GmbH of Germany; as well as others. Conference topics encompass a variety of fast ferry-related matters, including discussions on: technology; safety; the environment; international law; economics; and all aspects of newbuild construction, including design and choice of structural materials. Some of the lecture topics are:

- Effects of new insurance clauses on fast ferry operations;
- Gas turbine operating experience;
- Code of safety for high speed craft - practical implications; and
- Fast ferries and the environment - a challenge to builders and operators?

For more information on the show, contact **Giles Clark** or **Denise Clifford**, Fast Ferry International Conference, Milroy House, Sayers Lane, Tenterden, Kent TN30 6BW, U.K., tel: +44 1580 766 960; fax: +44 1580 766 961.

Maritime Reporter/Engineering News



### IBEX '96 Set For South Florida

On February 8, the fifth annual International Boatbuilders Expo & Conference (IBEX '96) is scheduled to begin in Fort Lauderdale, Fla. The exhibition and conference will continue until February 10, offering displays of the most advanced marine products and services, as well as a host of seminar discussions, including: new construction, survey and repair; design and systems; environmental issues; and marina and boatyard operations. Vessel builders, designers, repairers and surveyors in attendance will have the opportunity to visit more than 200 exhibit booths.

A noteworthy presentation by **Bob Pacific** of the U.S. Fish and Wildlife Service, and **Neil Ross**, Neil Ross Consultants will concentrate on the process for obtaining grants for the construction and upgrade of pumpout stations in marinas, according to the mandates of 1992's Clean Vessel Act. Autoship Systems Corporation Managing Director **Benjamin Pedret** will contribute to the seminar schedule with his lecture — *The Next Generation Of Hull Design and 3-D Surface Modeling Software* — on the afternoon of February 8. For a full seminar presentation schedule and more information on IBEX '96, contact CMC at 200 Connecticut Avenue, Norwalk, CT 06856-4990, tel: (203) 852-0500; fax: (203) 852-7019.

will sail under charter for several years with Senator Line, with the charter name *New York Senator*. The vessel is part of the successful type series "FW 1200," which are characterized by the ability to carry large stowage capacity, 14-ton containers at low fuel consumption levels. The ship was classified by Germanischer Lloyd. For more information on Flender Werft Circle 119 on Reader Service Card

### Bludworth Bond Completes Topside Repair Project

Bludworth Bond Shipyard, located in Houston, Texas, recently completed a major ship topside repair project aboard the 695-ft. (211.8-m) long M.S. *Delta Trident* belonging to Standard Shipping, Ltd., of Vancouver, British Columbia. The contract, valued at more than \$940,000, was reportedly completed before schedule and below budget. Work included extensive hatch cover repairs, and more than 175,000 lbs. of deck and bulkhead steel work, and was completed in minimum time through the use of special scaffolding, hydraulic manlifts loaded onto the ship's hold, and temporary hydraulic crane. All work was inspected by Italian classification society Registro Italiano Navale. Originally built in Yugoslavia in 1967, the 26,130-gt vessel is powered by a Sulzer RD76, 14,000 bhp engine.

For more information  
Circle 123 on Reader Service Card

### AESA To Convert Drilling Platform For Braspetro

Astilleros Espanoles SA (AESA) has signed a new contract with Brazilian Braspetro Oil Services Company for the conversion of a drilling platform into an oil production platform. The work — which will include extension and reinforcement of main structures and the construction of a helideck,

a communications tower, substructures for new equipment and machinery, and a large accommodation unit — will be carried out by the Cadiz yard in southern Spain. The oil production platforms are scheduled to be delivered in 1997, and operated in the Brazilian Basin field, which is reportedly more than 3,2808.8 ft. (1,000 m) deep.

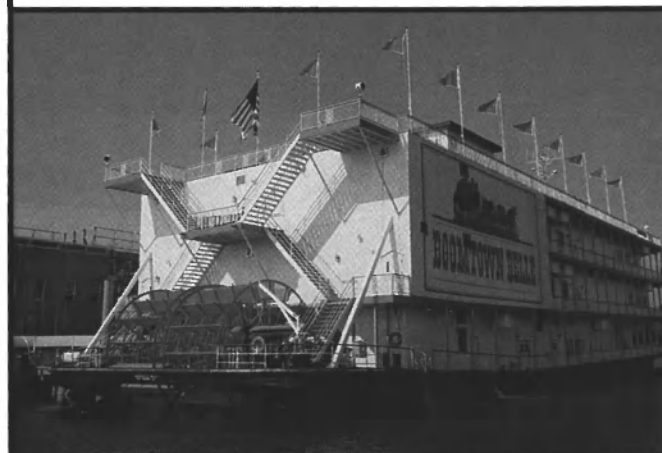
For more information on AESA  
Circle 120 on Reader Service Card

### Alfa Laval To Supply Equipment For Newbuilds

Alfa Laval, Bulgaria, recently won a major order for oil treatment, central cooling and fresh water generation systems for four bulkers currently under construction at Varna Shipyard in Bulgaria for Navigation Maritime Bulgare. The first vessel is scheduled for delivery at the end of the year. The

# AVONDALE

*Will Make Your Project Splash!*



BOOMTOWN BELLE



BELLE OF BATON ROUGE

**DESIGN - BUILD - CERTIFICATION**



**AVONDALE - Louisiana's Largest Private Employer:**

**HAS THE KNOW HOW AND CAPACITY**

**TO GET IT DONE RIGHT AND ON TIME, GUARANTEED !!**

**DON'T TAKE RISKS - CALL US FOR THE BEST DEAL.**



**Avondale**

ONE OF THE LARGEST EMPLOYEE STOCK OWNERSHIP COMPANIES

AVONDALE INDUSTRIES, INC.  
BOAT DIVISION

P. O. BOX 50280 • NEW ORLEANS, LA. 70150-0280

PHONE: (504) 436-3322 ● FAX: (504) 436-3363

Circle 288 on Reader Service Card

ships will carry both bulk and container cargo, and will each be 13,500 dwt. Alfa Laval will supply an array of oil treatment equipment.

For more information on Alfa Laval  
Circle 121 on Reader Service Card

### Bazan Modifies Semi-Submersible

Bazan Offshore announced an agreement with Diamond Offshore, Houston, Texas, for modifications to the Houston company's semi-submersible

MODU to be performed at the Bazan Ferrol shipyard. Work includes the addition of vertical stability tanks on the lower inboard portions of the four corner columns, and other modifications designed to bring the rig in line with the latest U.K. regulations, prior to moving on location in the U.K. North Sea sector for Mobil.

### Gladding-Hearn Builds New Pilot Boat

The Calcasieu Pilots Associa-

tion, based in Lake Charles, La., has taken delivery of a new pilot boat from Gladding-Hearn Shipbuilding, a unit of the Duclos Corp., located in Somerset, Mass. The 63-ft. (19.2 m) aluminum twin-screw vessel is powered by twin Detroit Diesel 12V-92TA DDEC engines, each rated for 815 bhp at 2,100 rpm, driving nickel-bronze propellers via Twin Disc 2:1 reverse/reduction gears. The deep-V, hard chine hull has a top speed of 27 knots.

For more information  
Circle 122 on Reader Service Card

OCEAN TECHNICAL SERVICES, INC. (OTECH)  
1140 PETERS RD., HARVEY, LA 70058  
504-364-1572 PHONE 362-5949 FAX

INTERCOASTAL WATERWAY (HARVEY CANAL)  
MILE 1 NEAR MISSISSIPPI RIVER

EXPERIENCE - QUALITY

DIVERSITY - MOBILITY

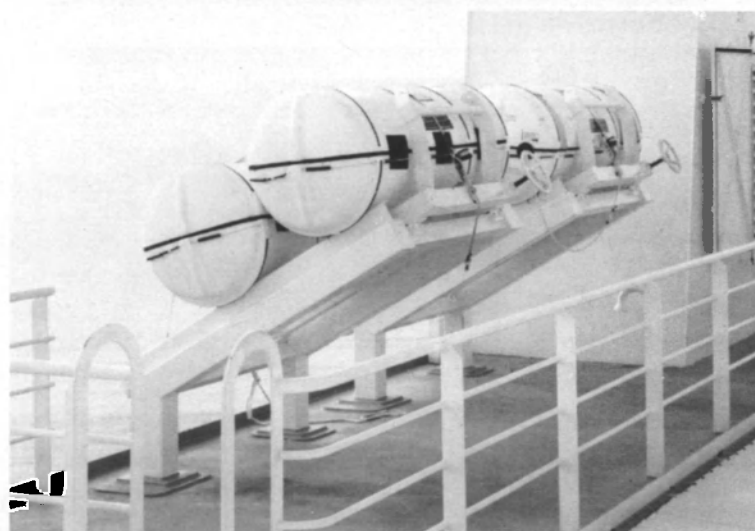
900 LONG TON  
DRYDOCK -  
120' X 52' X 7'  
THE INSIDE WINGWALL  
TO WINGWALL IS  
44' WIDE 15' HIGH



Circle 260 on Reader Service Card

**mgi**  
INTERNATIONAL

## LIFE RAFT RACK



**Complete Life Raft Stowage and Deployment Systems for ALL Container types and applications**

#### Current Customers:

- Alaska Marine Highway System.
- Atlantic Towing.
- Birting Ferries.
- Northumberland Ferry.
- Washington State Ferries.
- Trump Indiana, Inc.

#### The MGI Life Raft Rack System (LRS) features:

- Local or Remote Release
- Optional Aluminium fabrication for High Speed Vessels
- Indexed Deployment (one at a time) an integral part of any Marine Evacuation System
- Designed to SOLAS specifications for life saving equipment

For more information on this tried and tested system, contact your Life Raft supplier or MGI directly at:

**MGI International**  
Marine Safety Solutions Inc.  
119-255 West 1st Street, North Vancouver,  
British Columbia, Canada V7M 3G8  
Tel: (604) 986-2239 Fax: (604) 984-3164

Circle 234 on Reader Service Card

## 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 (212) 997-0966.

Date Reported	Vessel Name	Vessel Type	DWT	Year Built	Sale Price (m)
11/13/95	Kyrakoula	Bulker	12,001	77	\$3
11/13/95	Keltic Confidence	Bulker	16,530	78	\$4.3
11/13/95	Dardanelia	Bulker	16,605	75	\$3.1
10/31/95	Carita	Bulker	17,802	76	\$3.4
11/13/95	Theoskepasti	Bulker	18,203	77	\$4
10/16/95	Capali	Bulker	18,699	77	\$3.8
10/23/95	Carotaga	Bulker	22,000	86	\$11.5
11/13/95	Odalis	Bulker	22,218	80	\$6.5
10/16/95	Timpe	Bulker	22,415	81	\$8.3
10/31/95	Gagich	Bulker	23,698	75	\$2.5
10/16/95	George	Bulker	25,659	69	\$2
10/30/95	Fannie Anne	Bulker	26,646	73	\$2.3
10/23/95	Futura	Bulker	27,170	73	\$3
10/27/95	Swan Rock	Bulker	27,300	72	\$2.4
11/6/95	Punica	Bulker	28,035	83	\$11.8
11/13/95	Lantau Trader	Bulker	28,873	78	\$6.85
10/23/95	E.M. Xanthos	Bulker	30,050	83	\$10.5
11/6/95	Northern Dawn	Bulker	30,382	86	\$20.6
11/6/95	Baltic Skau	Bulker	30,975	86	\$15.6
10/23/95	Australian River	Bulker	30,989	84	\$12.1
11/13/95	Van Warrior	Bulker	32,708	83	\$13
11/6/95	New Duquesa	Bulker	32,799	84	\$13
11/13/95	Dobrota	Bulker	34,081	76	\$6
11/6/95	Nomadic Duchess	Bulker	35,106	78	\$10.8
11/6/95	Saskatchewan Pioneer	Bulker	36,248	83	\$9.95
11/6/95	Telina	Bulker	37,109	84	\$15
11/16/95	Reliance Trader	Bulker	37,692	84	\$14.5
11/13/95	Northgate	Bulker	38,138	78	\$6
11/13/95	Neptune Sirius	Bulker	38,669	82	\$9.7
10/23/95	Neo Chrysanthemum	Bulker	38,888	84	\$14
11/13/95	Neo Pelargonium	Bulker	40,501	84	\$14.5
10/23/95	Agamemnon Sb	Bulker	40,524	76	\$6.3
11/13/95	Nyan	Bulker	44,872	78	\$9.1
11/13/95	Almond	Bulker	41,872	72	\$3.1
10/23/95	Golden Victory	Bulker	43,383	84	\$15.4
10/30/95	Big Glory	Bulker	43,469	91	\$23
11/6/95	Global Makatcha	Bulker	61,495	73	\$5.3
11/13/95	Angaritor	Bulker	63,207	81	\$11.8
10/23/95	Elpis	Bulker	63,494	84	\$15.9
11/13/95	Vikara	Bulker	64,435	73	\$4.3
11/13/95	Card Grace	Bulker	64,933	84	\$15.3
10/16/95	Power	Bulker	65,085	74	\$6
10/23/95	Sirena	Bulker	66,091	75	\$6.5
11/13/95	New Amily	Bulker	68,192	86	\$16.8
10/27/95	Havbar	Bulker	70,321	89	\$21.5
11/13/95	Christitsa	Bulker	71,535	94	\$28.1
11/13/95	Jag Leela	Bulker	124,100	76	\$5.1
11/6/95	Shinrei	Bulker	146,019	87	\$25
11/6/95	Frontier Maru	Bulker	220,000	83	\$20.5
11/13/95	Sun Forever	Tanker	5,980	83	\$4.9
11/13/95	Respighi	Tanker	6,010	74	\$2.5
11/13/95	Cham Tulip	Tanker	6,844	74	\$2.3
11/6/95	Infra	Tanker	12,734	85	\$13.3
11/6/95	Atlas Trader	Tanker	15,704	76	\$3.4
11/6/95	Fih	Tanker	28,540	93	\$20.3
11/13/95	Elba	Tanker	29,892	75	\$4.3
10/23/95	Ariadne I	Tanker	29,918	83	\$14
11/6/95	Erodiana	Tanker	30,990	78	\$7.2
10/23/95	Silva	Tanker	33,401	77	\$6.5
10/30/95	Quebec	Tanker	39,728	77	\$6
11/6/95	Kadmos	Tanker	67,031	81	\$14
10/30/95	Filikon L	Tanker	83,782	76	\$5.9
11/13/95	Ganta Kadepo	Tanker	87,219	85	\$22
10/16/95	Brilliancey	Tanker	90,986	76	\$6
11/6/95	Kas	Tanker	92,130	77	\$7
11/6/95	Tagosan	Tanker	92,715	80	\$12
11/13/95	Star Cherry	Tanker	96,430	76	\$6.8
10/30/95	Hin Ho	Tanker	99,800	83	\$27



## Gas turbines power up European ferries

The busy Hong Kong to Macau route is benefiting from a combination of European fast ferry expertise and U.S. gas turbine technology. Rivalry between operators is intense as they strive to meet the high speed and quiet ride demands of customers who not only enjoy a choice but have learned to be discerning when it comes to fast ferries.

The latest vessels to enter service include three Caterpillar Solar Turbine-powered FBM TriCats and two Kvaerner Fjellstrand Foilcats, which incorporate a pair of 4,400-kW LM 50 gas turbines manufactured by Kvaerner Energy's Agotnes facility on Norway's west coast under license from GE.

The Foilcat has been a long time in development; the original prototype did not perform as well as expected but the might of Kvaerner enabled a long hard examination of both theory and practice to be taken.

Redesigned foils and significant investment has paid off remarkably, with the first two 115-ft. (35-m) production versions, *Penha* and *Barca*, achieving a service speed of 45 knots. With a capacity of 407 passengers, these vessels will put owners Par East Hydrofoil in a highly competitive position against CTS-Parkview's 148-ft. (45-m) TriCats, which can only carry 318 passengers. It must be noted, however that two more TriCats are on their way out to Hong Kong and five more are on order. The GE/Kvaerner Energy association goes back to 1957, initially involving steam turbines for ship propulsion followed by gas turbine power packs for the offshore industry. The heavy involve-

ment of European builders in the fast ferry market has, according to **Odd Sandoy**, vice president of Kvaerner's propulsion machinery division, seen the gas turbine establish itself. Other orders include two 233-ft. (71-m) Seajet passenger/car ferries ordered from Mols-Linien from Danyard.

Two Kvaerner/GE LM 1600 turbines developing a total of 24,000 kW in specially integrated modules provide these 450-passenger, 120-car carriers with a full load service speed of 40.8 knots and a fuel consumption of 5.5 tons per hour. Probably of greater significance is the four turbine system being provided on the 407-ft (124-m) Stena Sealink HSS (High-speed Sea Service) catamaran vessels being built at Finnyards. Kvaerner Energy has been responsible for the overall propulsion system design of

these vessels with the brief to convey 1,500 passengers plus 375 cars at 42 knots. To achieve this each of the catamaran hulls will contain a GE-LM 1600 and a GM-LM 2500 unit providing a total vessel output of around 60,000 kW. The first of these vessels is currently on trials and according to Finnyards' project manager the performance is exceeding expectations. Shipbuilders generally approve of gas turbines; they are normally supplied as a self-contained package which includes all the ancillary equipment. For example, the HSS systems each comprised a module assembled at the Kvaerner factory incorporating turbine, combustion air intake, cooling air intake, exhaust gas exit, flexible coupling shaft for connection to the waterjet, exhaust collector and base frame.

### European News Briefs

#### Fast fit-out ends busy year

Schichau Seebeckwerft AG, part of Germany's Vulkan Group, claims a record following the delivery in late November 1995 of *Contship Ticino*. This 23,456-dwt container vessel had been launched just two months earlier.

Based at Bremerhaven, Schichau Seebeckwerft has had a busy including the construction of two 570-ft. (174-m) superfast ferries for Attica. Otherwise conventional in layout, these Sulzer-powered ships have a 26.8-knot top speed. At the same time, the steel construction departments at the yard were preparing volume steel sections for *Costa Victoria*, a cruise liner being built at Bremer Vulkan Werft and currently berthed at sister company Lloyd Werft for final outfitting.

During the second half of the

January, 1996

### DALITE® A VISIBLE DIFFERENCE LOW LOCATION LIGHTING ELECTRO AND PHOTOLUMINESCENT SYSTEMS

ABS TYPE APPROVED #95-C10913

- Meets New I.M.O. Regulation
- Listed U.L. 1994 (Electrically powered systems only)
- Highly Visible, Solid State Lamp Cells
- Attractive, Functional Finish
- Seamless, Watertight Construction
- Low Cost, Simple Installation
- Safe, Low Voltage Levels
- Robust Design Withstands Rugged Environments
- A Full Range of Photoluminescent Products for Any Application
- For more information contact:

DATREX

P.O. Box 1150  
Kinder, Louisiana, U.S.A. 70648  
TEL: (318) 738-4511  
FAX: (318) 738-5675

Circle 293 on Reader Service Card

#### Safety first!

Guaranteed optimal engine protection with BOLL lube oil and heavy fuel oil filters

#### Satisfaction!

BOLL filters are certified DIN ISO 9001

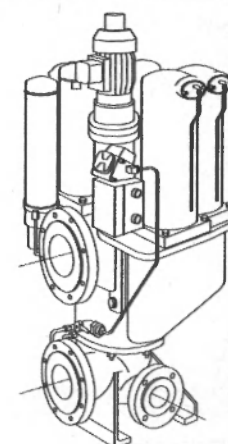
#### Service!

With BOLL offices around the world



#### BOLL FILTER CORPORATION Filtration Technology

15 International Drive, PO Box 515, East Granby, CT 06026, USA  
Phones (860) 653-4519 & (860) 653-4510, Fax (860) 653-3839



Circle 296 on Reader Service Card

38G

# Your Profit!

It's the most important reason to own a SkipperLiner.

## Improve your profits!

You're in the marine business to make money. That's clear. And we can help. Building dependable boats that can generate healthy profits is what SkipperLiner does best.

- Work boats
- Water taxis
- Canal boats
- Dinner yachts
- Paddle wheelers
- Luxury vessels
- Extensive business training
- Financing sources
- Craft that work hard and earn!

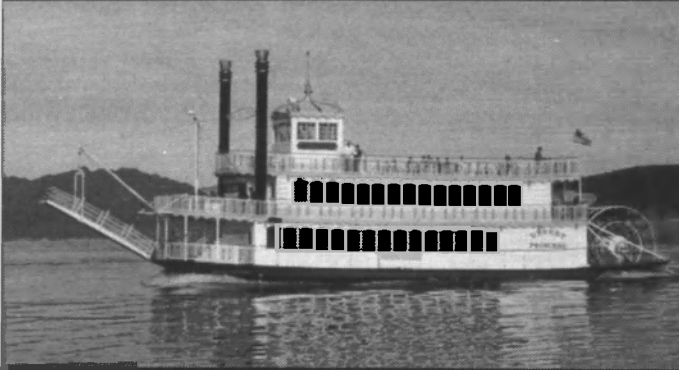
*(Top)* SkipperLiner luxury vessels rank among the finest and strongest, and earn profits in a variety of configurations. 30' to 160' lengths. 14' to 60' beams. We have excellent custom design/build abilities.

*(Center)* SkipperLiner's newest sternwheeler, the M.S. Dixie II operates as a sight-seeing and dinner cruiser. At 141' x 33', certified for 600 passengers, she is one of three SkipperLiners earning for their owners on Lake Tahoe.

*(Bottom)* Nostalgic SkipperLiner paddlewheelers from 49 to 800 passengers generate significant revenues for dinner cruise operators throughout the U.S.

*(Far Right)* SkipperLiner canal boats and water taxis in various designs are a source of consistent income for our customers. 49,100,150 passenger models, or we'll custom build to your needs.

**Call us at (608) 784-5110 today.  
Let's talk about a boat that will  
generate revenue for you!**



# SKIPPERLINER

*Where Excellence Takes To The Water*

Voted Outstanding  
Passenger Vessel  
1989, 1990, 1991, 1992, 1993, 1994  
*Maritime Reporter*

621 Park Plaza Drive La Crosse, WI 54601 (608) 784-5110 FAX (608) 784-7778

Circle 24 on Reader Service Card



year, in parallel with work on *Contship Ticino*, prefabrication of parts for a new combi-ferry for Deutsche Fahrgesellschaft Ostsee was begun in order to lay the keel during the first week of December 1995 with delivery scheduled for a year later.

*Contship Ticino*, having successfully completed sea trials in the North Sea, is about to start a four-year charter with Contship Container Lines situated in Ipswich, U.K. This is the 12th vessel to be built which is based on the original and well-known Bremer Vulkan BV 1600 design. Schichau Seebeckwerft has, in the meantime, sufficiently refined and modified the design in accordance with operational, route and updated classification requirements to redesignate the type under its own reference number — SSW 1700.

The 538 x 90 x 35-ft. (164 x 27.5 x 10.7-m) vessel now has a slightly increased container capacity of 1,684 TEU, of which 618 are carried below deck and 152 have 32 amp reefer sockets available. It has been built to the very latest IMO rules including the most recent damage stability requirements and to Germanischer Lloyd class GL+100 A4,E "Containership."

Powered by a BV/MAN-B&W, single-acting, two-stroke diesel type 7 L 60MC with a maximum continuous rating of 13,125 kW driving a four-bladed fixed pitch propeller, a maximum speed of a fraction over 19 knots is achieved. An 880-kW bowthruster is provided to aid maneuverability.

#### Up, up and away

Marine companies are taking advantage of the changing world political climate in a most unusual way. Ferretti, one of Italy's premier superyacht builders, has just released details of a novel vessel delivery — by Antonov 124 transport plane. The Russian-built giant flew a 55-ft. (16.7-m), 23-ton Ferretti luxury motor yacht from Genoa's Cristoforo Colombo airport to the Republic of Uzbekistan. The vessel is apparently to form some part of the country's fourth anniversary celebrations.

#### Ferguson launches Red Funnel flagship

The new flagship for the Southampton, U.K.-based Red Funnel fleet has been launched at Ferguson Shipbuilders in Scotland. To be named *Red Eagle*, she will be the third new vessel to enter the company's fleet in 18 months and represents an investment of \$12 million.

Like her sisters, *Red Falcon* and *Red Osprey*, *Red Eagle* is set to offer a much high standard of comfort to passengers making the 55-

minute crossing to the Isle of Wight.

*Red Eagle's* entry into service will mean that Red Funnel has been able to more than double its car deck space in two years, principally because the vessels are longer than their predecessors at 270.2 ft. (82.4 m) and employ hydraulically deployed mezzanine decks. Total capacity for each ship is around 900 passengers, 142 cars and 16

coaches.

Power is derived from Stork Wartsila FHD 240 diesels, each developing 1,000 kW at 750 rpm driving twin hydraulically controlled Voith Schneider units for a service speed of around 14 knots. The system is controlled from any one of four wheelhouse positions, all of which are constantly active to eliminate the need for changeover switches.

Electric power for ship's services are provided by three Gardner gensets.

**Alistair Whyte**, managing director of Red Funnel Ferries, in reporting a three percent increase in passenger throughput already, said, "Red Funnel is once again a highly competitive force on the Solent and we have high hopes for 1996 with the three new ships fronting our car ferry service."

It's zero-ODP Refrigerant-134a, to protect the environment.

Value is a full line of high-performance chillers and condensing systems.

It's service and parts support dedicated to the marine industry.

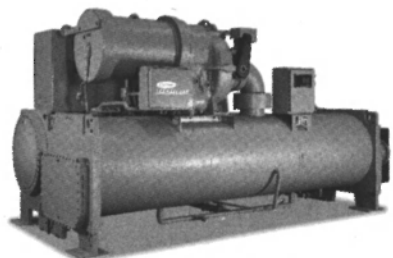
It's a decision that keeps passengers comfortable wherever you sail.

It's an experienced supplier who's more like a business partner.

# Green

Performance that protects the earth as well as your investment.

The sun sets on another memorable day. Another day enjoyed with Carrier Transicold air conditioning and refrigeration. Another sunset preserved by a green refrigerant. Reliability and responsibility are why more and more cruise lines value Carrier. Balance is the nature of your business.



90CM Marine Centrifugal Chiller (1,700kW)



We Value your business.™



January, 1996

©1995 Carrier Transicold

Circle 259 on Reader Service Card

# MEGAYACHTS

CROSS OVER TO THE MAINSTREAM

by Bridget A. Murphy  
assistant editor

Classically regarded as a custom-driven offshoot of the maritime industry, the megayacht sector has been viewed by some as beyond the reach of everyday market forces, although current reports of a significant market upswing suggest that vessel production has been vulnerable to seesaw world

economics in recent years. According to industry marketing experts, builders and brokers, the megayacht newbuild market has rebounded in the large and mid-size vessel ranges in the past two years, and the sector is showing growth signs. Evidence of this is the expansion of yacht builders' custom series, the incorporation of new building materials, improved manufacturing techniques in response to customer demands, and a growing emphasis on construction and repair. Undoubtedly, the demise of the U.S. luxury tax has also paved the way for expansion, in a sense opening the market from the bottom up.

Traditionally designed with an emphasis on comfort and style, some megayachts of the 1990s combine these assets with functionality — as demonstrated by Palmer Johnson's 151-ft. (46-m) research vessel design and Delta Marine's 130-ft. (39.6-m) coastal cruisers — effectively aligning these pleasure craft with other vessels embodying task-specific designs such as pilot craft, and other vessel sectors. Those sectors' expansion is marked by diversification, as seen

in the workboat market. As a result of this and other trends, the megayacht sector is slowly moving towards the maritime mainstream.

## Boom Characterized By Cautious Growth

Industry experts tend to agree that marked economic recovery in the megayacht sector took place at about the same time as the U.S. recession began drawing to a close. As newbuild construction continues to thrive, builders, suppliers, and designers alike are enthusiastic, but cautious. Frank Grzeszczak of Westship's Yacht Brokerage Division attributes the turn of the market to lower interest rates. "This market is on an upswing. For the last two years, it's been real strong. The turn of the U.S. economy is part of it ... In my experience in the market this year, the \$2-4 million market has been very strong, for both new and used vessels." He identified the \$2-4 million market as vessels measuring between 90 ft. (27.4 m) and 120 ft. (36.5 m), and added: "New boat construction in the U.S. has been very, very good. All the yards around the U.S. seem to be filled to capacity ... A year ago I was able to sell two boats, a used 98-foot, and a new one, sight unseen." Rather candidly, Mr. Grzeszczak said that while the U.S. and European markets are flourishing, other markets seem to be slower in gathering profits from the booming sector. "Venezuelan and Mexican

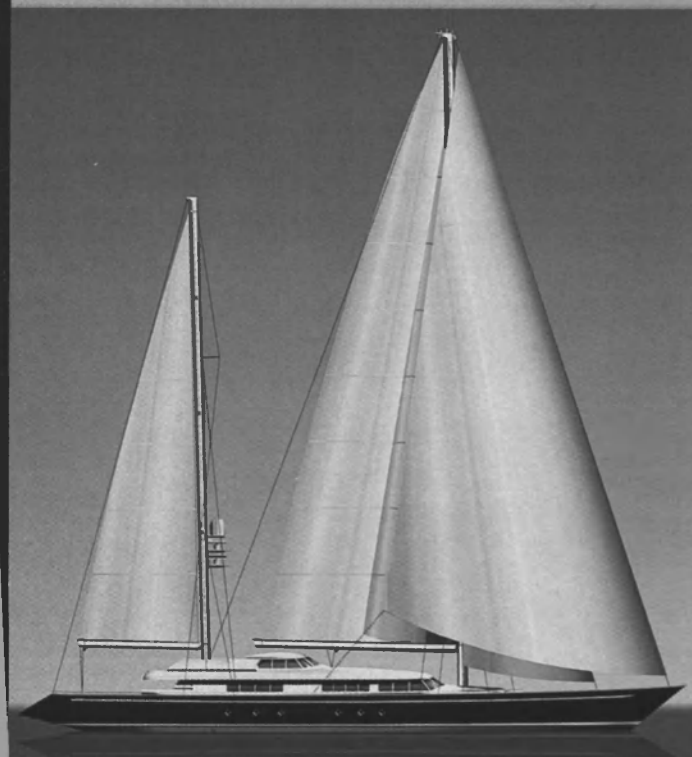
markets are weak due to poor economies," said the broker.

Westship recently signed a new construction contract for a 125-ft. (38.1-m) tri-deck motor yacht to be built by Trident/Baglietto. The vessel, due for delivery in November, will be equipped with 16-cylinder MTU engines and KaMeWa waterjets, for a cruising speed of 35 knots. According to company reports, another deal for a 132-ft. (40.2-m) vessel is currently being negotiated with Trident and other yards.

Hatteras Yachts, the High Point, N.C.-headquartered company, also seized upon favorable market conditions in the past year by expanding its custom yacht series — with, at last count, 16 custom vessels totaling 1,859 ft. (566.6 m) under construction.

## Tracking Consumer Preferences For Maximized Profit

Michael Ahrens, director of marketing and sales, Yachting Division, Abeking & Rasmussen, also forecast a positive future for the megayacht sector, remarking: "The megayacht market seems to be good at the top level — the 150-foot-plus range. It seems to be fairly slow around the 100-foot level." He further stated that while he sees no clear explanation for this development, "This seems to be a long-term trend. It developed over the 70s, 80s and 90s. Yachts grew bigger." Delta Marine's Mark Grimm



The design variations in Palmer Johnson's 164-ft. (50-m) performance cruiser (top left), Westship's 106-ft. (32-m) motor yacht (bottom left), and Skipperliner's 111-ft. (34-m) commercial yacht (below) offer evidence of a diversifying market.



Your  
highway  
to

profit

**ASTILLEROS  
ESPANOLAS**

**Partners in your next project**

Head Offices:  
Ochandiano 14-16  
28023 (El Plantío)  
Madrid - SPAIN  
Tel + 341 387 81 00  
Fax + 341 387 81 14/15

AESA in Sestao, Seville, Cadiz and Puerto Real;  
Astano in Ferrol; Astander in Santander; Juliana in Gijón;  
Barreras in Vigo and MDE in Manises.

Circle 204 on Reader Service Card

## Megayachts Cross Over To The Mainstream

reported that his company's orders, while active in the large vessel range, tend to be more on the side of mid-sized vessels. "We have five yachts currently under construction — all over 117 feet," he said. "Of those five yachts, one is 150 feet — our longest yacht to date. Two are 122 feet. One is 124 feet. One is 117 feet. It's hard to fathom whether or not this trend will continue." He continued, saying that

his overall impression of the market direction, "after talking to different people at different boat shows," was positive.

### Filling Demands For Highly-Specified Vessels

In addition to favoritism exhibited for certain megayacht size ranges, builders are also filling contract orderbooks by adapting,

or in some cases, foregoing traditional vessel molds in favor of a new generation of vessels. The emphasis on private ownership and providing the customer with exactly what he or she wants still characterizes megayacht production. However, while vessels continue to be manufactured according to

This 151-ft. Palmer Johnson motor yacht was designed in the manner of a deep sea oceanographic research vessel.



highly specific plans, a developing trend indicates that in some cases, concentrations on interior decoration and style are being forfeited in favor of an emphasis on functionality.

Following this production trend, Palmer Johnson will launch a vessel early this year, which by traditional megayacht standards, would be considered atypical. A 151-ft. (46-m) heavy displacement motor yacht, the vessel is designed in the manner of a deep sea oceanographic research vessel. With a flared bow, raised forecastle and flush main deck forward, the all-conditions vessel is being constructed of aluminum and will be equipped with slow turning Caterpillar 3508 diesels, with a fuel capacity of 26,000 gallons, and a speed capability of 15 knots. The builder has also recently debuted its 164-ft. (50-m) performance cruiser design — a full powered sailing yacht, which according to company reports, is equipped with technological advancements designed to substitute for superior yachting skills, making operation possible for the "inexperienced enthusiast with a small crew."

Delta Marine has expanded its custom yacht series in recognition of the demand it perceived for shallow-draft, high-speed composite boats. According to Mr. Grimm, "We cater to several interests of cruising. Our most sales are in lighter weight, higher speed boats — those designed for coastal cruising, which due to shallow draft, also have transoceanic capability." In Mr. Grimm's words, "We're filling the niche. We're more cost-effective because our boats are made of aluminum."

### Capitalizing On Mega-Trends

Intermarine USA, a yard established in Savannah, Ga., in 1987, and primarily involved in coastal minehunter contracts for the U.S. Navy, has recently come onto the megayacht scene with a splash. As a result of being new to the scene, Intermarine has been able to seize hold of and capitalize on developing megayacht production trends. An examination of the yard's strategies for infiltrating the sector is especially valuable in analyzing the current marketplace.

The yard is part of a marine group based in Italy — Ferruzzi Montedison — which specializes in composite boat and ship manufacturing, with one yard on the west Italian coast and one located north of Venice. According to Brian Eccles, business development manager, Military Systems, at the

## 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 Topsides 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 217 on Reader Service Card

## “Maximize” Your Galley Space!

At only 30-inches wide, the new Lang *Maximizer* range is perfect for tight galleys — hatchable to 26"x66".

The *Maximizer* is built with a windowed door convection oven base, your choice of top arrangements, stainless steel 4" toe base, latches, sea rails, grab bars and stainless steel exterior and interior.

For more information, please call Mark Jones at (206) 885-4045.

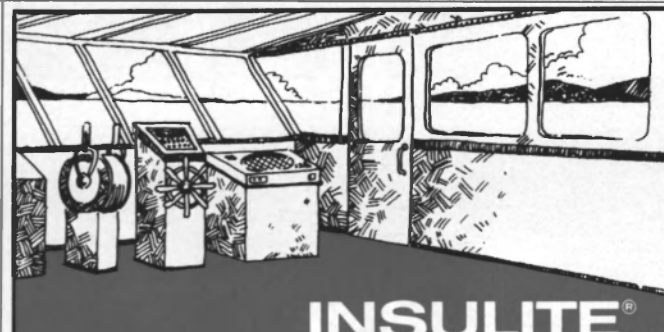


**Lang**

P.O. Box 905 • Redmond, WA • 98073  
Fax: (206) 882-2373

42

Circle 230 on Reader Service Card



## INSULITE

The decking that meets  
U.S. Navy, U.S. Coast Guard and  
Canadian Coast Guard requirements.

Insulite is an insulating underlayment ideal for use with terrazzo, carpet, vinyl composition tile, ceramic tile, electrical grade sheet and other comparable overlays. Unlike conventional underlayment, Insulite decking offers:

- Superior insulation in a light-weight application
- Savings in material
- Savings in labor
- A-60 approval

Make your next decking system more practical and economical. Specify Insulite by E.H. O'Neill Co., Inc. Write today for complete information and specifications:

**O'Neill**  
E.H. O'NEILL CORPORATION

Serving the industry since 1900  
1405 Chippendale Rd., Lutherville, MD 21093 U.S.A.  
410-560-2244 / Fax-410-252-9767

Circle 238 on Reader Service Card

Maritime Reporter/Engineering News



## SERVICE STARTS BEFORE YOU SAIL AWAY!



*ODYSSEY III*



*Service Marine Industries is an established leader in the design and construction of vessels for the dinner and passenger vessel industry. Serving cruise industry clientele with discerning tastes and specific requirements for safety, customer service and product support after receiving their vessels, SMI passenger vessels are currently serving satisfied customers in most American ports.*

Circle 242 on Reader Service Card

### **DESIGN FEATURES:**

**Length Overall:** 240'-0"  
**Breadth, Hull:** 47'-0"  
**Breadth, Main Deck:** 63'-0"  
**Draft, Full Load:** 5'-9"  
**Air Draft:** 16'-6"  
**Gross Tonnage:** Less than 100 GT  
**Passengers:** 600 passengers  
**Crew:** 70 Crew

**Propulsion Machinery:** Supplied by two Caterpillar 3412 DIT "B" 540 B.H.P. at 1800 RPM diesel engines, air starting, keel cooled. The bow thruster is driven by a CAT 3116 DITA, 300 BHP @ 2800 RPM. Main engines are mounted utilizing LoRez coupling and mounting system.

**Main Generators:** One CAT 3412 rated @ 500 EKW @ 1800 RPM. One CAT 3408 rated @ 350 EKW @ 1800 RPM.

**Air Conditioning:** Two Carrier, 100 ton liquid chillers with CU/NI shell and tubes.

**Heating:** Strip heaters located on duct work.

**Tankage (approx.):** 8,000 gallons fuel 13,000 gallons fresh water, 11,000 gallons sewage, 100 gallons lube oil.



**Service Marine  
Industries, Inc.**

A Full Service Shipyard at Mile 88.5 on the Intracoastal Canal  
P. O. Box 3606 • Morgan City, Louisiana 70381  
Telephone (504) 631-0511 • Fax (504) 631-0036

## Megayachts Cross Over To The Mainstream

(Continued from page 42)

Savannah yard, "We started researching the industry about two years ago and really got going up to full speed in June ... Like most defense companies, the business opportunities to build for the government are decreasing, so we've been looking at other business opportunities."

In addition to developing three separate yacht molds, ranging from 85 ft. to 154 ft. (25.9 m to 46.9 m), Mr. Eccles explained that the yard decided to "take a look into yacht con-

struction and repair." While actively seeking newbuild contracts, the yard boosted its yacht repair and refit services in order to capitalize on the needs of a growing marketplace. The East Coast yard won its first order in June — for a 108-ft. (32.9-m) tri-deck; and its Italian counterparts have been awarded four contracts for 137.7-ft. (42-m) vessels.

### Technology Shapes Market Direction

Intermarine has carried its composite ship expertise over into the megayacht sector, in order to provide longer lasting vessels, for high-

ly specified purposes. "For larger yachts, the cost of composite hulls have come down considerably. Manufacturing technologies have improved in recent years," remarked Mr. Eccles.

And while some builders would claim that customer demands for speed are prompting an evolution in megayacht hull configurations, he expressed a contrary opinion. "I might disagree that owners are going to higher speeds. Speeds have leveled off at the 18- to 25-knot range. (However) I think you'll always get the customer that wants to go faster." Instead of building speed-greedy vessels, Intermarine yards are building carbon fiber and epoxy boats, which are "very expensive" and "very specialized," according to Mr. Eccles. Intermarine is also exploring advancements in resin and fiberglass technology.

One subject of agreement among megayacht builders seems to be the influence new technology will have in shaping the future of the megayacht market. While some builders are concentrating on speed, or providing style and luxury, creating task-specific designs, expanding yacht series molds, others on improving structure through the use of new construction materials, and still others on providing repair and refit services — all seem to recognize that technology will continue to drive the megayacht marketplace of the future. As stated by Mr. Eccles, "Technologies are out there. An unending amount of variation is out there ... A lot of the more sophisticated technologies have priced themselves within the range of what is normal ... It's really a custom market." A custom market — perhaps — but one whose growing marketplace and consequential reliance on developing technology has aligned it with the mainstream maritime industry.



## New Orleans is Famous for Food, Fun, Music and Industrial Metals!

Industrial Metals because... Like our fine restaurants, our menu includes approximately 3,500 items of aluminum plate, extrusions, pipe fittings, welding wire, stainless steel tread plate and rudders, Aquatech stainless steel boat shafts, naval brass, copper nickel plate, cast bronze hex nuts, hundreds of unique items and a huge cupboard of 5086 plate. Our hot plate special is aluminum plate (up to six inches thick) cut to your specifications on our computer-directed

plasma cutting machine. No fat and no waste.

Dessert is ultra-fast, friendly service. No tipping required.

For a copy of our menu (er, new catalog) call 1-800-535-9156.

**INDUSTRIAL METALS**  
OF THE SOUTH, INC.  
Tel: 800-535-9156 (US), 504-586-9191 (LA)  
Fax: 504-528-1041  
401 N. Roman St., P.O. Box 19567  
New Orleans LA 70179

Circle 276 on Reader Service Card



### MOTOR-SERVICES HUGO STAMP, INC.

#### AUTHORIZED DISTRIBUTORS & SERVICE CENTER

- DISTRIBUTOR & SERVICE CENTER FOR DEUTZ/MWM, AUTHORIZED SERVICE CENTER FOR M&K WITH SPARE PARTS INVENTORY AND AUTHORIZED SERVICE FOR G.M.T. ENGINES
- AUTHORIZED MAN & B&W REPAIR SHOP WITH FACTORY EXCHANGE COMPONENTS FOR VALVE CAGES, PISTON CROWNS, VALVES AND OTHER ITEMS EX OUR STOCK (USA)
- MAN B&W DIESEL A/S - ALPHA DIESEL - SERVICE CENTER FOR SOUTH FLORIDA
- WOODWARD GOVERNORS AND REGULATORS EUROPA, FULL REPAIR FACILITY WITH STATE-OF-THE-ART 5 HP DIGITAL ELECTRONIC TESTSTAND, EXTENSIVE SPARE PARTS INVENTORY & EXCHANGE GOVERNORS, FIELD-SERVICE FOR DIGITAL CONTROLS & LOAD SHARING SYSTEMS
- TURBOCHARGER REPAIRS FROM OVERHAULS ON BOARD TO SHOP REBLADING AND RETR FITTING WITH OTHER "OEM-ALTERNATIVES". COMPUTERIZED DYNAMIC BALANCING
- LINE BORING OF BEDPLATES AND DISTORTED MAIN BEARING SADDLES IN SITU WITH OPTICAL ADJUSTMENT EQUIPMENT FOR ALL SIZES. FULLY MOBILE EQUIPMENT
- COMPUTERIZED LASER ALIGNMENT AND RECHOCKING WITH "EPOCAST 36" RESIN
- FULL RANGE OF MACHINING IN OUR FACILITY ON ON BOARD WITH OUR MOBILE EQUIPMENT FROM GRINDING OF LANDING SURFACES TO IN SITU MACHINING OF LINER O-RING AREAS

24 HOUR SERVICE 1-800-622-6747

3190 S.W. 4TH AVE. FORT LAUDERDALE, FLORIDA 33315  
PHONE: (905) 763 3660 - FAX: (905) 763 2872

Circle 236 on Reader Service Card

For more information on the companies mentioned in this article, please circle the appropriate number on the Reader Service Card bound into this issue:

Palmer Johnson	107	Intermarine USA	111
WestShip	108	Delta Marine Industries, Inc.	110
Abeking & Rasmussen	109	SkipperLiner	112
		Hatteras Yachts	113

### Washington To Play Host For Superyacht Northwest '96



Kirkland, Wash., was the site of last year's Superyacht Northwest show, which took place in early autumn.

The third annual Superyacht Northwest, held in Kirkland, Wash., in September, 1995, attracted 4,500 people, with a significant increase in representatives from Asian interests. According to show organizers, a 167-ft. (50.9-m) yacht from Singapore was anchored directly offshore for the show's duration. Post-event reports indicated that there were several megayachts sold, charters signed and a helicopter purchased at the show. Organizers quoted Greg Tiemann, of Crescent Beach Boatbuilders, as saying, "Crescent Beach Boatbuilders showed 450 people through 105-foot Anchor W, identifying eight as new clients. One party traveled to Canada to visit the yard and (we) will meet with him in Fort Lauderdale for further discussions."

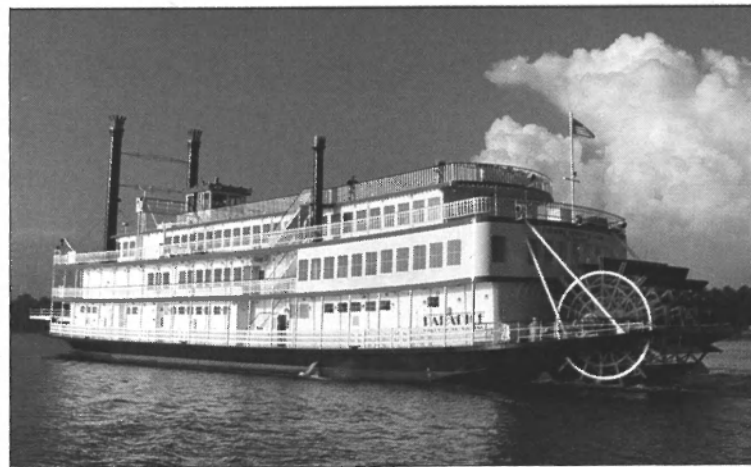
Superyacht Northwest '96 is once again scheduled to take place at the Kirkland Yacht Club Marina, on September 11-14. For more information on this year's event, contact Sherry Stabbert at (206) 827-3200.

Maritime Reporter/Engineering News





Leevac-built Belle of St. Louis



Atlantic Marine-built Par-A-Dice

The finest vessels  
Use the finest Safety Treads...

Specify

## STAIRMASTER SAFETY TREADS



**DON'T GAMBLE ON CUSTOMER SAFETY!**  
Passengers may be visually or physically handicapped. Provide the best available anti-slip protection for all passengers by equipping your vessel stairs, ramps and walkways with **STAIRMASTER!**

**CALL 1-800-321-4936 FOR SAMPLE OR PRICE QUOTATION**



**WOOSTER PRODUCTS INC.**

1000 Spruce Street, P.O. Box 6005 Wooster, Ohio 44691-6005  
Fax (216) 262-4151 Call Toll Free: (800) 321-4936

Circle 267 on Reader Service Card

# MANNESMANN REXROTH

DESIGNING FOR QUALITY - BUILDING WITH PRIDE  
High Technology Hydraulic Drive & Electronic Control Systems

We offer you a complete line...

- Pumps - Fixed & Variable Displacement (Axial & Radial Piston, Vane & Gear)
- AC Servo Drives
- Flow Controls
- Check/Prefill Valves
- Mobile Valves
- Logic Cartridge Valves
- Winches
- Aerospace & Marine Components
- Manifolds & Connection Elements
- Motors - Fixed & Variable Displacement (Axial & Radial Piston, L.H.S.T. & Gear)
- Directional Control Valves (Indust. & Mobile)
- Pressure Control Components
- Electronic Proportional Valves
- Cylinders (Tie Rod & Mill Type)
- Gear Boxes
- Accessories
- Power Unit Packages
- Complete Turn-Key Systems

**CALL 1-800-977-3131**

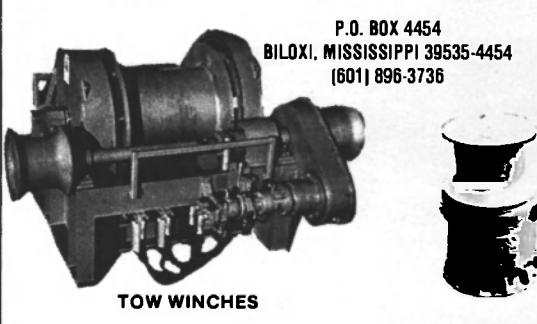
The Rexroth Corporation • Industrial Hydraulics Division

2315 City Line Road • Bethlehem, PA 18017-2131 • Tel: (610) 694-8300 • Fax: (610) 694-8467

Circle 264 on Reader Service Card

**McELROY**  
DECK EQUIPMENT  
ENGINEERED TO PERFORM  
MANUFACTURED TO LAST

P.O. BOX 4454  
BILOXI, MISSISSIPPI 39535-4454  
(601) 896-3736



**TOW WINCHES**

**CAPSTANS**

McElroy is ready to design, manufacture and deliver any type deck equipment your requirements call for.

Circle 233 on Reader Service Card

**Capitol Diesel**  
"Repower Specialists"

Specializing in  
New, Remanufactured and Used  
Engines and Generators.

Authorized Dealers For ZF, Northern Lights & Peninsular

**REBUILT ENGINES**  
**USED ENGINES**  
**MARINE GEARS**

218 W. 23rd Street  
New York, NY 10011  
(212) 929-6132  
(800) 528-0853  
Alan Gordon

490 Taylor Lane  
Dania, FL 33004  
(305) 927-0902  
(800) 336-4463  
Mike Cobb

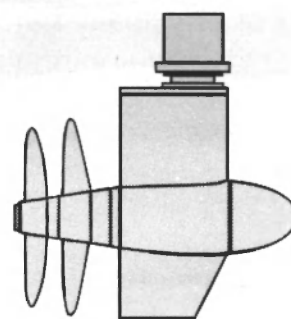
Circle 209 on Reader Service Card

## FYI: BEST AVAILABLE TECHNOLOGY CRP IS MORE EFFICIENT

**AQUAMASTER'S** Contra-Rotating (CRP) Z-drives can noticeably improve the economy of operating **passenger, cargo, and tank** vessels.

**AQUAMASTER'S** CRP can substantially increase fuel efficiency and/or improve vessel speed over open or ducted, fixed or controllable pitch propellers.

**AQUAMASTER'S** CRP wake is relatively smooth and turbulence-free, and its smaller propeller diameter makes it the best solution when shallow draft and high maneuverability is required.



For more information please call **AQUAMASTER-RAUMA, INC. 504-883-8340**

Circle 27 on Reader Service Card

## Novurania Yacht Tender Sports Inboard Turbo Diesel With Jet Drive



This Novurania megayacht tender is powered by a Yanmar 170-hp diesel engine.

Novurania of America, Inc., manufacturer of tenders for the luxury yacht market, introduced a new 21-ft. (6.4-m) tender model — 660 MED — in October, 1995, at the Genova Boat Show. The model is equipped standard with an inboard turbo diesel with jet drive, and will also be showcased at the Miami Boat Show in February.

Novurania's 660 MED incorporates various inboard engine packages, and a stern drive option. The tender models have a low, sporty layout that includes a large sundeck, and features a low sit-down seating arrangement, contrasting with the raised high profile leaning bolster widely used on offshore models.

The inboard turbocharged Yanmar 170-hp diesel engines reportedly function as safe, economical power sources, and coupled with Hamilton 211 jet drives,

create a unique propulsion package. Other features include: a swim platform, fresh water shower system, electric engine room lift, a forward U-shaped seating arrangement, and ample storage areas.

The company has also recently launched a program to aid builders in determining which tender models are best suited to specific yachts, dubbed the OEM Program for Yacht and Ship Builders. According to Novurania President Robert Collada, "The idea is to determine early on which model and characteristics of a tender will best complement a yacht and its owner ... by specifying the yacht tender at the building stage, we can save the project manager and/or owner a lot of headaches later on."

Hank Brady was chosen to head up the new program, which will focus on deck placement, davit installation and requirements, deck layout, weight limitations, power options and fuel arrangements of yacht newbuildings, in order to facilitate the design of efficient tenders. "Novurania has line drawings on disk as well as numerous other resources available to make the tender purchase an easy process," said Mr. Brady.

For more information on Novurania  
Circle 36 on Reader Service Card

Hank Brady

## Atlas Energy's Multiple Shore Cord Hook-ups Ideal For Megayachts

Atlas Energy Systems, El Monte, Calif., a marine manufacturer of power and frequency conversion and conditioning equipment, has released Smartbox — a new multiple shore cord hook-up option series designed to accommodate the higher power-usage requirements of megayachts. The unit was made for use with the company's onboard power converter, ShorPower.

The new unit is ideal for yachts whose onboard power needs exceed that which can be typically supplied from a single shore cord connection. Smartbox can accept combinations of single-phase and/or three-phase

Maritime Reporter/Engineering News



## Megayachts

shore cords, reportedly allowing owners to effectively double the amount of dockside power available for onboard usage. Dockside power sources are automatically reconnected as required to assure proper phasing before input to the onboard ShorPower system.

The unit can be installed in the lazarette next to the yacht's shore cord storage location, and five models are available, with various option configurations and physical dimensions. This system of dockside power compatibility is being targeted for newbuild yacht con-

struction as well as for the refit market.

For more information on Atlas Energy Systems  
Circle 35 on Reader Service Card

### Naiad Appoints Executives

Naiad Marine, manufacturer of roll-stabilization systems for

yachts of all sizes, has appointed **John Tagg** to the position of assembly supervisor and **Maxwell L. McCord** to the position of sales and marketing manager.

Reacting to these executive appointments, **John Venables**, president of Naiad, said, "Creation of these positions is in line with our long-term strategic aim — unsurpassed customer response with

steady growth in the yacht market products sector."

Naiad Marine, located in Shelton, Conn., is a division of Van Dusen & Meyer.

For more information  
Circle 114 on  
Reader Service Card



Maxwell L. McCord

### Tamarine Buys Australian Fast Ferry Builder

North Lily Mining Co. (NLMC) announced that Tamarine Ventures Ltd., the company that is merging with NLMC to form Tamarine NLMC, has secured the contract for its first Australian fast ferry company acquisition.

Tamarine, a Vancouver, Canada, marine firm with additional business units in the U.K. and Malaysia, is buying Cougar Catamarans, of Southport, Queensland, Australia for \$2.5 million.

Cougar currently makes fast catamarans of up to 105 ft. (32 m), designed to carry 300 passengers. The vessels are fiberglass construction with aluminum superstructures, and are particularly suited to the booming fast ferry transportation market in Asia Pacific.

Cougar Managing Director, **Harry Roberts**, said, "This deal will give us the muscle to be truly competitive in Asia Pacific and go head-to-head and beat the Western Australian product."

The Tamarine NLMC merger is subject to shareholder approval in March 1996.

### Global Purchases Heavy-Lift Derrick Barge, ROV Tech Assets

Global Industries, Ltd. has completed the purchase of the heavy-lift derrick barge *Hercules* and acquired the operating assets of ROV Technologies, Inc. in separate transactions.

The purchase of *Hercules*, at a cost of \$10.9 million, resulted from the merger of Offshore Pipelines, Inc. with the marine assets of McDermott International early in 1995, and was completed after installation of a 2,000-ton capacity crane.

ROV Technologies is a leading consulting company specializing in the area of remote underwater intervention and remotely operated vehicle (ROV) technology.

**Drew Michel**, the principal of ROV Technologies, will join Global as vice president, deepwater technology.

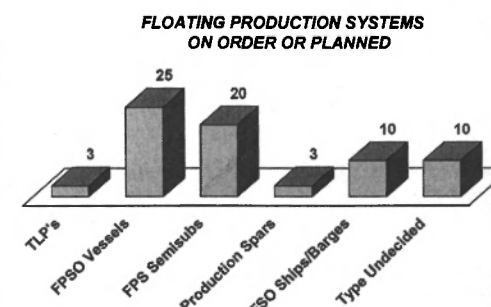
## Floating Production, Storage and Offloading Vessels

a major new study by IMA analyzes new business opportunities for shipbuilders and system suppliers in the booming market for floating production systems

January 1996 — \$675 per copy

About 100 floating production systems are now in service in the offshore oil fields. Many industry analysts believe that recent advances in floating system technology, increased deepwater production and ability to tap marginal fields will greatly expand the future role for floating production systems.

**A booming market** — Orders in hand for construction or conversion of floating production systems represent a contract value of almost \$5 billion — and contracts totaling another \$4 billion are approaching bidding stage. Some bullish estimates call for as many as 200 projects over the next five to ten years suited to floating production systems.



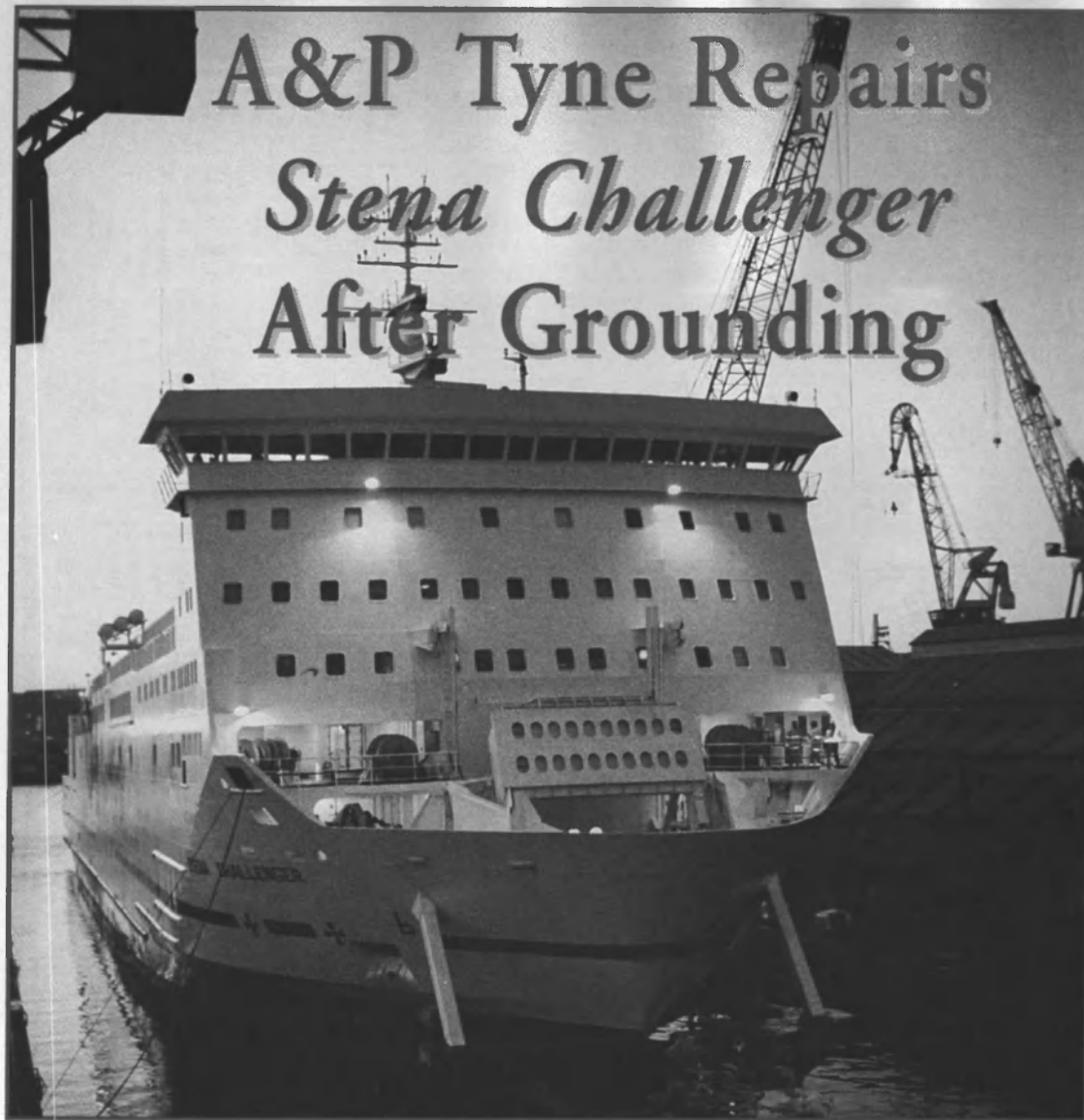
**Who should be interested?** — We think this is a market many companies should seriously consider. These units have a large electrical requirement, utilize sophisticated mooring devices, incorporate an extensive cargo pumping system, require elaborate control systems and frequently need dynamic positioning capability.

**IMA's new study** — Our just published study addresses the key questions of interest to hull builders, systems suppliers, engineering firms and others involved in this sector.

- What's behind the growth in demand for floating production systems?
- What are the prospects for this sector?
- How many new floating systems will be required over the next five years?
- Where are floating systems now employed, how many are on order, what are the design features, etc.?
- Who are the major owners, operators, contractors, integrators, builders, systems suppliers, engineering firms . . . ?
- How large is the available five year market for hulls, mooring systems, integration services, electrical systems, dynamic positioning . . . ?

**Fax, mail, phone or e-mail your order** — Just fax your order to us at 1-202-333-8504. Or mail your order to IMA Associates, Inc. — 600 New Hampshire Ave., NW — Suite 140 — Washington, DC 20037 USA. If you prefer, call us at 1-202-333-8501 or e-mail your order to imaassoc@msn.com

Circle 279 on Reader Service Card



## A&P Tyne Repairs Stena Challenger After Grounding

Dover-Calais passenger ferry *Stena Challenger*, grounded off Calais in September, arrived at A&P Tyne for repairs to below-the-waterline damage sustained during the incident in October.

After discharging its passengers at Calais, *Stena Challenger* drydocked for damage inspection at Dunkirk, where teams from rival European ship repairers made their assessments and put together bids for the repair con-

tract. A&P Tyne will be running a "round-the-clock" three-shift operation. *Stena Sealink* took advantage of this forced drydocking to have the vessel's annual standard refitting work (originally scheduled for this month) done at the same time. "We are naturally delighted to win such a high profile contract in the face of determined competition from virtually all the major con-



tenders in Europe," said A&P Tyne Managing Director **Barry Johnson**. "Stena Sealink is a regular customer of our Falmouth and Southampton yards, but we at A&P Tyne have not tackled much work on their northern ferries in recent years. *Stena Sealink* is therefore high on our own list of important targets and we are keen to make the most of this opportunity to prove our capability on Tyneside."

A&P Tyne is part of the A&P Group, which is reportedly the U.K.'s largest ship repair and conversion organization, with yards at Falmouth, Southampton and Chatham, as well as two facilities on Tyneside at Wallsend and North Shields.

A new management team installed by major shareholder Shroder Ventures at the end of 1993 has been responsible for a remarkable turnaround in the company's fortunes, A&P reports, taking it back to profit after two years of losses. Turnover in 1994 was up by 29 percent on the previous year.

For more information on A&P  
Circle 52 on Reader Service Card

## Astilleros Balenciaga Delivers Freezer Trawler To Jaczon

*Wiron 1*, an innovative 169-ft. (51.4-m) freezer trawler, was delivered in October to her owners, the Dutch firm Jaczon BV, in a christening ceremony held in the Spanish Basque port of Pasajes.

Astilleros Balenciaga, member of the private shipyard group Construvares, won a significant victory upon receiving the order for *Wiron 1* against stiff international competition. This achievement was completed recently by the successful sea trials and maiden voyage of the finished vessel, carried out to the complete satisfaction of the owners. The shipowner will make a determination soon as to a repeat order.

*Wiron 1* reached a speed of 13.64 knots in trials, demonstrating excellent maneuverability and seaworthiness. The ship is prepared to catch pelagic species such as herring and mackerel, at depths of up to 1,640 ft. (500 m) below sea level. The catch can be executed with a single vessel or in tandem with a second unit. The vessel is also fitted with modern processing and preserving facilities for the catches obtained.

### Catching and Processing

The ship is fitted with a winch located on the upper deck aft for sterntrawling. The catch is taken on board over the stern in batches by means of a heavy duty stern gantry. A stern roller assists in net hoisting maneuvers. Additionally, an electrohydraulic winch is installed forward for wire maneuvers in tandem fishing with a mirror symmetrical ship.

Via hatches on the upper deck, the catch is discharged into refrigerated seawater (RSW) tanks where it is cooled down to 0 degrees Celsius. The fish is then vacuum-pumped to a sorting machine and stored for a short period in four cooled sorting bins. From these bins the fish is loaded on an efficient conveyor belt system and transported directly to the freezers.

The ship is able to freeze 60 tons per day in 10 vertical freezers, 10 tons per day in a blast freezing tunnel and 50 tons per day in horizontal freezers. Once frozen, the fish is packed in cardboard boxes and further transported by conveyor belts and elevators to the two deep-freeze holds where it is palletized and stored. For unloading at port, a deck crane is arranged on the forward third of the upper deck.

### Machinery

*Wiron 1*'s main engine is a four-stroke, Stork Wartsila 6SW280 diesel with six cylinders in line, developing 1,800 kW at 900 rpm. The Renk-Tacke reduction gear (900/160) incorporates a PTO of 1,000 kW at 1,800 rpm, which drives the Indar shaft alternator. A stainless steel Berg 800 H/4, 3,200-mm-diameter, controllable-pitch propeller is fitted on the vessel.

Aside from the shaft alternator, the ship is equipped with two gensets, each comprising a Caterpillar engine and a Van Kaick alternator with a rating of 300 kW at 1,800 rpm, 440 V, 60 Hz. A 144-kW emergency genset is also arranged aboard ship.

### Wiron 1 Particulars

Length o.a.	168.8 ft. (51.44 m)
Breadth molded	30.1 ft. (9.16 m)
Draft, design from baseline	17 ft. (5.2 m)
Main engine	1,800 kW
Trial speed	13.64 kn
Classification	LRS +100, A1, Stern Trawler
	+LMC, UMS

### Wiron 1 Equipment

Main engine	Stork Wartsila 6SW280
Shaft alternator	Indar
Reduction gear	Renk-Tacke
Propeller	Berg
Genset engines	Caterpillar
Genset alternator	Van Kaick

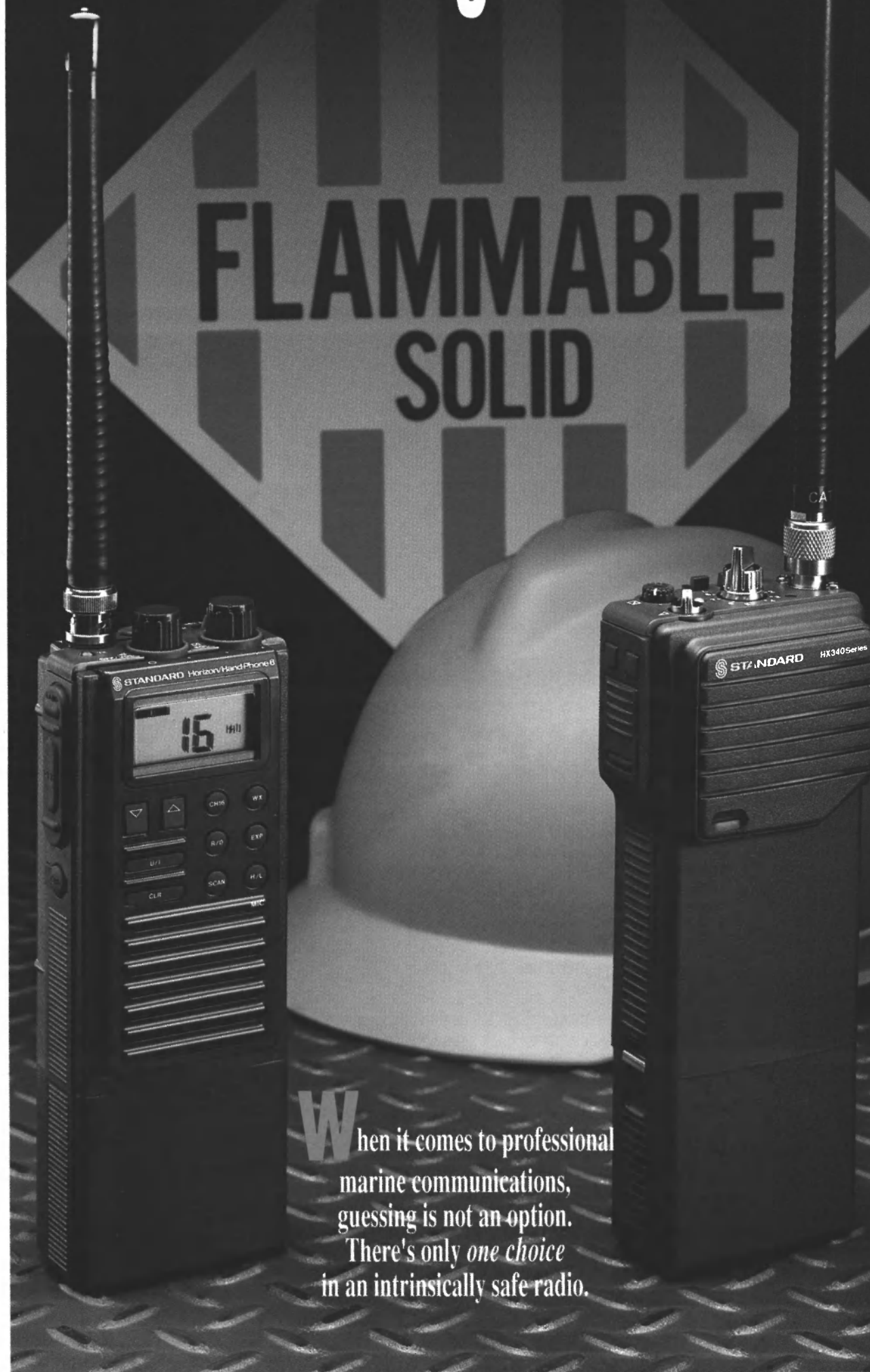
For more information on Astilleros Balenciaga  
Circle 9 on Reader Service Card



Maritime Reporter/Engineering News



# Hardware designed for *hard wear.*



## Offshore. Onshore.

For environmental applications that require an intrinsically safe radio, Standard Communications meets your requirements with the HX220AS or the HX340.

Two radios so tough, they meet or exceed Mil Spec 810D and I.I.S. standards for water integrity. Both constructed using a high impact, non-corrosive polycarbonate case, water resistant gasketing, and gold battery contacts to ensure maximum corrosion resistance.

The six watt HX220AS is the most powerful, intrinsically safe marine handheld you can buy. It's also the easiest to use, even with gloves on. This radio offers programmable scanning, with one-touch channel selection to all available channels.

The HX340 is available in both UHF or VHF at five watts. With eight channel capability, channels 6 and 16 are included on the VHF. The UHF provides four of the most commonly used UHF frequencies in the 450 MHz range. For that extra measure of security, the HX340 features a low battery warning light.

**W**hen it comes to professional marine communications, guessing is not an option. There's only *one choice* in an intrinsically safe radio.

3 Year  
Waterproof  
Warranty

*Nothing Takes To Water Like Horizon*

**Standard  
Communications**  
P.O. Box 92151  
Los Angeles, CA 90009-2151  
Telephone: 310-532-5300  
Faxes: 310-515-7197



## Passenger Vessels Should Take Passengers For A Ride, Not The Owners.

Guido Perla & Associates can bring a wealth of design and construction experience to your next passenger vessel. Founded in 1979, this full-service naval architecture, marine engineering, and project management firm has developed passenger vessel designs, from pocket cruisers to riverboat casinos to passenger/car ferries to new technology for high speed ocean transport.

Guido Perla & Associates provides a range of services from preliminary design, to shipyard construction engineering and project management for the owner. Be sure your next vessel, modification, or conversion complies with the latest regulatory requirements.

- Experience with a range of passenger vessels
- Preliminary and detail construction design
- Project management and owner representation
- Experience in the most recent regulatory rules for Subchapters T, K, and S, as well as classification rules for passenger vessels



**GUIDO PERLA & ASSOCIATES**  
Naval Architects, Marine, Mechanical, and Electrical Engineers

Pacific Building  
720 Third Avenue, Suite 1200, Seattle, WA 98104  
Tel: (206) 382-3949, Fax: (206) 382-2090

Circle 22 on Reader Service Card

## U.S. GULF COAST MARITIME REVIEW

### Gulf Coast Marine Industry In Buoyant Mood.

There is an undisguised buoyancy in the outlooks of shipyard executives across the Gulf Coast, due in part to the \$1.2 billion worth of new vessel construction contracts from U.S. and foreign owners currently in the Maritime Administration's (MarAd's) Title XI pipeline, earmarked for Gulf Coast yards. Many yards are building or buying extra capacity in anticipation of expanding markets, both domestically and worldwide.

Alabama Shipyard in Mobile, Ala., is well into a \$20 million capital spending program to expand and upgrade facilities. Another \$20 million may be pumped into the yard during the next 24-30 months, according to **William Skinner**, president.

"We have added a 500 x 90-ft. (152.4 x 27.4-m) panel line building, two 150-ton gantry cranes, a 1,100-ton-capacity transporter, a new pipe shop and sub-assembly area, among other improvements," said Mr. Skinner. "We're awaiting MarAd Title XI approval for two 16,000-dwt chemical tankers for a Danish operator and have a letter of intent for two smaller tankers of 11,500 dwt for a Swedish owner. This is a market segment we expect to expand."

Mr. Skinner added that Alabama Shipyard also has a letter of intent for a drill ship conversion for Sonat Offshore and orders for components for several semi-submersible drilling rigs, a reflection of the growing demand for offshore drilling equipment which has pushed utilization of the existing, aging fleet to near capacity.

Avondale Shipyards of New Orleans has completed a new under-roof steel fabrication building covering 575,000 sq. ft., as a major part of a \$20 million infrastructure improvement. "Title XI is pending for up to seven Primorsk class product tankers for a Russian owner," said **Ron J. McAlear**, vice president of advanced programs and marketing. "In addition, we have orders for four American Heavy Lift 37,000-dwt vessel conversions, also pending Title XI approval, and the 50-barge contract for Ingram Barge Line with an option for 50 more, filling out our commercial orderbook."

Avondale also has an impressive backlog of government work. Three Sealift vessels with an option for three more represent \$1.2 billion of work, supplemented by a U.S. Coast Guard icebreaker, T-AGO oilers and amphibious craft.

More than a year ago, Avondale set a goal of decreasing dependence on government work for itself by achieving a 50-50 work mix with commercial vessels by the year 2000. The yard is getting help in that direction from Spain's Astilleros Espanoles in shifting gears from high-tech navy work to competitive building of less complex commercial ships. "At the moment, we have a full workload through 1998," said Mr. McAlear.

Trinity Marine Group of Pascagoula, Miss., has acquired its 20th shipyard, the 80-acre Pascagoula yard of Chicago Bridge & Iron, valuable to Trinity for its deep-water access and repair capability. Trinity Senior Vice President **Harvey Walpert** reported that business has taken an upturn over the last several months. "A number of Title XI contracts are pending. We're building a large ferry for Alaska, berthing barges for the U.S. Navy and

pushboats and barges for commercial operators," he said.

Bollinger Machine Shop & Shipyard of Lockport, La., has acquired repair facilities from McDermott Shipyard, bringing Bollinger's drydock inventory to 20. Bollinger will operate the new facilities at McDermott's Morgan City, La., location. President **Donald Bollinger** is upbeat about the market. "It's very strong. We recently delivered a super liftboat with four 250-ft. (76.2-m) legs to Halliburton for work in the Irish Sea (see *MR/EN* cover story, November 1995). We're working on our second dredge for Dutra in California, two 127-ft. (38.7-m) tugs for Otto Candies and a couple of 145-ft. (44.2-m) supply boats. Global Industries has ordered a 229-ft. (69.8-m) liftboat which is awaiting MarAd approval," said Mr. Bollinger. He added that he does not expect to see a major upsurge in offshore vessel construction for about two years, although the company has built a "new generation" 225-ft. (68.6-m) supply boat for Edison Chouest.

Other major beneficiaries of pending Title XI loan guarantee approvals are Bender Shipbuilding of Mobile, Ala., for a \$25 million anchor handling/tug-supply vessel; Leevac Shipyards of Jennings, La., for \$13 million worth of barges; and Barnett Shipyard of Lafitte, La., for 44 deck barges costing \$12 million, plus \$5 million for shipyard modernization.

In all, MarAd has more than \$4 billion in shipbuilding loan guarantees under study, though the figure is skewed by a single application for more than \$1 billion for a proposed 6,200-passenger cruise ship.

Title XI is already fueling a current surge of barge-building contracts, such as Avondale's with Ingram Barge Line. Some, possibly most, of the flow would have occurred regardless of the loan guarantee program, according to **Joe Tyson**, general manager of operations and technical services for Canal Barge Co. of Belle Chasse, La., which has added 21 new double-hulled tank barges to its fleet over the past five years and plans to add another 10 in 1996. The company has also added 18 new deck barges since 1990, and will take delivery of another one in 1996.

"The nation's barge fleet is aging with virtually no replacements in over a decade, and OPA 90 regulations mandate environmentally-friendly, double-hulled tank barges to mitigate against spills," said Mr. Tyson. "I think we'll see a similar spurt in towboat construction in about five years. The boats tend to outlive the barges by about that long."

Notwithstanding the new business it is generating, even shipbuilders cannot agree whether Title XI, in its present form, is all that vital to the future of their marketplace. The big yards, including Avondale, have set their sights primarily on the world market for blue water vessels, and are fighting to keep the current 87 percent/25-year loan guarantee plan in place to help lure foreign buyers.

The smaller (or second-tier) yards, however, are vigorous in their support of the pending OECD shipbuilding agreement, the nominal ratification deadline for which has been set back from January to October of 1996. It would, at least in theory, put a lid on govern-



ment shipbuilding subsidies around the world, although it would impose reductions on the percentage and terms of Title XI financing as well. The smaller yards feel that they can compete more effectively in world markets if the field is leveled, giving added weight to their relatively low wage scales; year-round working environment, particularly on the Gulf Coast; and long experience building for the offshore energy industry.

The latter is especially problematic. The offshore industry triggered a massive boom in boat building, as well as in shipyards, in the 1970s and early 1980s. More than sheer numbers of vessels, offshore operators generated demand for multiple, "cookie cutter" vessels which were significantly more profitable for shipyards than the one or two-of-a-kind orders. Since the oil price collapse of the mid-1980s, however, offshore service vessel (OSV) construction in any multiple has been almost nonexistent.

The devil, to paraphrase, is in the day rates. OSV operators insist that they cannot economically start building replacements for their 20-year-old fleets until charter or day rates rise above \$4,500. At that point, according to **Richard M. Currence**, executive vice president of Tidewater, Inc., operators might see a reasonable hope of getting \$5,500, and above

for new-generation, higher-capacity and performance workboats — the level required to build \$5.5 million replacements.

Since day rates are not something OSV operators, let alone shipyards, have any real control over, one shipbuilder has decided on a different tack. **Michael Clute**, president of Service Marine Industries of Morgan City, La., said his company has invested in R&D to develop an innovative new design for OSVs — which have retained the same configuration since Tidewater launched the first purpose-built workboat in 1965.

"We have completely overhauled the design to produce a vessel with smaller-boat cost and big-boat performance," said Mr. Clute. He declined to elaborate on specifics of his company's design, with which he hopes to attract recalcitrant OSV operators to the table, much as Detroit has lured buyers with model changes over the years.

These conditions notwithstanding, it is certain that shipyards will have fewer buyers to target for OSV orders. In November, Hornbeck Offshore Services announced its intent to merge with Tidewater in a stock transaction valued at \$225 million. Hornbeck is Tidewater's principal competitor in the Gulf of Mexico, though Tidewater is roughly six times larger in number of vessels worldwide. Tide-

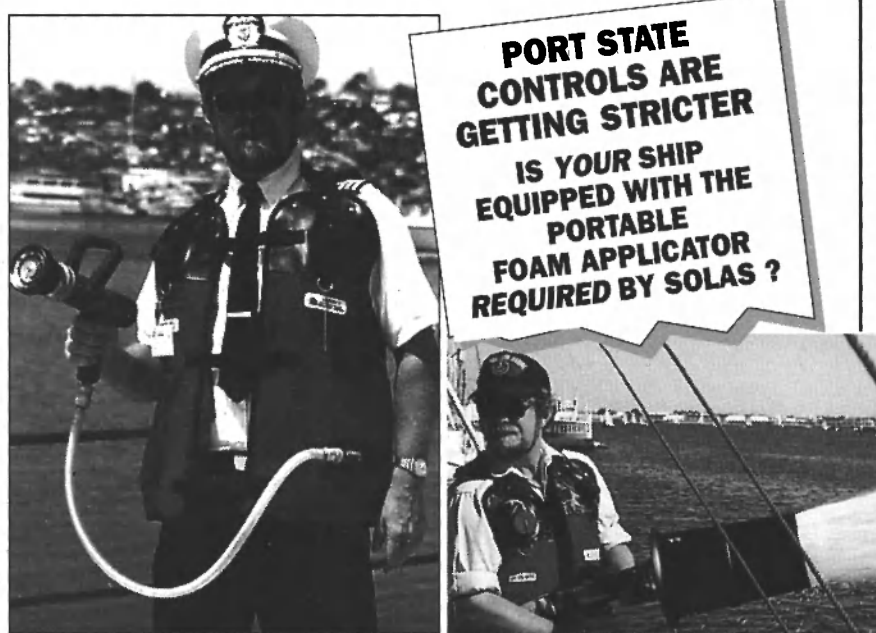
water made an even larger dent in the OSV marketplace three years ago when it acquired Sapata Gulf Fleet, doubling its fleet to the present size of approximately 600 vessels. With the addition of Hornbeck's 90 owned and operated vessels, it will become even more dominant, both as a vessel operator and a prospective buyer.

Currently, Tidewater, Hornbeck and other OSV operators are enjoying close to 100 percent vessel utilization, and rising day rates in the \$3,600 to \$3,800 range. Much of the work is being generated by new drilling in the Gulf of Mexico, spurred by the vastly improved 3-D seismic technology and the success of deep water ventures which are producing in excess of expectation. It helps that the underlying commodities (oil and gas) are commanding higher prices than they have all year.

With 263 out of a total of 277 OSVs in the Gulf of Mexico at work (November 1995), Tidewater's Mr. Currence, for one, is well pleased with the situation. "I would prefer to see prices, utilization and day rates continue to move gradually higher, rather than rapidly upward," he said. "This industry (OSV operation) hasn't demonstrated much ability to handle booms over the years."

For the past several years, riverboat casinos have been a mainstay for many Gulf Coast

### BE PREPARED FOR FIRE WITH THE MAVERICK FOAM VEST



- PORTABLE • AFFORDABLE
- OPERATIONAL BY ONE PERSON WITHIN SECONDS

ASK FOR FREE VHS VIDEO AND BROCHURE

Designed to comply with SOLAS requirements for portable foam applicators, including requirements to operate at minimum hydrant pressures, the ABS type approved MAVERICK FOAM VEST with UL listed BR95 nozzle gives any ship instant firefighting foam with no retrofit.



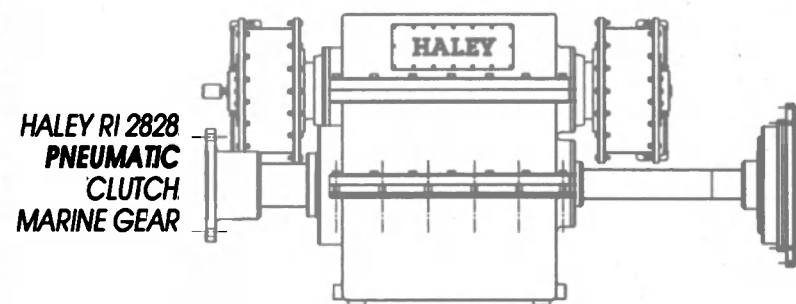
International Marine Supply & Service Company  
Master Marine Distributor Worldwide, San Diego, CA 92106 USA  
Phone (619) 223-8277 Fax (619) 523-4333

<b>SINGAPORE</b> W.H. Brennan Republic of Singapore Tel +65 542 9722 Fax 5425265 Contact: John Leong	<b>CANADA</b> Maritime Service Vancouver B.C. Tel 604 294 4444 Fax 294 5879 Contact: Padam Misri	<b>MALAYSIA</b> Perpro Agencies Sdn. Bhd Ipoh, Perak Tel +605 5470761 Fax 605 5471518 Contact: Terence Yeoh
<b>USA EAST COAST</b> Derbyshire Foam Sys Products Philadelphia, PA Tel 215 844 3200 Fax 849 8680 Contact: Robert B. Derbyshire	<b>USA NORTHWEST</b> The Clendenning Associates Lynnwood, WA Tel 206 742 6730 Fax 745 3910 Contact: Ed Clendenning	<b>USA CALIFORNIA</b> Chwalek Marine San Diego, CA Tel 619 224 4272 Fax 224 1831 Contact: Stan Chwalek

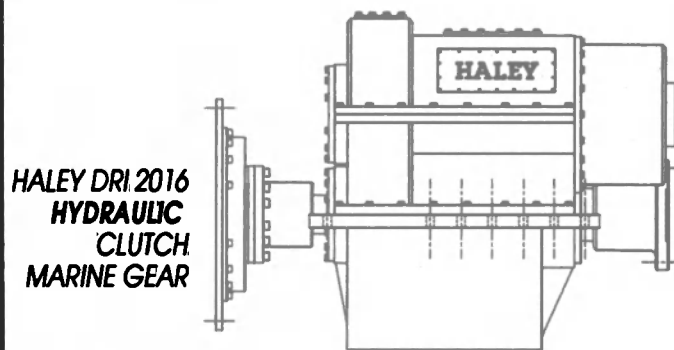
Circle 224 on Reader Service Card

## HALEY CLUTCHES GEAR COUPLINGS

800-6,000 HP Range • Ratios From 2:1 Up To 10:1  
Able To Match Existing Foundations With Custom Designs  
HALEY Clutches & Couplings Complete The Perfect Package



HALEY RI 2828  
PNEUMATIC  
CLUTCH  
MARINE GEAR



HALEY DRI 2016  
HYDRAULIC  
CLUTCH  
MARINE GEAR



MEMBER AMERICAN GEAR MANUFACTURERS ASSOCIATION

### MARINE GEARS, INC

P.O. BOX 689 • Greenville, MS 38702-0689 • TEL 601-332-8716 • FAX 601-335-4322

### MARINE GEARS INTERNATIONAL, INC.

2600 Concord • Belle Chasse, Louisiana 70037  
TEL 504-394-4431 OR TOLL FREE 1-800-227-9198 • FAX 504-394-1460

Circle 232 on Reader Service Card

## U.S. GULF COAST MARITIME REVIEW

shipyards, none more so than Service Marine. The company has built 26 gaming vessels and casino barges and now has a contract for one of the largest, and possibly the last newbuild of this type for a while. It is a \$36 million, 408 x 100-ft. (127.2 x 30.5-m) behemoth

for Indian Gaming Co., a subsidiary of Argosy Operating Company. "Available gaming jurisdictions are about exhausted," said Mr. Clute. "The big ones, Texas and Florida, are out of play. Casino work in the future will probably consist mostly of conversions of

smaller, first generation boats in the 250-ft. range, to larger vessels and some replacements for earlier ones."

Mr. Clute added that there is still some life in the casino barge business, building the marine foundations for dockside casinos.

### McDermott: Blazing A Unique Trail Towards International Business

A year and a half ago, it appeared that McDermott Shipyard might become a big Gulf Coast winner in the MarAd Title XI competition. The company was named to build 30 cargo ships under the Title XI program. The deal collapsed when MarAd rejected the owner's application.

Now, McDermott has taken a different tack in the "other Gulf of Mexico." Last March, a restructured McDermott International Shipbuilding, one of five business groups of McDermott International, took over the operation of a shipyard in Veracruz, Mexico, in a joint venture with Mexican partners.

The plan is to concentrate on large shipbuilding and repair at the Mexican yard with smaller vessel and barge building as the focus at the Morgan City, La., facility.

"We're hedging our bets," said McDermott Shipbuilding Vice President and General Manager Mike Pearson. "We can plan to make Morgan City the number one barge builder in terms of quality and performance, as we aggressively market ... a portfolio of vessel designs ranging from 3,500-dwt mini-bulk carriers to product and bulk carriers in the 40,000- to 70,000-dwt class."

McDermott is spending \$12 million to upgrade the Veracruz yard with a new panel line and automated welding technology, and is making similar improvements on a smaller scale at Morgan City.

"Within three weeks of taking over in Veracruz, we booked our first major repair job, a Panamax-size (80,000-dwt) vessel, and won a master service agreement for our performance," said Mr. Pearson. "Since then, we have completed 22 major repairs and never missed a bonus when one was available. We completed repairs to a Pemex rig in the fastest time ever, the company told us."

Although the Mexican yard cannot benefit from it, Pearson believes Title XI is important to the U.S. shipbuilding industry. At the same time, he strongly supports the OECD shipbuilding agreement, even though some of its provisions — designed to curb foreign governments' shipyard subsidies — might impact the Veracruz operation.

McDermott is no stranger to working with foreign nationals overseas. The company presently operates two yards in Russia in joint ventures and is "looking at" the possibilities in Korea and China, two of the world's hottest shipbuilding nations, reported Mr. Pearson.

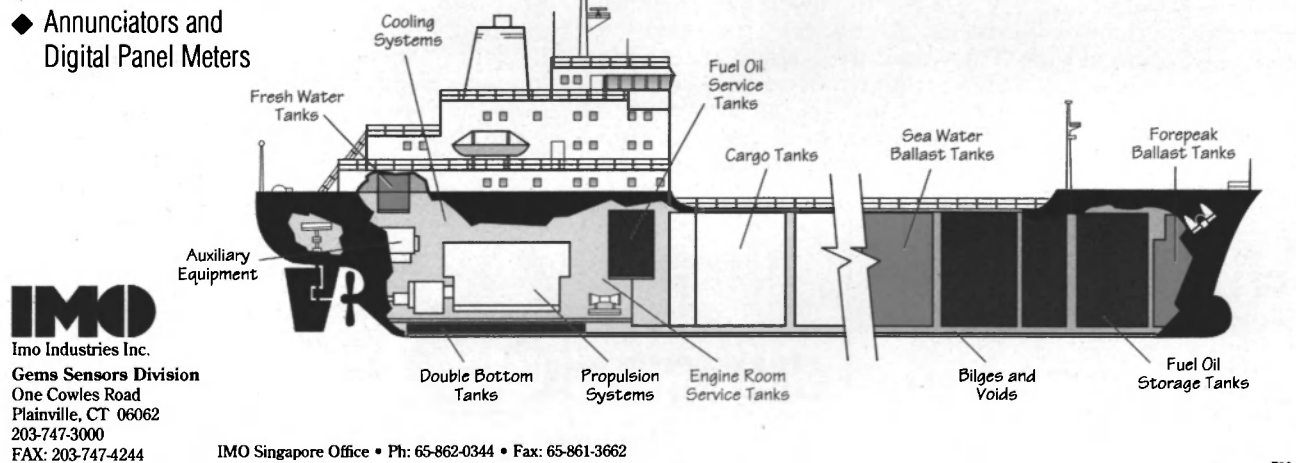
For more information on the yards mentioned in this article,

### GEMS Liquid Level & Flow Sensors

#### Your Complete Source for Liquid Sensors

- ◆ Level Switches
- ◆ Flow Switches
- ◆ Continuous Level Transmitters
- ◆ SureSite® Visual Gauges
- ◆ Closed Loading Level Sensors
- ◆ Leak Detection
- ◆ Annunciators and Digital Panel Meters

Stern to bow, Gems Sensors has all your shipboard liquid level and flow sensing needs covered. All of our marine components are precisely engineered for a wide variety of specialized needs throughout ships and off shore rigs. Call today for new or retrofit application information: **800-321-6070**



**IMO**  
Imo Industries Inc.  
Gems Sensors Division  
One Cowles Road  
Plainville, CT 06062  
203-747-3000  
FAX: 203-747-4244

IMO Singapore Office • Ph: 65-862-0344 • Fax: 65-861-3662

Circle 223 on Reader Service Card

**Q. WHY SACRIFICE PROTECTION?**

**A. ELCAT'S** Capac® Impressed Current Cathodic Protection System's platinum-clad anodes on niobium and titanium substrates provide 20-year documented life, current distribution, and hull potential control. Voltage provided by sacrificial zinc or aluminum anodes is too high when new, causing damage to coatings, and too low when old, causing hull corrosion. For more information, call or fax ELCAT today.

**Capac®**  
Better components,  
Better protection.

2 Milltown Court, Union, NJ 07083  
Phone: 908-851-2277 Fax: 908-851-6906

ELC-550

Circle 216 on Reader Service Card

**ZODIAC LIFERAFTS**

**U.S. COAST GUARD APPROVED**

- Throwovers for 4 to 25 persons with 50 person and 2 x 50 person rafts coming soon
- Davit launched models for 12 to 37 persons

(25 person davit launched model)

**NEW!** **ZODIAC 4-PERSON IBA**  
**MAKES YOUR VESSEL COMPLIANT**

Double Tube Construction designed to meet U.S.C.G. requirements for commercial fishing vessels in coastal, river and inland waters

Manufactured with long lasting Polyurethane fabric and Thermobonded™ seam technology

U.S.C.G. Approval Pending  
Platforms for 6 to 50 and 2 x 50 persons

For information contact:  
**ZODIAC OF NORTH AMERICA**  
P.O. Box 400 Stevensville, MD 21666  
Phone: (410) 643-4141 Ext. 3009 & 3011

MEMBER  
USMSA

Circle 268 on Reader Service Card



circle the appropriate number on the Reader Service Card in this issue:

Alabama .....	91
Avondale .....	92
Bender .....	93
Bollinger .....	94
Leevac .....	95
McDermott .....	96
Service Marine .....	97

### Offshore Industry Outlook Conference To Be Held This Spring

Keeping up with offshore oil and gas industry developments during times of change is difficult but essential. The 1996 Outlook Conference is designed to assist industry leaders and observers by providing a three-year forecast of developments, trends and critical issues facing the marine/offshore industry. Industry leaders from offshore construction, marine geophysical, offshore drilling, marine transportation, commercial underwater services and offshore oil and gas exploration and production will discuss the 1996-1998 industry outlook during the 20th Annual Marine/Offshore Industry Outlook conference on April 18, 1996, at the Holiday Inn Select-Houston. For more information about registration, contact **Dewayne Hollin**, conference coordinator, at Sea Grant College Program, Texas A&M University, 1716 Briarcrest Dr., Suite 712, Bryan, Texas 77082, tel: (409) 845-3857.

### Simrad Offers New Autopilot



Simrad's new Robertson AP35 autopilot, developed for small commercial vessels up to 50 ft. (15.2 m), is reportedly the first autopilot in the "new generation" of pilots to be designed with the needs of the commercial skipper in mind.

This system includes proportional rate rudder control, automatic sea state adjustments and a sturdy control head designed from solid aluminum to handle heavy use in adverse weather conditions. With rotary course selectors and dedicated push buttons, the system can be mounted outside, featuring a back-lit control panel and an easy-to-read LCD display. Standard AUTO and NAV modes are available and a single button switches from one set of steering parameters to the other.

The AP35 autopilot is reportedly suitable for multi-station applications and will interface with NMEA for all types of navigation receivers and sensors. A magnetic compass course detector or fluxgate compass comes as a standard feature, and the RFC35R, a new high-performance rate compass, comes as an option.

For more information on Simrad  
Circle 13 on Reader Service Card

### Marine Gears Positioned For Upswing

Marine Gears is a complete engineering, manufacturing and service-oriented company which consists of three companies, Marine Gears Inc., Haley Clutch and Coupling Corp. and Marine Gears International.

The company's primary target is the workboat market, including tug, tow and dredge operators. To fulfill both rebuild and new-build demands, the company offers an array of new, remanufactured and rebuilt products.

New marine propulsion gears include pneumatic clutch gears, vertical or horizontal offset, in either the FMC series (flywheel mounted clutch) or the GMC series (gear mounted clutch). It also offers hydraulic clutch gears, in either the hydraulic reversing vertical (HRV); hydraulic reversing horizontal (HRH); or the reversing in-line (RI) types.

For more information from Marine Gears  
Circle 102 on Reader Service Card

### Mobile Computing Brought Outdoors

Kontron Elektronik introduced the IN Lite, a weather-proof portable computer, an industrial notebook that functions in mission-critical, all-weather outdoor or mobile computing applications.

Its shock and vibration resistant design incorporates a full magnesium casting to protect it from water and dust. Standard features include a 3.5-in. floppy drive; 200MB hard drive; and two PCMCIA (PC Card) slots.

For more information on Kontron  
Circle 12 on Reader Service Card

Eliminate the Rust!

ISOTROL / ISOGUARD

A Total anti-corrosion control system

The ultimate protection when metals are exposed to nature's elements.

- Ships (all surfaces)
- Offshore Platforms
- Steel Reinforcing Rods (concrete)
- Piers
- Anywhere corrosion can occur.

The ISOTROL/ISOGUARD System has approached the rust problem in an unconventional way.

The ISOTROL/ISOGUARD System has a low surface tension combined with low viscosity and high total solids. With these characteristics ISOTROL/ISOGUARD penetrates the substrate of rusted steel surfaces and encapsulated all rust particles. It also encapsulated inorganic salts and removed them from the electrolytic system. In Addition ISOTROL/ISOGUARD bonds onto the mother metal lattice, eliminating all air and moisture pockets. When it dries it presents a pore-free surface to the atmosphere.

ALL THIS CAN BE ACCOMPLISHED WITHOUT SANDBLASTING.

PermaStopRust™

(AMERICA) INC.

2911 Dixwell Ave., Suite 101, Hamden, CT 06518  
Phone: 203/407-3841 • 800/200-3599 • Fax: 203/407-3840

Circle 283 on Reader Service Card

Violet Dock Port Inc.

BERTHING FACILITY

IN MISSISSIPPI RIVER AT VIOLET, LA.  
(Parish of St. Bernard, State of Louisiana - Mil. 83.5 AHP)  
P.O. BOX 357 • VIOLET, LOUISIANA 70092  
(504) 682-8631 • fax (504) 682-8633

- 5 Deep Draft Berths • Shore Power
- Unlimited Air Clearance • Water
- Secured Area • Short & Long Term Rates
- Other Services Available

MILE 83.5 AHP 70'+ DRAFT  
MISSISSIPPI RIVER

Circle 251 on Reader Service Card



## German, U.S. Ties Strengthened Via SMM Partnership

on the way to returning to merchant shipbuilding," and the trade fair is more of a marketplace for solid business.

The announcement of the partnership coincided with a Maritime Administration-sponsored trade mission to visit German shipyards, a mission that included 14 U.S. marine suppliers (see list, this page). The trip was a success by many accounts, and Dr. Rohweder, who is also with Kiel-based HDW, said, "Our marine shipyards are definitely interested in buying in the dollar area."

"We've always had an interest (in doing business more extensively in Europe) and this complemented our efforts to date," said Thomas F. McGrath, vice president marketing/sales, Hopeman Brothers, Inc., who personally went on the trade mission.

"European shipyards are restructuring to remain competitive in the face of high domestic labor and material costs, falling prices for new ships and low dollar exchange rates," John Graykowski, Deputy Maritime Administrator for Inland Waterways and Great Lakes, told the Shipbuilders Council of America (SCA). "Since many international vessel sales are in U.S. dollars, and in order to reduce foreign exchange risks, German and Danish shipyards are interested in developing lower-cost, dollar denominated suppliers."

### Opportunities Await U.S. Companies

Hamburg has become synonymous for innovation as the site of SMM, the Shipbuilding, Machinery and Marine Technology Exhibition and Conference. SMM has

evolved into what many consider the best international event for the maritime industry. SMM '94 hosted 829 exhibitors from more than 30 countries, which effectively filled to capacity the 12 glass-domed halls (approximately 450,000 sq. ft.).

According to Professor Franz Zeithammer, president of Hamburg Messe (the city's trade show organization), "SMM exhibitors realize that they will be able to connect with their prime customers, some 33,000 serious top and middle-management trade visitors from 50 countries. Close to 70 percent of visitors to SMM are top decision makers who can sign the check."

Since the U.S. maritime industry is being featured at SMM '96 as the official partner country, key U.S. maritime trade associations and Hamburg Messe's U.S. representative have been meeting regularly to develop an outstanding presence and profile for the U.S. Pavilion, which is prominently located in Entrance Hall 1.

A recent luncheon in Washington hosted by Hamburg Messe to preview SMM '96 to 60 industry executives presented a strong case for participating in the event. Said one attendee who has already decided to exhibit at SMM, "The Pavilion give U.S. companies an unbelievable stage on which to present our qualifications, capabilities, innovation and competitive advantages. We'd be stupid to pass it up."

To make the application, registration, exhibit design, company specific promotion and travel arrangements as simple as possible, Hamburg Messe's U.S. representative may be contacted at tel: (304) 263-7342; fax: (304) 263-7414. "Applying right away is advised since SMM sells out early, and we want to make sure that U.S. companies have the best ac-

commodations and services," said U.S. representative Mary Colburn-Green.

### On A Mission

The following is a listing of the companies that traveled on a MarAd-sponsored trade mission to German shipyards in late November. Fourteen U.S. marine supply companies participated in the mission, which visited the HDW yard at Kiel, the Kvaerner yard at Rostock, and the Meyer Werft facility at Papenburg. In Bremerhaven, the group met with purchasing representatives from all of the yards of the Bremer Vulkan Group. Meetings were also held with other German yards and with a Danish group which visited with the U.S. companies at the U.S. Consulate in Hamburg. For additional information on any of the companies, circle the appropriate number on the Reader Service Card in this issue.

American Bureau of Shipping	186
Baldt Inc	187
Bird-Johnson Co	188
Hopeman Brothers	189
Jameson Metal, Marine Sales, Inc.	190
Keystone Valve USA Inc	191
Lake Shore Inc	192
Marine & Industrial Power Inc	193
NMP Corp	194
Pinpoint Systems International	195
Sperry Marine Inc	196
Teleflex Inc.-Naval	197
Victaulic Co. of America	198
York International Corp	199

As reported in the last issue of MR/EN, the U.S. was selected as the partner country for SMM '96, scheduled for early October in Hamburg, Germany. While an exhibition tie-in does not usually make the heart quicken, this one might. The partnership is being described by both the U.S. and German sides as an unprecedented opportunity for U.S. companies to make significant inroads to international markets.

While there is the requisite amount of salesmanship accompanying many of the messages, they should not be dismissed as pre-show hype. The exhibition and conference is widely regarded as a top-notch event, and at the last exhibition in 1994, world shipbuilding leader Japan was the partner country.

At a recent luncheon in Washington D.C. promoting the event, Dr. Jürgen Rohweder, chairman of the advisory board of SMM '96 said that there are several reasons why the U.S. is the ideal partner country.

"Partnership with the world's foremost economic power strengthens the position of the SMM '96 as the leading international shipbuilding trade fair," he said. "The American shipbuilding industry is

### MarAd Announces New Maritech Project Awards

(Continued from page 13)

navigation. The consortium consists of Martin Marietta (Syracuse, N.Y.), and Rensselaer Polytechnic Institute (Troy, N.Y.). The total value of the 24-month agreement is \$6,026,230. The government will fund \$2,760,045, with the Smartbridge Consortium providing the remainder in cash and in-kind services.

A third cooperative agreement is with Alabama Shipyard, Inc., Mobile, Ala., to develop technology for the production of a "handy size" bulk carrier at the shipyard. Based on an innovative design which already has proved to be marketable, the vessel would have a capacity of approximately 27,000 dwt. The total value of the 16-month agreement is \$6,266,000, with the government and the shipyard equally shar-

ing the cost.

MarAd also has entered into a cooperative agreement with a consortium led by Bender Shipbuilding and Repair Co., Inc., Mobile, Ala., to develop a contract design for a 200,000-cu.-ft. refrigerated ship. The ship will accommodate the full-range of temperature-sensitive cargoes, from frozen fish or meat to chilled fruit. Two cargo holds will contain six independently-controlled compartments. Atmospheric mixture also will be controlled. Other consortium members are Columbia Group, Inc. (Seattle, Wash.), and Nordvestconsult AS (Norway). The contract design will be based on a previously developed preliminary design. The total value of the agreement is \$1,601,992. The government will

provide \$650,000, and the consortium members, \$951,992.

In addition, MarAd has entered into a cooperative agreement with the University of California, San Diego, located in La Jolla, Calif., to address a comprehensive array of issues including: materials design and fabrication using composites; overall ship design; establishment of a framework for standards for materials and structures; full-scale testing; field demonstrations; and aggressive international marketing.

The total value of the 24-month agreement is \$8,579,000. The government will fund \$3,000,000, with the University of California, San Diego, providing the remainder in cash and in-kind services.





The 414-ft. (126.3-m) RoRo vessel *Commodore Goodwill* was launched on Nov. 11, 1995, at the yard of shipbuilder Royal Schelde in Vlissingen, the Netherlands. The vessel is being built for Commodore Shipping Company Ltd. in Guernsey, Channel Islands. The keel of the vessel was laid in March 1995, and delivery is planned for March 1996.

The *Commodore Goodwill* will operate be-

tween south-east England and the Channel Islands on a daily service to carry trucks and trailers. A sister vessel was delivered to Commodore Shipping by Royal Schelde in May 1995 and presently operates on that same route.

### Mako Wins Mexican Coast Guard Contract

Mako Marine Intl. was awarded a contract to supply 10 custom patrol boats for the government of Mexico's Coast Guard. The boats are Mako type 295s, which measure 29 ft. (8.8 m) long. The units for the Mexican Coast Guard are custom designed with a pilothouse and law enforcement package. Each boat will be powered by two 3-liter Mercury outboards. Mako has supplied patrol boats for the governments of Greece, Colombia and St. Lucia. Mako has also supplied patrol boats for both national and local government agencies such as the Army, Navy, Coast Guard, and Florida Marine Patrol.

### IDB Debuts "One World, One Price" System

In keeping with its goal to provide the most customer responsive Inmarsat services in the world, IDB Mobile announced a billing procedure it describes as innovative and simplified.

The new program, entitled "One World, One Price," will offer one price for voice, fax and data traffic that includes landline charges to any destination in the world for Inmarsat A, M, and B mobile satellite services. "IDB's customers know what the call will cost in advance, before the call is placed," said Jerry Shipley, senior vice president, sales and marketing, at IDB Mobile.

For more detailed information  
Circle 63 on Reader Service Card

January, 1996

### Class NK Expands North American Coverage

In response to requests from clients, Nippon Kaiji Kyokai (Class NK), the Japanese ship classification society, has opened a new office in Vancouver, effectively increasing its coverage in North America. Although the society has been represented in Vancouver for years (as well as in Halifax, Montreal, and St. John, New Brunswick), this is the first Canadian office to be staffed by its own surveyors. Class NK already has five exclusive surveyors offices of its own in the U.S. — in Houston, Los Angeles, New Orleans, New York and Seattle. The new office opened on December 1, 1995, under the guidance of Takahiro Koshino, general manager. The address is Nippon Kaiji Kyokai Vancouver Office, Suite 1270, TD Bank Tower, P.O. Box 10031, Pacific Centre, 700 West Georgia St., Vancouver, B.C., Canada V7Y 1A1, tel: (604) 685-2121; fax: (604) 685-7631.

### Bender Wins Reflag, Repair Work

Bender Shipbuilding & Repair Co. was awarded a contract for the reflagging and repair of *Cape Kennedy* and *Cape Knox*, 700-ft. (213.3-m) sister RoRo ships assigned to the Maritime Administration's Ready Reserve Fleet (RRF). *Cape Kennedy* was scheduled to arrive December 15, 1995; the *Cape Knox* on January 15,

1996.

Both work packages entail major interior joiner mechanical and preservation items and presently total approximately \$10.5 million.

Bender was also recently awarded a contract for the drydocking of and repairs to the USNS *Vanguard* (T-AG 194), a 595-ft. (181-m) navigation research ship operated by

the Military Sealift Command, Bayonne, N.J.

Bender will perform hull repairs and preservation, as well as major structural repairs in the vessels' machinery spaces. The base contract of \$4.5 million has the potential to grow to \$6 million. The job, scheduled to begin January 8, 1996, is anticipated to be completed by early May 1996.

### Koel Laid For Fourth Maritime Coastal Defense Vessel

\$650 million project remains on schedule

A major construction project being managed by SNC-Lavalin Group subsidiary Fenco MacLaren Inc. reached an important milestone as the keel was laid for the fourth Maritime Coastal Defense Vessel (MCDV) at the Halifax shipyard.

This event marks completion of the first large assembly of the new vessel, which is expected to be delivered next year. Like each of the 12 ships, it will be named for a city or town in a Canadian province or territory. The seven-year MCDV construction project, valued at about \$650 million, remains on schedule and reportedly has not incurred any cost overruns under the management of Fenco MacLaren, a Nepean-based engineering, project management and systems integration company. "To date, the project, through the Prime Contractor and Tier 1 Subcontractors, has provided extensive industrial and regional benefits to Canada," said Project Manager Robert G. Mustard of Fenco MacLaren. The government of Canada awarded the major shipbuilding order in May 1992 to Fenco MacLaren, which has assembled a strong team of Canadian companies to execute it. These companies include: Halifax Shipyard Limited (ship design and construction); German Marine Inc. (ship and marine systems design); MacDonald Dettwiler and Associates Ltd. (integrated survey and inspection system and integrated logistics support); Thomson-CSF Systems Canada Inc. (communications, navigation and combat systems, and integrated logistic support); and Eduplus Management Group (training development).

55

In addition to the above vessels, Royal Schelde has a 246-ft. (75-m) high-speed passenger/car/truck ferry under construction for Greek owner Catamaran Lines Maritime Company, and an Amphibious Transport Ship for the Royal Netherlands Navy, as well as two Air Defense and Command Frigates, also for the Royal Netherlands Navy.

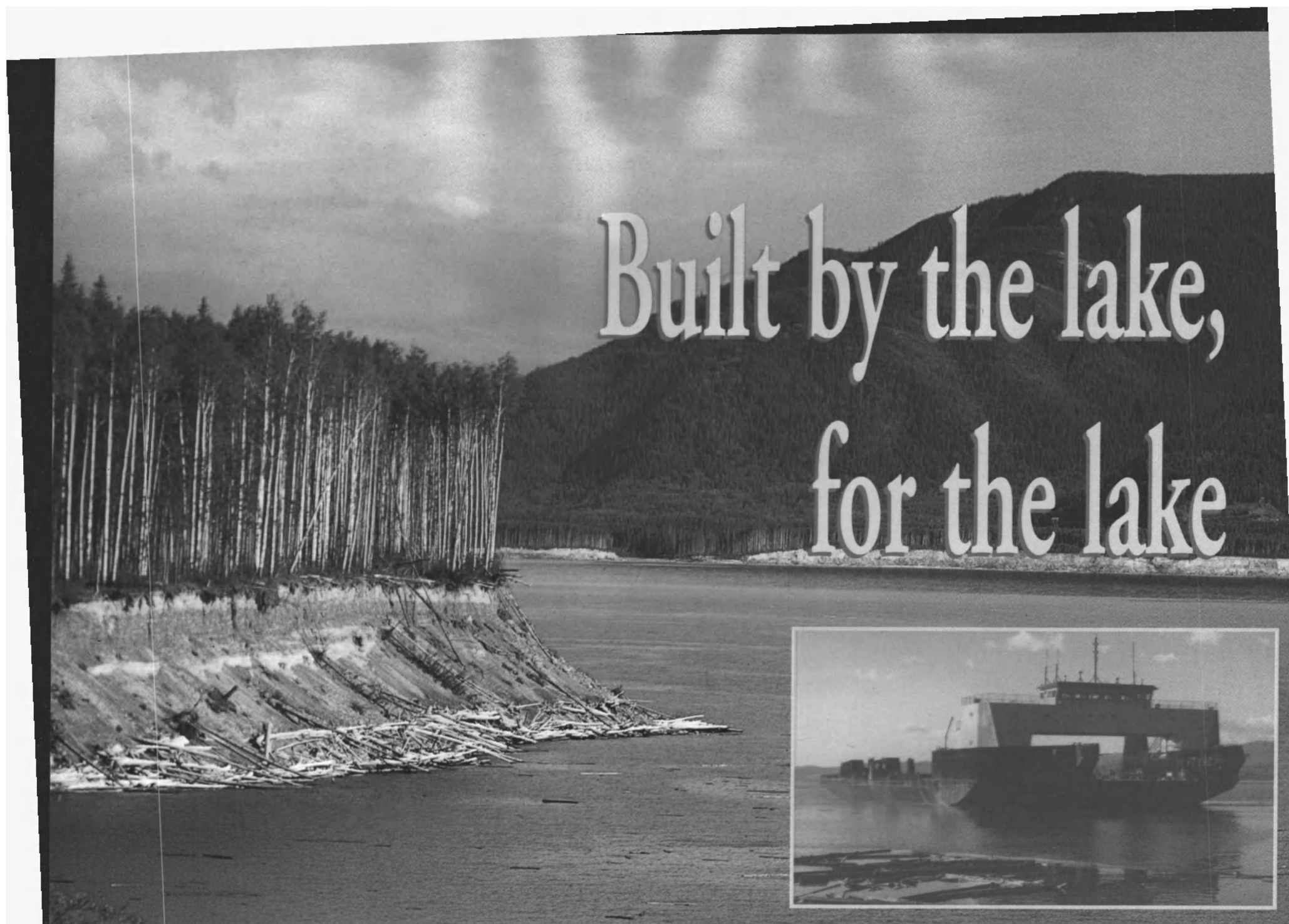
For more information on Royal Schelde  
Circle 34 on Reader Service Card

### Commodore Goodwill Particulars

Length o.a.	414.4 ft. (126.3 m)
Breadth, molded	68.9 ft. (21 m)
Draft (max)	19.7 ft. (6 m)
Loading capacity	approximately 5,215 tons
Total lane length	approximately 1,250 m
GT	11,116 t
DWT	5,215
Passengers	12
Crew	19
Classification	Det Norske Veritas
	*IA1, RoRo and container, EO, SC
Speed	18.5 knots

### Commodore Goodwill Equipment

Main engines	(2) MAK 6M552C,
	ea. 4,300 kW @ 500 rpm
Aux. engines	(2) Caterpillar 3512 STD,
	ea. 755 kW @ 1,500 rpm
Propellers	Berg
Bowthrusters	Berg
Gearbox	Royal Schelde



# Built by the lake, for the lake

**A 360-ft. (110-m) icebreaking log ferry, constructed of .5-in. to .75-in. steel plate, might not qualify as some people's definition of high technology at first glance. But first glances are often deceiving, and further investigation reveals an innovative company which efficiently utilized and managed all available resources to develop and build a unique vessel.**

*by Greg Trauthwein, editor*

The M/V *Williston Transporter* was built on the side of a wilderness lake in northern British Columbia, by Finlay Navigation Ltd. — and by many accounts is not very short of a maritime miracle. In fact, the waters which the vessel now plies did not even exist 30 years ago. In 1968, the Peace River was dammed for power near Hudson's Hope, forming a 160-mile long lake between two mountain ranges in north-central B.C. This being a major logging area, the methods of getting logs and log-carrying trucks to the mills is big business. In essence, this is what the *Williston Transporter* is all about.

There are no shipyards in the area, and the lake is completely inaccessible from the outside world by water. Undaunted by these minor details, Finlay Navigation — with enormous assistance from outside service and product suppliers — designed and built the vessel in less than 20 months.

Finlay Navigation Ltd. is a marine towing,

barging and log booming company which operates on the inland waters in northern B.C. It tasked Vancouver, B.C.-based Polar Design Associates with the design of the ferry, a design which includes four, 1,850-bhp Mitsubishi S16R diesel engines, each driving a Lips steerable thruster with open fixed-pitch propellers. The thrusters are designed for propulsion and maneuvering in ice conditions, and may be operated individually for optimum flexibility. With this propulsion arrangement, the vessel has a maximum hull speed of 13 knots forward. Sea trials revealed that the ship can make 12.5 knots astern. The vessel is believed to be the largest icebreaker in the world to carry its own cargo. The 32,000-sq.-ft. main cargo deck will accommodate 5,000 long tons of loaded logging trucks and short cut logs. The ship's fuel capacity is 36,000 gallons. Full accommodation is provided onboard for a crew of eight, and up to 50 passengers can be accommodated on day voyages.

The flat-bottomed hull of the *Williston Transporter* was welded from .5 to .75-in. steel plate on an 88 by 270-ft. (27 by 82-m) I-beam grid "teeter-totter," which pivots on a longitudinal 14-in. pipe "fulcrum" set in concrete. The egg-carton support structures and other sub-assemblies were pre-fabricated in nearby Prince George, about 100 miles south, and brought to the site by rail. By the summer of 1995, the hull structure had been completed and some electrical and mechanical systems installed. The "teeter-totter" was tipped lake-side, and the ship slid transversely down greased skids into Williston Lake. But the job, of course, was far from done.

Work continued at a brisk pace, and the four engines and drives were fitted into place and removable deck sections above the engine rooms were bolted down. Mechanical systems were completed, including catwalks, piping, pumps, winches and ramps, and concrete ballast was poured into the aft void area. Large



hinged loading ramps at each end of the main deck were fitted to provide access for grapple-equipped log loaders and loaded logging trucks.

In the meantime, the superstructure, which arches over the forward section of the main cargo deck, was being assembled, installed and finished. On the main deck level, port and starboard, are a workshop, deck stores area, engine room stores, domestic machinery space and a coffee/lounge area for passengers.

The fo'c'sle deck encloses stairways and provides access to winches and lifeboats. The accommodations deck contains cabins for the master, the ship's engineer and six crew. Upon completion of the bridge, final electrical wiring and installation of electronic components was completed. The *Williston Transporter's* on-board electronic systems include the latest in integrated monitoring and control to ensure the safety of ship and crew.

#### STANDING WATCH

A unique vessel, the *Williston Transporter* features a unique monitoring system as well. The Sea-Hornet V-MAC 5500 monitors virtually all systems on board, including 15 flood zones and 27 fire zones. The total system on the vessel supervises 152 sensors and pickup points via six data gathering panels located around the ship. The V-MAC 5500 provides operator access and information output (via LCD displays) at keypads located in each of the four engine rooms and in the captain's cabin. The engineer's cabin is equipped with an SVGA computer display driven by the V-MAC's Data Management Unit, which provides the engineer with full vessel monitoring capability, as well as the ability to modify alarm set points and program the system from this location.

The wheelhouse of the vessel is roomy, and a generous horseshoe-shaped custom console contains

the four Lips drive controllers, two Furuno radar displays, two GPS receivers, a ComNav autopilot, a depth sounder, various radios and switch panels and the Sea-Hornet V-MAC 5500 vessel monitoring and control system. As the V-MAC replaces all traditional instrumentation, the console control panel is spartan by traditional standards. Except for a shaft rpm dial on each of the drive controllers, there are

literally no gauges.

All monitored events are logged by time/date and, using GPS data, by navigational position. The entire log can be scrolled on the main display screen and printed out for reference or for a permanent record. The V-MAC 5500 system will also display computerized charts and provide full navigational capability, but as Williston Lake is uncharted, this feature is not

used on the vessel. For security, the V-MAC 5500 is completely passcode protected, with six levels of access.

The V-MAC 5500 is completely programmable and can be custom-configured for any vessel, from a harbor tug to a submarine.

For more information on the V-MAC 5500  
Circle 103 on Reader Service Card



DEFINING THE FUTURE OF CASINO GAMING

Conference Program  
March 25-27, 1996

Exhibit Hall  
March 26-27, 1996

## Discover the latest strategies to improve your casino's profitability!

Whether you operate a traditional land-based casino, Indian gaming casino, riverboat casino, or are located in a new gaming jurisdiction, it is important to stay on top of the latest trends and issues in today's competitive market. At IGBE '96, industry leaders will discuss vital and current issues.

The IGBE '96 conference program offers you unparalleled educational value with *five conference programs in one!*

- Executive Issues
- Marketing Strategies
- Technology & Operations
- Indian Gaming Issues
- Casinos & Competition (developed by *The Grogan Casino Report*)

IGBE '96 will have over 300 exhibiting companies displaying the newest equipment and technology designed specifically to increase your casino profits.

© 1995 Ullo International, Inc.

Produced by Ullo International, Inc. (formerly CMC)

Williston Transporter Details	
Length	360 ft. (110 m)
Length of ramps	20 ft. (6 m)
Breadth at reamer	110 ft. (33.5 m)
Breadth, main hull	100 ft. (30.5 m)
Depth	15 ft. (4.6 m)
Freeboard, loaded	5 ft. (1.5 m)
Speed	13 knots
Fuel capacity	36,000 gallons (4 tanks)
Cargo capacity	5,000 long tons of cargo, or 180 short log bundles of logs
	mobile equipment of unlimited size
	50 passengers
Crew	7
Main engines	Mitsubishi 7,400 bhp from four type S16R diesel engines (1,850 bhp each at 1,600 rpm)
Steerable thrusters	Lips type 1510 right angle drive units
Propellers	5 bladed Superston
Loader	Caterpillar

YES! I'm interested in  Attending  Exhibiting Please send more information.

Name: (First) \_\_\_\_\_ (M.I.) \_\_\_\_\_ (Last) \_\_\_\_\_  
 Title \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Country: \_\_\_\_\_  
 Phone: \_\_\_\_\_ Fax: \_\_\_\_\_



DEFINING THE FUTURE OF CASINO GAMING

Conference Program  
March 25-27, 1996

Exhibit Hall  
March 26-27, 1996

IGBE/Ullo International, Inc., 200 Connecticut Avenue, Norwalk, CT 06856-4990

For immediate information on attending, call (800) 243-3238, 203-852-0500 or fax (203) 857-4075

For immediate information on exhibiting, call Emilia Philip at (203) 852-0500, ext. 184

GMLV96B019

Circle 221 on Reader Service Card

**Daidola Promoted At Rosenblatt**



**Bruce S. Rosenblatt**, president of M. Rosenblatt & Son, Inc. (MR&S), announced the promotion of **John C. Daidola** to vice president, engineering, and New York branch manager. Dr. **Daidola**, who

joined MR&S in 1972, has broad experience managing and executing projects, including projects involving: R&D for marine applications; concept development to detail design of ships, small craft and ocean structures; as well as hydrodynamic and economic analysis of marine transportation systems. He is also the chairman of the Society of Naval Architects and

Marine Engineers' (SNAME) Ship Design Committee. For more information, Circle 1 on Reader Service Card

**DeLillo Named Director Of Sales At Walker Engineering**

**Michael DeLillo** has been promoted to director of sales and marketing for Walker Engineering

Enterprises, manufacturer of the Walker AIRSEP Closed Crankcase Breathing System for diesel engines. He will relocate from the company's North Miami Beach, Fla., office where he served as regional operations manager, to the company's home office in North Hills, Calif. Mr. DeLillo has held engineering positions at Bertram Yacht, Triumph/Welcraft Marine, and Pantropic Power Products, Inc., the south Florida Caterpillar distributor.



**Mitsubishi To Manufacture Variable Frequency Drives In U.S.**

In an effort to expand its presence in the North American market, Mitsubishi Electric Corp. has announced that it will start production of variable frequency drives in the U.S. Production will take place at Mitsubishi Electric Industrial Controls, Inc. — a subsidiary which presently manufactures Computerized Numerical Control (CNC) equipment. Sales of the locally produced drives will be conducted through the Industrial Automation Division of Mitsubishi Electric Industrial Controls in Mount Prospect, Ill.



This Mitsubishi-owned, U.S. based facility will produce variable frequency drives.

Mitsubishi Electric Corp., based in Japan, is a leader in the factory automation market, with consolidated sales for 1994 reported at \$31.9 billion.

For more information on Mitsubishi Electric Corp. Circle 2 on Reader Service Card

**MAN GHH Executive Board Appoints New Chairman**

**Wolfgang Brunn**, chairman of the executive board of MAN Technologie AG/Augsburg, has taken over as chairman of the executive board of MAN Gutehoffnungshütte AG/Oberhausen. Dr. **Brunn** replaced **Hans-Georg Vater** on January 1, 1996, upon the latter's resignation from the board. Dr. **Vater** has been made a member of the executive board of Hochtief AG/Essex.

**A&P Southampton Launches Voyage Repair Division**

A&P Southampton Ltd. has launched a new division which will offer the capabilities and resources of the A&P Group, reportedly the U.K.'s largest ship repair and con-

**"Maximize your bottom time at a minimum cost with our TOV-1 Towed Video System."**

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

"The only low cost towable camera system on the market today, the TOV-1 is ideal for large scale searches, visual inspections of dive sites, and many other applications because it can cover a large area quickly. The camera of the TOV-1 is mounted in housing to give both straight ahead and downward viewing. The system can also be used as a dropped video system for straight down and side viewing. The video picture it provides is high quality and can be viewed on a monitor or TV and recorded on video tape." **Only \$4,195**

**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.

<b>Pulse 8x</b> u/w Metal Detector \$1,245	<b>DHC-1</b> Diver-held Camera \$3,195	<b>SSS-100K</b> Side Scan Sonar \$26,995	<b>Sea Otter ROV</b> \$17,995	<b>Proton 3</b> Marine Magnetometer \$8,295
--	--	--	----------------------------------	---

Circle 274 on Reader Service Card

**MARINE EQUIPMENT, INC.**

P.O. BOX 73049  
HOUSTON, TEXAS 77273-3049  
PHONE 713-586-6071  
FAX 713-586-7070

MANUFACTURER'S REP - SALES & SERVICE

ANCHOR CHAIN - 2" to 7" diameter, all grades & certs  
BUOYS - foam constructed, elastomer skin  
CAPSTANS - electric and hydraulic powered  
CRANES - knuckleboom, telescoping & fixed boom  
DAVITS - lifeboat, rescue boat, liferaft, fenders  
FENDERS - foam constructed Sea Guard and Sea Cushion marine fenders  
LIFEBOATS - totally enclosed and freefall  
PLASTIC PILING - Sea Pile from recycled plastics  
QUICK RELEASE HOOKS - Stevens mooring & towing hooks  
RESCUE BOATS - rigid hull, outboard and inboard powered  
WINCHES - electric & hydraulic powered

AMTS INTERNATIONAL, DAVIT INTERNATIONAL, EFFER MARINE  
CRANES, FASSMER & CO.  
SCANA LUSNE, SEAWARD INTERNATIONAL

Circle 277 on Reader Service Card

**GHS**  
General HydroStatics

**GHS Release 6.3 Now Shipping!**

—with over 40 new features & improvements. The world's most popular stability software is smarter, faster and easier than ever. Don't settle for less!

**CREATIVE SYSTEMS INC.**  
CREATORS OF GHS

Stability Software Products  
GHS .....Full-featured hydrostatics  
BHS .....Mid-range package  
BHS/YACHT .....Yacht designer's package  
GLM .....Shipboard trim and stability  
GHS/SALVAGE .....Salvage oriented package

P.O. Box 1910 Port Townsend, WA 98368 USA  
TEL (360) 385-6212 FAX (360) 385-6213  
Developers of advanced hydrostatics software since 1972.

IMSA Member

Circle 212 on Reader Service Card



version group, to all vessels visiting the Port of Southampton and nearby ports. The Voyage Repair Division will offer repair and maintenance services to ships in dry-dock or afloat. **Mark Bridger**, a former BT Marine engineer, will head the new division, and has already established the nucleus of the afloat repair team. Commenting on the company's expansion, A&P Southampton Managing Director **David Adams** said: "The Port of Southampton is growing in terms of caller numbers, with around 55,000 ship movements each year — which automatically expands our market. Add to this the fact that we enjoy a strong working relationship with many regular customers, all of whom require afloat work periodically, and creating the new division makes sound commercial sense."

This U.K. yard also recently started an "investment in people" program, whereby a number of apprentices and graduate trainees are being employed.

For more information on A&P Southampton Ltd. Circle 4 on Reader Service Card

#### Cleveland Port Official Re-elected To AAPA Board

**Gary Failor**, executive director of the Cleveland-Cuyahoga County Port Authority, has been re-elected to the board of directors of the American Association of Port Authorities (AAPA). Mr. Failor, who was named the port authority's top administrative and fiscal officer in September 1994, previously spent more than 18 years with the Toledo-Lucas County Port

Authority. He has served as chairman of the board of the AAPA, and is a past president and former director of the International Association of Great Lakes Ports, a bi-national association representing U.S. and Canadian Great Lakes ports.

The AAPA represents major port agencies in the U.S., Canada, the Caribbean and Latin America, facilitating waterborne commerce and contributing to local, regional and national economic growth in these regions.

#### Anastasiou Founds Marine Electronics Company

**John Anastasiou** has announced the opening of a new electronics service company, Maritech Electronics Corporation. Reportedly, Maritech will offer 24-hour service for most onboard communications and navigation systems. Mr. Anastasiou has more than 20 years of experience in the field of marine electronics, and in the past has served as a field service technician for Electro-Nav and as a field service supervisor with Radio Holland USA. He holds a U.K. General Maritime Radio Communications Certificate, FCC Radiotelegraphy and General Radiotelephony licenses, as well as the most recent RCC GMDSS Radio Maintainer license, with Ship's Radar endorsement. Maritech will offer SOLAS and GMDSS Radio Safety Surveys for issuance of safety certificates.

For more information on Maritech Electronics Corp. Circle 5 on Reader Service Card

#### Raytheon Marine Announces Appointments

Raytheon Marine — a high technology company operating in commercial and defense electronics, engineering and construction — recently announced several key executive appointments. **Keith Wansley** was named marketing manager for all recreational products; **Frank McManus** as national sales manager for the Raytheon light marine product line; **Lyle St. Romain** was appointed national sales manager for the Apelo light marine product line; and **Philip Graynor** will serve as manager of product support for all light marine business. Former Navico, Inc. president **Talbot Pratt** has been named Autohelm national sales manager, and **Michael J. Mitchell** has been elected manager of commercial programs for Raytheon. These executive appointments complete the company's transition to a dedicated light marine marketing group begun last January.

For more information on Raytheon Marine Circle 3 on Reader Service Card



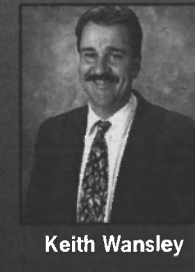
Philip K. Graynor



Michael J. Mitchell



Talbot Pratt



Keith Wansley



Frank McManus



Lyle St. Romain

#### Mediterranean Shipping Co. N.Y. Area Appointments

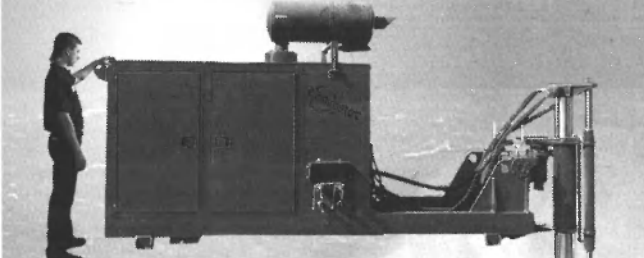
Mediterranean Shipping Company (USA) Inc. (MSC), general agent for its Geneva parent company, has announced executive appointments in its New York organization. **Ron del Favero** has been appointed to the newly established position of U.S. trade manager for the south Atlan-

tic/Gulf service to Europe. **Andrew Sallans** has been hired as district sales manager in New York for Manhattan, Brooklyn and Staten Island.

MSC-Geneva operates a fleet of 72 containerships, and offers three weekly services from nine ports in the U.S. to northern Europe, as well as one to South Africa and Australia, and another to the South American west coast.

### THRUSTMASTER UNITS

**BLOW THE OTHERS OUT OF THE WATER!**



Thrustmaster steerable outboard propulsion units deliver infinite maneuverability and quiet, hydraulic efficiency.

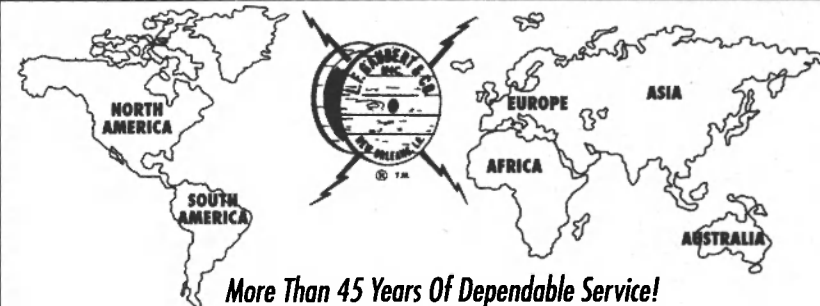
Thrustmasters are tough. In terms of power, maintainability and cost-efficiency, mechanical drives can't even come close. Find out why vessel operators who really need reliability keep ordering Thrustmaster units for their severe service propulsion applications.



P.O. Box 840189 • Houston, Texas 77284-0189 • Fax 713-937-7962

Circle 294 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 275 on Reader Service Card

### AMSC Appoints Executive

American Mobile Satellite Corporation (AMSC) has announced the appointment of **Marybeth Griswold** to the position of vice president and general manager of the Fleet Communications Products (FCP) Business Unit.

She will be responsible for integrating the services provided by AMSC to the fleet transportation

industry, expanding AMSC's fleet customer base, and leading the marketing, operational support and program management initiatives for the business unit. Ms. **Griswold** was formerly employed by Sprint Communications Corp., where she directed a \$2 billion telecommunications program that provided integrated voice, video and data solutions to 40 percent of the U.S. federal government.

AMSC provides a full range of satellite-delivered, mobile telephone, fax and data services to the maritime market, and in 1995 implemented a full service system encompassing the U.S., including Alaska, Hawaii, Puerto Rico, the Virgin Islands and 200 miles of coastal waters.

For more information on AMSC  
Circle 7 on Reader Service Card

### Interactive Television Co. Opens Miami Office

SeaVision, Inc., a provider of interactive television systems for the cruise industry, opened a marketing and sales office in Miami. The office, headed by **David Gould**, vice president of marketing, provides on-the-spot client service to cruise lines located throughout Florida and direct contact with cruise ships featuring its interactive system — as well as its non-interactive network, SeaTV. The company reports that its interactive systems can be operated as concessionaires, generating substantial incremental revenues.

For more information on SeaVision, Inc.  
Circle 6 on Reader Service Card

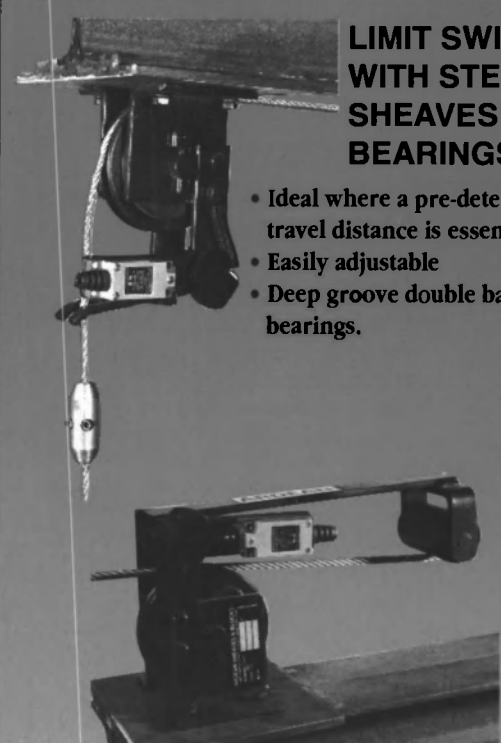
### Bender Shipbuilding Announces Staff Promotions, Retirements

Bender Shipbuilding and Repair Co. President **Thomas B. Bender, Jr.** announced several personnel changes within the company. **Joseph H. Comer, III**, most recently employed as design group manager, has been promoted to chief engineer after more than 10 years with Bender. **Frank G. Terrell, Jr.** has assumed the position of sales manager for the company, and will direct the sales and marketing efforts of Bender's in-house sales staff as well as its worldwide network of agents. **John Logan**, formerly general sales manager of Bender, has retired after 17 years of service. He will continue to act as a consultant to the yard.

For more information from Bender  
Circle 42 on Reader Service Card

## NEW ideas from Jeamar

Our engineers are always working on improving and adding to our line of precision winches and related products. Your assurance of confidence in making it Jeamar.



### LIMIT SWITCH WITH STEEL SHEAVES & BEARINGS

- Ideal where a pre-determined travel distance is essential.
- Easily adjustable
- Deep groove double ball bearings.

### SLACK ROPE DETECTOR

- Fast response to lack of tension cuts off power immediately.
- Fully adjustable.
- Mounted at any point on the wire rope.
- Fitted with Jeamar high strength, high efficiency steel sheaves.



### SHOCK ABSORBER

- Eliminates shock loads when pulling or lifting.
- Ideal for use with fragile loads or bulk liquids.
- Soft-start keeps wave action to a minimum.

## Jeamar Winches

Your First Choice for Winching Solutions  
1051 Clinton Street, Buffalo, New York  
N.Y. U.S.A., 14206  
Tel: (716) 854-3211 • Fax: (716) 854-4141

Circle 227 on Reader Service Card

1-800-297-8724  
Workshop • Repair Bay • Yacht Storage  
Maintenance • Boathouse • Field Office  
• Heavy Equipment Storage  
• Factory Direct, Distributor & Leasing Programs Available  
WIDTHS AVAILABLE: 10' TO 65'  
LENGTHS IN 5' INCREMENTS  
ALL WEATHER PROTECTION- FAST ASSEMBLY  
APPROVED FOR GOVERNMENT CONTRACT BIDDING  
"Manufactured and Marketed by"  
**UNIVERSAL SHELTERS**  
U.S. Hwy. 19 South • Pelham, GA 31779  
912-294-9633 • fax 912-294-7816

Circle 278 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 1/2" - New and Used Stud Link - Cast Steel - Grades 2 and 3 - Oil Rig Quality for Mooring, Towing, Barge Handling, Ship's Replacement
- **WINCHES - WINDLASSES - CAPSTANS** • Vertical or Horizontal Hand, Electric, Diesel, Hydraulic or Powered 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

GIGANTIC INVENTORY NEW & USED IN STOCK NOW  
Call in the West Coast East Coast and The Gulf Toll-Free (800) 322-3131

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

**WATERMAN SUPPLY CO., INC.**  
P.O. BOX 596  
WILMINGTON, CA 90748  
PH: (310) 436-4288  
FAX: (310) 495-1045

Circle 254 on Reader Service Card

### ASMAR Centennial Features 100-Year-Old Ship

Astilleros y Maeatranzas de la Armanda (ASMAR) will celebrate the centennial anniversary of its Dry Dock No. 1 in the Bay of Concepcion, as well as its own foundation, next month.

The inaugural ceremonies on February 20, 1896 included the entry into the dock of the monitor *Huascar*, captured from Peru at the battle of Angamos in 1879, followed by the Chilean iron-clad battleship *Cochrane*, which had forced the surrender of *Huascar* 17 years earlier. At exactly the same time as it made its inaugural entrance into the dock one hundred years before, *Huascar* will re-enter it under its own power to commemorate the centennial. Following its entry into Dry Dock No. 1, *Huascar* will be careened. The official commemorative ceremony, which will be attended by Chile's top dignitaries, will take place March 6.

For more information on ASMAR  
Circle 60 on Reader Service Card





**PLANNING TO BUILD, BUY, CONVERT OR REPAIR A SHIP?  
DON'T MISS THIS EVENT!**

**AMERICAN  
INTERNATIONAL  
SHIPBUILDING  
EXPOSITION  
April 11 — 13, 1996  
New Orleans, Louisiana**

- Largest display of North American shipbuilding and repair capability.
- New designs for deep and shallow draft ships.
- High quality, competitive prices, timely delivery.
- World-class conference and maritime forum for international ship owners, operators, managers and brokers.

For information on attending or exhibiting at the American International Shipbuilding Exposition, fax us at (207) 236-0369, call us at (207) 236-6196, or write us at McNabb Expositions, Inc., P.O. Box 418, Rockport, ME 04856. Endorsed by these influential sponsors: Shipbuilders Council of America, American Waterways Shipyard Conference, American Shipbuilding Association, Marine Machinery Association, U.S. Maritime Administration, U.S. MARITECH Program, Lloyd's Ship Manager, Work Boat World.

**IT COULD EXPAND  
YOUR OPTIONS  
AND SAVE YOU  
TIME AND MONEY.**

AMERICAN  INTERNATIONAL  
**Shipbuilding Exposition**

Circle 201 on Reader Service Card

## Principal Contracts Recorded — October

(Alphabetically by vessel type)

For more information, contact: Ferilship, San Francisco de Sales No. 8, 28003, Madrid, Spain; tel: +341 441 4138; fax: +341 441 4138. Publisher is not responsible for omissions or errors.

OWNER/OPERATOR	COUNTRY	SHIPYARD	COUNTRY	TYPE	SUBTYPE	No.	TEU	DWT	GT	DELIVERY	PRICE M \$
GOLDEN OCEAN	HONG KONG	NKK CORP.	JAPAN	BULKCARRIER	CAPE SIZE	1	—	170,000	—	2/97	—
COSCO	CHINA	DAEWOO	KOREA	BULKCARRIER	CAPE SIZE	2	—	170,000	—	3/97	86
GUJARAT AMBUJA	INDIA	MAGDAIA SY	INDIA	BULKCARRIER	CEMENT	2	—	2,500	1,870	1996	—
DOYA SHIPPING	PANAMA	SHIN-A	KOREA	BULKCARRIER	CEMENT	1	—	10,600	5,990	—	—
MOL/NIPPON SEISHI	JAPAN	IMABARI	JAPAN	BULKCARRIER	CHIP	1	—	49,400	—	3/97	26
NAVIX LINE	JAPAN	OSHIMA SHIPBUILDING	JAPAN	BULKCARRIER	CHIP	1	—	43,000	—	1996	—
KAWASAKI/NIPPON	JAPAN	SANOYAS CORP.	JAPAN	BULKCARRIER	CHIP	1	—	50,000	—	8/97	28
SOVCOMFLOT	RUSSIA	BALTIC SHIPYARD	RUSSIA	BULKCARRIER	HANDYMAX	6	—	—	—	—	130
NIPPON YUSEN KAISHA	JAPAN	HAKODATE	JAPAN	BULKCARRIER	HANDYSIZE	1	—	28,000	—	10/96	20
NIPPON YUSEN KAISHA	JAPAN	SAIKI	JAPAN	BULKCARRIER	HANDYSIZE	1	—	23,000	—	6/96	20
DELICA SHIPPING	JAPAN	ONOMICHI	JAPAN	BULKCARRIER	OPEN-TYPE	2	—	23,400	—	1996	—
E. OLDENDORFF + CSL	GERMANY-CANADA	JIANGNAN	CHINA	BULKCARRIER	PANAMAX	3	—	71,000	—	1998	75
CHINESE INTEREST	CHINA	HALLA	KOREA	BULKCARRIER	PANAMAX	2	—	73,300	—	1997	57
UNKNOWN	UKRAINE	VARNA	BULGARIA	BULKCARRIER	—	3	—	41,425	24,700	97/98	—
PR OF CHINA	CHINA	BO HAI SY	CHINA	BULKCARRIER	—	6	—	35,000	—	97/98	—
CZECH OCEAN	CZECH REPUBLIC	GUANGZHOU	CHINA	BULKCARRIER	—	2	—	26,000	—	—	38
HORIZONT	GERMANY	GUANGZHOU	CHINA	BULKCARRIER	—	4	—	44,000	—	97/98	96
PACIFIC BASIN	HONG KONG	XINGANG	CHINA	BULKCARRIER	—	2	—	27,000	—	1997	—
E. LAESZ	GERMANY	PT PAL	INDONESIA	BULKCARRIER	—	2	—	45,000	—	97/98	—
MARS SHIPPING - FIRST MARINE	PANAMA	IHI	JAPAN	BULKCARRIER	—	2	—	153,000	86,400	1996	—
NAVIX LINE	JAPAN	OSHIMA SHIPBUILDING	JAPAN	BULKCARRIER	—	1	—	47,000	—	1997	—
INUI STEAMSHIP	JAPAN	SAIKI	JAPAN	BULKCARRIER	—	2	—	23,500	14,700	1996	—
SANKO	JAPAN	SHIN KURUSHIMA	JAPAN	BULKCARRIER	—	3	—	10,000	—	1997	10
TOKO KAIJUN LTD.	JAPAN	SHIN KURUSHIMA	JAPAN	BULKCARRIER	—	2	—	23,000	—	—	45.4
MITSUBISHI ORE TRANSPORT	JAPAN	TSUNESHI	JAPAN	BULKCARRIER	—	1	—	69,000	—	9/97	27
PARAKOU SHIPPING	HONG KONG	DAEDONG SHIPBUILDING	KOREA	BULKCARRIER	—	3	—	45,600	—	10/97	72
PARAKOU/SHITRANS	HONG KONG	HALLA INCHON	KOREA	BULKCARRIER	—	2	—	73,000	—	7/97	57
KEYANG/HANJIN SHIPPING	KOREA	HANJIN HI	KOREA	BULKCARRIER	—	2	—	135,000	—	1997	80
SEA JUSTICE	GREECE	HYUNDAI	KOREA	BULKCARRIER	—	2	—	73,000	—	1997	57
BLUEBELL LTD. + EGRET LTD.	U.K.	NAVAL GIJON	U.K.	CHEMICAL	—	2	—	—	—	—	75
TRANSROLL NAVEGACAO	BRAZIL	CCN MAUA	BRAZIL	CONTAINER	—	2	3,400	45,000	—	1997	83
BOLLE	GERMANY	ELBEWERFT	GERMANY	CONTAINER	—	1	500	5,000	3,999	8/96	—
JAN KAHRIS	GERMANY	ELBEWERFT	GERMANY	CONTAINER	—	1	500	5,000	3,999	11/96	—
ZIM ISRAEL NAVIGATION	ISRAEL	HDW	GERMANY	CONTAINER	—	3	3,500	39,500	—	1997	110
INTERORIENT NAVIGATION	CYPRUS	KVAERNER WARKOW	GERMANY	CONTAINER	—	2	2,860	—	—	1997	—
GREIL	GERMANY	PETRAM GROUP.MWB	GERMANY	CONTAINER	—	1	600	7,000	—	12/96	—
SIBUM	GERMANY	PETRAM GROUP.MWB	GERMANY	CONTAINER	—	1	600	7,000	—	10/96	—
EVERGREEN - UNIGLORY	TAIWAN	HAYASHIKANE	JAPAN	CONTAINER	—	4	1,162	18,000	—	1998	—
SHIP-CONTROL SERVICES PTE.	SINGAPORE	MHI	JAPAN	CONTAINER	—	2	1,128	15,000	13,000	96/97	—
OOCL	—	MITSUBISHI	JAPAN	CONTAINER	—	2	4,950	65,000	—	1997	85
NIPPON YUSEN KAISHA	JAPAN	SHIN KURUSHIMA	JAPAN	CONTAINER	—	6	1,600	—	—	1996	—
CHINA NAVIGATION CO.	HONG KONG	DAE SUN	KOREA	CONTAINER	—	2	649	8,400	7,300	—	—
HEUG-A SHIPPING	KOREA	HANJIN HI	KOREA	CONTAINER	—	2	650	9,620	8,200	—	—
KOREA MARINE TRANSPORT CO.	KOREA	SHIN-A	KOREA	CONTAINER	—	1	450	5,550	4,000	—	—
R. SCHIFFSBETRIEB	GERMANY	GDANSK	POLAND	CONTAINER	—	—	1,500	—	—	1998	60
ROHDEN	—	GDANSK STOCZNIA	POLAND	CONTAINER	—	2	1,500	22,800	—	1997	55
PETER DEILMAN	GERMANY	HDW	GERMANY	CRUISE	—	1	—	—	22,000	5/98	161
B.C. FERRY CORP.	CANADA	ALLIED SHIPBUILDERS	CANADA	FERRY	CATAMARAN	3	—	—	—	1997	159
IRISH CONTINENTAL GROUP	IRELAND	VAN DER GIESSEN	NETHERLANDS	FERRY	—	1	—	33,000	—	1997	95.6
STENA LINE	SWEDEN	ASEA	SPAIN	FERRY	—	2	—	7,000	—	97/98	130
ALASKA DPT. OF TRANSPORT.	U.S.	HALTER MARINE	U.S.	FERRY	—	1	—	—	—	1998	—
LUNAR FISHING CO.	U.K.	SIGBJORN IVERSEN	NORWAY	FISHING	TRAWLER	1	—	1,200	1,095	12/96	—
OCEAN FRAVNS	DENMARK	SOVIKES VERFT	NORWAY	FISHING	TRAWLER	1	—	—	—	11/96	—
UNKNOWN	NEW ZEALAND	GONDAN	SPAIN	FISHING	TRAWLER	—	—	—	—	7/96	—
UNKNOWN	CANADA	BRATTVAAG SKIPSVERFT	NORWAY	FISHING	—	1	—	—	—	9/96	—
BERNHARD SCHULTE	GERMANY	APPLEDORE	U.K.	GAS CARRIER	—	1	—	—	—	6/98	24.8
UNKNOWN	—	VARNA	BULGARIA	GENERAL CARGO	—	1	—	9,300	7,600	11/96	—
IRISH RIVER SHG. CO.	—	ARMINIUS WERKE	GERMANY	GENERAL CARGO	—	2	—	2,800	—	1997	—
UNKNOWN	NETHERLANDS	BODEWES BY	NETHERLANDS	GENERAL CARGO	—	2	—	4,350	—	1996	—
UNKNOWN	GERMANY	BODEWES VOLHARDING	NETHERLANDS	GENERAL CARGO	—	1	—	4,200	—	1997	—
UNKNOWN	GERMANY	SOCIETATA COMER. NAVOL	ROMANIA	GENERAL CARGO	—	1	—	3,000	3,000	9/96	—
MITSUI O.S.K. LINES	JAPAN	KAWASAKI	JAPAN	LNG	—	1	—	68,200	112,200	12/98	—
KNUD I LARSEN	DENMARK	ORSKOV STEEL	DENMARK	LPG	—	1	—	2,150	—	1996	12
UNKNOWN	GERMANY	SEVERNAY	ROMANIA	LPG	—	3	—	—	—	97/98	—
DOCKENDALE SHIPPING	U.S.	DALLAN	CHINA	MULTIPURPOSE	BULK	2	980	28,000	—	1997	—
THIEN & HEYENGA	GERMANY	SEVERNAY	ROMANIA	MULTIPURPOSE	CONTAINER	1	—	5,300	—	3/97	—
CLIPPER GROUP	DENMARK	DALLAN	CHINA	MULTIPURPOSE	—	1	980	28,000	—	1997	—
K. G. JEBSENS	NORWAY	HYUNDAI	KOREA	OBO	—	2	—	110,000	—	1997	—
HAYMAN ISLAND	—	NORTH QUEENSLAND ENG.	AUSTRALIA	PASSENGER	CATAMARAN	1	—	—	—	1/96	—
SCHIFFFAHRTSKONTOR ALTES	GERMANY	LINDSTOL	NORWAY	PASSENGER	CATAMARAN	2	—	—	—	6/96	—
SERVICES ET TRANSPORTS	FRANCE	CHANTIERS DE L'ATLANTIQUE	FRANCE	PASSENGER	—	—	1	—	—	10/97	154
OTUNAV	—	ASEA	SPAIN	PASSENGER/RORO	—	2	—	—	—	1997	—
S. N. GUARDIA OI FINANZA	ITALY	FINCANTIERI	ITALY	PATROL	—	1	—	—	—	—	—
WALLENUS LINES	DENMARK	DAEWOO	KOREA	PCCS	—	2	—	17,300	—	11/98	60
HYUNDAI MM.	KOREA	HYUNDAI	KOREA	PCCS	—	3	—	20,600	56,000	1997	150
DALMORE PRODUCT	RUSSIA	AARHUS FLYDEDOCK	DENMARK	REEFER	—	5	—	3,700	—	1997	100
SEATRIDE GROUNGEN	NETHERLANDS	SURAYABA	INDONESIA	REEFER	—	4	—	11,500	—	98/99	—
UNKNOWN	JAPAN	KITANIHOH	JAPAN	REEFER	—	1	—	6,300	4,200	3/96	—
DAIO KOGYO	JAPAN	KYOKUJO	JAPAN	REEFER	—	1	—	5,000	4,500	10/96	—

(Continued on page 69)



# 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

Emerald Creek Garnet, 1658 Cole Blvd., Golden, CO 87000  
Evin Industries, Inc., 3920 Research Park Drive, Ann Arbor, MI 48106-1668  
Minerals Research & Recovery Inc., 4620 South Coach Dr., Tucson, AZ 85714

## ACOUSTICS

ProSound, 253 Winslow Way West, Bainbridge Island, WA 98110

## ADHESIVES

Life Industries, Corp., 2061 Bridge View Dr., N. Charleston, SC 29405  
AIRC CONDITIONING AND REFRIGERATION - Repair & Installation  
Adrick Marine, 1410 Central Ave., Farmingdale, NY 11735  
Bill Brown Enterprises, Inc., 4955 Ocean Pines, Berlin, MD 21811  
Carrier Transicold, P.O. Box 4905, Syracuse, NY 13221  
Novenco Hi-Press AS, P.O. Box 310, Roskildevej 325A, DK-2650 Taastrup, DENMARK

## ALARMS, FACTORY MUTUAL-APPROVED

Kalsman Mfg. Corp., 7700 Gross Point Rd., Skokie, IL 60076-0226

## ALUMINUM BOATS

Worslett, Inc., 10824 Bohel Hwy S.E., Bothell, WA 98012-6869

## AUCTIONEERS

MACI Auctioneers, 2334 Wills Rd., Richmond, VA 23290

## BALLAST

General Stone Products, Executive Plaza IV, Hunt Valley, MD 21031  
Mineral Research & Recovery Inc., 4620 South Coach Dr., Tucson, AZ 85714

## BASKET STRAINERS

Beard Industries Inc., P.O. Box 1115, Shreveport, LA 71130  
Krause Co., 299 Williams Ave., Hackensack, NJ 07601

## BEARING

Rubber, Metallic, Non-Metallic  
B.F. Goodrich, Engineered Polymer Products, 150 Division Dr., Wilmington, NC 28401  
Blom & Voss AG, P.O. Box 100720, D-2000 Hamburg 1, GERMANY  
U.S.A. Repps Simplex-Turner Inc., P.O. Box 168, Little Neck, NY 11363-0168  
Kahnberg Bros. Co., P.O. Box 358, Two Rivers, WI 54241  
Oron Corp., 1111 Cedar Creek Rd., Gaithers, WI 53024  
Okol Engineered Prods., 2635 Prairie Rd., Unit D, Eugene, OR 97402  
Thoron Bearings Inc., 3225 Midway, Burlington, Ont., CANADA L7M 1A6

## BILGE OIL/FUEL ABSORBER

Northstar Marine, 84 Wall Street, Farmingdale, NY 11735

## BILGE SYSTEMS

Nelson Division, Exhaust & Filtration Systems, Hwy. 51 West, P.O. Box 428, Sloughton, WI 53589

## BOAT BOOMS

Saa Systems Inc., 187 Ward Hill Ave., Ward Hill, MA 01835-0679

## BRIDGE WIPERS

In-Mar Systems, Yellowstone Street, Kenner, LA 70064

## BROKERS

151 Maritime Services, 34082 El Encanto B, Dana Pt. CA 92629  
Captain Assad Company, Inc., P.O. Box 350486, Ft. Lauderdale, FL 33335  
Jack Fasliker, 2415 Cassidy Lane, P.O. Box 371, Pleasanton, CA 94522  
Mowbray's Tug & Barge Sales Corp., 35 De Hart St., Morristown, NJ 07960

## BULKHEAD SEAL/PANELS

Blom & Voss AG, P.O. Box 100720, D-2000 Hamburg 1, GERMANY  
U.S.A. Repps Simplex-Turner Inc., P.O. Box 168, Little Neck, NY 11363-0168  
Sigma Sealsystems, Inc., 306 Dodge Drive, Temple, TX 76704

## CABLE ASSEMBLIES

Times Microwave Systems, P.O. Box 5039, Wallingford, CT 06492

## CABLE TRANSIT SYSTEMS

NMP Corp., P.O. Box 35653, Tulsa, OK 74153-0493

## CAD/CAM SYSTEMS

AI Alpha Int'l., Inc., P.O. Box 498865, Cincinnati, OH 45249  
Rockwell Systems Corp., 4403 81st Alexander St., Vancouver, BC, Canada V5A1E  
Creative Systems, Inc., P.O. Box 1910, Port Townsend, WA 98368  
MSA 200 C Packets Co., Williamsburg, VA 23185  
Kookum Computer Systems AB, PO Box 56555, S-202 15 Malmo SWEDEN  
TIMSCO, P.O. Box 91360, Mobile, AL 36691  
Daniel H. Wagner, 2 Eaton St., Ste. 500, Hampton, VA 23669

## CATHODIC PROTECTION SYSTEM

Electrocatalytic Inc., 2 Milltown Ct., Union, NJ 07083

## CHAIN

AI Alpha Int'l., Inc., P.O. Box 498865, Cincinnati, OH 45249  
Crandall Dry Dock Engineers Inc., 2 Williams Street, Chelsea, MA 02150  
Hart Chain, 220 Avenue Desarmes, 93500 Valenciennes FRANCE  
Washington Chain & Supply Inc., Box 3645, Seattle, WA 98124  
Waterman Supply Co., P.O. Box 596, Wilmington, CA 90748

## CHAIRS

Gasser Chair Co., 4136 Loganway, Youngstown, OH 44505

## CHEMICALS

Ashland Chemical/Drew Amersid Marine, One Drew Plaza, Boonton, NJ 07005  
Uniflex Americas, 57174 Hardin Rd., Sidel, LA 70461  
Unitor Ship Service Inc., 2375 West Esther Street, Long Beach, CA 90813

## CLAMPING

ZSI, 12749 Rindford Ct., Livonia, MI 48150

## CLASSIFICATION SOCIETY

American Bureau of Shipping, 2 World Trade Center, 106th Fl., New York, NY 10048

## CLUTCHES

Haley Clutch and Coupling Corp., 1820 Hwy. 1 North, Greenville, MS 38702

## COATING WELDER

Bug-C Systems, 3303 W. Carson St., Pittsburgh, PA 15204

## COAXIAL CABLES

Times Microwave Systems, P.O. Box 5039, Wallingford, CT 06492

## COMMUNICATIONS SERVICE

Ascot Titeco AB, Eppendorfer Weg 234, D-20251 Hamburg, GERMANY  
Inventory Locator Service, 3965 Mendenhall Rd., Memphis, TN 38115  
ITW Philadelphia Resins, 130 Commerce Dr., Montgomeryville, PA 18936

## COMPOUNDS

Baron's Lifting Co., Inc., 1616 Baratavia Blvd., Ste. 4, Marrett, MA 70072

## COMPUTER SOFTWARE

Applied Flow Technology, 7253 Hahn St., Louisville, OH 44641  
Autopipe Systems Corp., 8403, 811 Alexander St., Vancouver, BC, CANADA V5A1E  
Chard Corporation, 157 Hwy 654, Mathews, VA 70375  
Creative Systems, Inc., P.O. Box 1910, Port Townsend, WA 98368  
MSA 200 C Packets Co., Williamsburg, VA 23185  
Sener, C/Severo Ochoa, 4 Parque Tecnologico de Madrid, 28760 Tres Cantos - Madrid SPAIN  
Daniel H. Wagner, 2 Eaton St., Ste. 500, Hampton, VA 23669

## CONDENSERS/SEPARATORS

Beard Industries Inc., P.O. Box 1115, Shreveport, LA 71130

## CONTROL SYSTEM

Autonica Marine AS, Drammensveien 126, N-2077 Oslo 2, NORWAY  
Jameson Metal Marine Sales, 4710 Northwest Second Ave., Boca Raton, FL 33431  
Kahnberg Bros. Co., P.O. Box 358, Two Rivers, WI 54241  
Kookum Sonics, Inc., 819 Veterans Blvd., Suite 201, Kenner, LA 70068  
Hamilton Jet, P.O. Box 709, Christchurch, New Zealand

## CONTROL SYSTEM

Stearing  
Autonica Marine AS, Drammensveien 126, N-2077 Oslo 2, NORWAY  
Jameson Metal Marine Sales, 4710 Northwest Second Ave., Boca Raton, FL 33431  
Kahnberg Bros. Co., P.O. Box 358, Two Rivers, WI 54241  
Kookum Sonics, Inc., 819 Veterans Blvd., Suite 201, Kenner, LA 70068  
Hamilton Jet, P.O. Box 709, Christchurch, New Zealand

Engine Monitor, Inc., 179 Hickory Avenue Harahan, LA 70123  
Kobell Mfg. Co., 8238 129th Street, Surrey, B.C. CANADA V3W 0A6  
Kookum Sonics, Inc., 819 Veterans Blvd., Suite 201, Kenner, LA 70068

## CONTROL VALVES

Leslie Controls, 12501 Teleport Dr., Tampa, FL 33637

## CONVERSIONS & REPAIRS

Vancouver Shipyards, 50 Pemberton Ave., N. Vancouver, B.C. CANADA V7P 2P2

## CORROSION CONTROL

Corrosytic, 1045 12th Ave. NW #5A, Issaquah, WA 98027  
TMT Services Corp./RUSTECO P.O. Box 11368, Torrance, CA 90713

## COUPLINGS

American Vulcan P.O. Drawer 673, Water Haven, FL 33882  
Haley Clutch and Coupling Corp., 1820 Hwy. 1 North, Greenville, MS 38702  
Hoist Engineering, 1320 Kemper Meadow Drive, Cincinnati, OH 45240  
Lo-Rex Vibration Control Ltd., 186 West 8th Avenue, Vancouver, BC CANADA V5Y1N2

## CRANE-HOIST-DERRICK-WHIRLIES

Mapeco Products, 90 Forest Avenue, P.O. Box 382, Locust Valley, NY 11560  
Del Gavo Marine Hydraulics Inc., 619 Industrial Rd., Carlstadt, NJ 07072  
Latham-Wark Nearing GEMSA, P.O. Box 10, A-6710 Nanzing, AUSTRIA  
Macgregor USA 20 Clapp Rd., Pine Brook, NJ 07068

## CRANE-HOIST-DERRICK-WHIRLIES

Del Gavo Marine Hydraulics Inc., 619 Industrial Rd., Carlstadt, NJ 07072  
Latham-Wark Nearing GEMSA, P.O. Box 10, A-6710 Nanzing, AUSTRIA  
Macgregor USA 20 Clapp Rd., Pine Brook, NJ 07068

## CRANKSHAFT REPAIR

Golens Worldwide, 160 Van Brunt St., Brooklyn, NY 11231  
Waterman Supply Co., P.O. Box 596, Wilmington, CA 90748

## CRANKCASE VENTILATION SYSTEM

Crancase Management Systems, Inc., 200 East South Boulder Rd., Lafayette, CO 80026

## CRANKCASE VENTILATION SYSTEM

Crancase Management Systems, Inc., 200 East South Boulder Rd., Lafayette, CO 80026

## CRANKSHAFT REPAIR

Golens Worldwide, 160 Van Brunt St., Brooklyn, NY 11231  
Waterman Supply Co., P.O. Box 596, Wilmington, CA 90748

## CRANKCASE VENTILATION SYSTEM

Crancase Management Systems, Inc., 200 East South Boulder Rd., Lafayette, CO 80026

## CRANKSHAFT REPAIR

Golens Worldwide, 160 Van Brunt St., Brooklyn, NY 11231  
Waterman Supply Co., P.O. Box 596, Wilmington, CA 90748

## CRANKCASE VENTILATION SYSTEM

Crancase Management Systems, Inc., 200 East South Boulder Rd., Lafayette, CO 80026

## CRANKSHAFT REPAIR

Golens Worldwide, 160 Van Brunt St., Brooklyn, NY 11231  
Waterman Supply Co., P.O. Box 596, Wilmington, CA 90748

## CRANKCASE VENTILATION SYSTEM

Crancase Management Systems, Inc., 200 East South Boulder Rd., Lafayette, CO 80026

## CRANKSHAFT REPAIR

Golens Worldwide, 160 Van Brunt St., Brooklyn, NY 11231  
Waterman Supply Co., P.O. Box 596, Wilmington, CA 90748

## CRANKCASE VENTILATION SYSTEM

Crancase Management Systems, Inc., 200 East South Boulder Rd., Lafayette, CO 80026

## CRANKSHAFT REPAIR

Golens Worldwide, 160 Van Brunt St., Brooklyn, NY 11231  
Waterman Supply Co., P.O. Box 596, Wilmington, CA 90748

## CRANKCASE VENTILATION SYSTEM

Crancase Management Systems, Inc., 200 East South Boulder Rd., Lafayette, CO 80026

## CRANKSHAFT REPAIR

Golens Worldwide, 160 Van Brunt St., Brooklyn, NY 11231  
Waterman Supply Co., P.O. Box 596, Wilmington, CA 90748

## CRANKCASE VENTILATION SYSTEM

Crancase Management Systems, Inc., 200 East South Boulder Rd., Lafayette, CO 80026

## CRANKSHAFT REPAIR

Golens Worldwide, 160 Van Brunt St., Brooklyn, NY 11231  
Waterman Supply Co., P.O. Box 596, Wilmington, CA 90748

## CRANKCASE VENTILATION SYSTEM

Crancase Management Systems, Inc., 200 East South Boulder Rd., Lafayette, CO 80026

## CRANKSHAFT REPAIR

Golens Worldwide, 160 Van Brunt St., Brooklyn, NY 11231  
Waterman Supply Co., P.O. Box 596, Wilmington, CA 90748

## CRANKCASE VENTILATION SYSTEM

Crancase Management Systems, Inc., 200 East South Boulder Rd., Lafayette, CO 80026

## CRANKSHAFT REPAIR

Golens Worldwide, 160 Van Brunt St., Brooklyn, NY 11231  
Waterman Supply Co., P.O. Box 596, Wilmington, CA 90748

## CRANKCASE VENTILATION SYSTEM

Crancase Management Systems, Inc., 200 East South Boulder Rd., Lafayette, CO 80026

## CRANKSHAFT REPAIR

Golens Worldwide, 160 Van Brunt St., Brooklyn, NY 11231  
Waterman Supply Co., P.O. Box 596, Wilmington, CA 90748

## CRANKCASE VENTILATION SYSTEM

Crancase Management Systems, Inc., 200 East South Boulder Rd., Lafayette, CO 80026

## CRANKSHAFT REPAIR

Golens Worldwide, 160 Van Brunt St., Brooklyn, NY 11231  
Waterman Supply Co., P.O. Box 596, Wilmington, CA 90748

## CRANKCASE VENTILATION SYSTEM

Crancase Management Systems, Inc., 200 East South Boulder Rd., Lafayette, CO 80026

## CRANKSHAFT REPAIR

Golens Worldwide, 160 Van Brunt St., Brooklyn, NY 11231  
Waterman Supply Co., P.O. Box 596, Wilmington, CA 90748

## CRANKCASE VENTILATION SYSTEM

Crancase Management Systems, Inc., 200 East South Boulder Rd., Lafayette, CO 80026

## CRANKSHAFT REPAIR

Golens Worldwide, 160 Van Brunt St., Brooklyn, NY 11231  
Waterman Supply Co., P.O. Box 596, Wilmington, CA 90748

## CRANKCASE VENTILATION SYSTEM

Crancase Management Systems, Inc., 200 East South Boulder Rd., Lafayette, CO 80026

## CRANKSHAFT REPAIR

Golens Worldwide, 160 Van Brunt St., Brooklyn, NY 11231  
Waterman Supply Co., P.O. Box 596, Wilmington, CA 90748

## CRANKCASE VENTILATION SYSTEM

Crancase Management Systems, Inc., 200 East South Boulder Rd., Lafayette, CO 80026

## CRANKSHAFT REPAIR

Golens Worldwide, 160 Van Brunt St., Brooklyn, NY 11231  
Waterman Supply Co., P.O. Box 596, Wilmington, CA 90748

## CRANKCASE VENTILATION SYSTEM

Crancase Management Systems, Inc., 200 East South Boulder Rd., Lafayette, CO 80026

## CRANKSHAFT REPAIR

Golens Worldwide, 160 Van Brunt St., Brooklyn, NY 11231  
Waterman Supply Co., P.O. Box 596, Wilmington, CA 90748

## CRANKCASE VENTILATION SYSTEM

Crancase Management Systems, Inc., 200 East South Boulder Rd., Lafayette, CO 80026

## CRANKSHAFT REPAIR

Golens Worldwide, 160 Van Brunt St., Brooklyn, NY 11231  
Waterman Supply Co., P.O. Box 596, Wilmington, CA 90748

## CRANKCASE VENTILATION SYSTEM

Crancase Management Systems, Inc., 200 East South Boulder Rd., Lafayette, CO 80026

## CRANKSHAFT REPAIR

Golens Worldwide, 160 Van Brunt St., Brooklyn, NY 11231  
Waterman Supply Co., P.O. Box 596, Wilmington, CA 90748

## CRANKCASE VENTILATION SYSTEM

Crancase Management Systems, Inc., 200 East South Boulder Rd., Lafayette, CO 80026

## CRANKSHAFT REPAIR

Golens Worldwide, 160 Van Brunt St., Brooklyn, NY 11231  
Waterman Supply Co., P.O. Box 596, Wilmington, CA 90748

## CRANKCASE VENTILATION SYSTEM

Crancase Management Systems, Inc., 200 East South Boulder Rd., Lafayette, CO 80026

## CRANKSHAFT REPAIR

Golens Worldwide, 160 Van Brunt St., Brooklyn, NY 11231  
Waterman Supply Co., P.O. Box 596, Wilmington, CA 90748

## CRANKCASE VENTILATION SYSTEM

Crancase Management Systems, Inc., 200 East South Boulder Rd., Lafayette, CO 80026

## CRANKSHAFT REPAIR

Golens Worldwide, 160 Van Brunt St., Brooklyn, NY 11231  
Waterman Supply Co., P.O. Box 596, Wilmington, CA 90748

## CRANKCASE VENTILATION SYSTEM

Crancase Management Systems, Inc., 200 East South Boulder Rd., Lafayette, CO 80026

## CRANKSHAFT REPAIR

Golens Worldwide, 160 Van Brunt St., Brooklyn, NY 11231  
Waterman Supply Co., P.O. Box 596, Wilmington, CA 90748

## CRANKCASE VENTILATION SYSTEM

Crancase Management Systems, Inc., 200 East South Boulder Rd., Lafayette, CO 80026

## CRANKSHAFT REPAIR

Golens Worldwide, 160 Van Brunt St., Brooklyn, NY 11231  
Waterman Supply Co., P.O. Box 596, Wilmington, CA 90748

## CRANKCASE VENTILATION SYSTEM

Crancase Management Systems, Inc., 200 East South Boulder Rd., Lafayette, CO 80026

## CRANKSHAFT REPAIR

Golens Worldwide, 160 Van Brunt St., Brooklyn, NY 11231  
Waterman Supply Co., P.O. Box 596, Wilmington, CA 90748

## CRANKCASE VENTILATION SYSTEM

Crancase Management Systems, Inc., 200 East South Boulder Rd., Lafayette, CO 80026

## CRANKSHAFT REPAIR

Golens Worldwide, 160 Van Brunt St., Brooklyn, NY 11231  
Waterman Supply Co., P.O. Box 596, Wilmington, CA 90748

## CRANKCASE VENTILATION SYSTEM

Crancase Management Systems, Inc., 200 East South Boulder Rd., Lafayette, CO 80026

## CRANKSHAFT REPAIR

Golens Worldwide, 160 Van Brunt St., Brooklyn, NY 11231  
Waterman Supply Co., P.O. Box 596, Wilmington, CA 90748

## CRANKCASE VENTILATION SYSTEM

Crancase Management Systems, Inc., 200 East South Boulder Rd., Lafayette, CO 80026

## CRANKSHAFT REPAIR

Golens Worldwide, 160 Van Brunt St., Brooklyn, NY 11231  
Waterman Supply Co., P.O. Box 596, Wilmington, CA 90748

## CRANKCASE VENTILATION SYSTEM

Crancase Management Systems, Inc., 200 East South Boulder Rd., Lafayette, CO 80026





Kobeiko Marine Engineering Co., 8F Tatsunuma Bldg., 3-19 Yassu 1-Chome, Chuo-Ku, Tokyo 103, JAPAN  
 U.S.A. Rep. Roland Marine Inc., 90 Broad Street, New York, NY 10004

**STIFFNER WELDER**  
 Bug-O-Systems, Inc., 3003 W. Carson St., Pittsburgh, PA 15204

**STORAGE/WORKSHELTERS**  
 Poly-Steel Shelters, 1209 E. Ocean Blvd., Stuart, FL 34996

**STRAINERS & FILTERS**  
 Kralid Co., 299 Williams Ave., Hackensack, NJ 07601

**STUFFING BOXES**  
 Kahlenberg Bros. Co., P.O. Box 358, Two Rivers, WI 54241

**SURGE SUPPRESSION**  
 Innovative Technology, P.O. Box 1212, 122 Azalea Drive, Destin, FL 32540

**SURVIVAL EQUIPMENT**  
 Sea, Inc. 7033 220th St. W., Mukilteo Terrace, WA 98043

**TANK LEVELING INDICATORS**  
 King Engineering Corp., P.O. Box 1228, Ann Arbor, MI 48106

**TANK LEVELING GAUGES**  
 American United Marine Corp., 5 Broadway, Rt. 1, Saugus, MA 01906  
 Autronica Marine A/S, Drammensveien 126, N-0277 Oslo 2, NORWAY  
 Bergen Tank, 3409 Gulf Breeze Pkwy., Gulf Breeze, FL 32561  
 ERI, Marine Products Div., P.O. Box 1026, New Albany, IN 47151-1026  
 Ian-Conrad Bergen, 3409 Gulf Breeze Parkway, Gulf Breeze, FL 32561  
 IMO Industries, Gemini Sensors Division, One Cowles Rd., Plainville CT 06062  
 Kookum Sonics, Inc., 819 Veterans Blvd., Suite 201, Kenner, LA 70068  
 MMC International, 60 Inp Dr., Inwood NY 11696  
 Saab Marine Electronics AB, P.O. Box 13045, S-402 51 Goteborg SWEDEN

**TANK LIQUID LEVEL GAUGES**  
 King Engineering Corp., P.O. Box 1228, Ann Arbor, MI 48106  
 Kookum Sonics, Inc., 819 Veterans Blvd., Suite 201, Kenner, LA 70068  
 Merrigo, Inc., 59 Foster Rd., Littleton, MA 01460  
 Midland Mfg. Corp., 7733 Gross Point Rd., Skokie, IL 60076-0226

**TEMPORARY/PERMANENT SHIELTERS**  
 Universal Shelters, U.S. Hwy. 19 S., Pahrump, NV 89079

**TESTING SERVICES**  
 Wyle Laboratories, 7800 Governor's Dr. S.W., Huntsville, AL 35897

**THERMAL INSULATION**  
 Insulations, Inc., 1101 Edwards Ave., Harahan, LA 70123

**THICKNESS TESTING**  
 Cygnus Instruments, P.O. Box 3127, Annapolis, MD 21403  
 M.A.C.E., 5910 N.E. 15th Ave., Fort Lauderdale, FL 33331

**TOOLS**  
 Tri Tool Inc., 8906 Security Park Drive, Rancho Cordova, CA 95742-6990

**TORSIONAL VIBRATION SPECIALISTS**  
 M.A.C.E., 5910 N.E. 15th Ave., Fort Lauderdale, FL 33331  
 ProductCLL, 253 Winslow Way West, Bainbridge Island, WA 98110  
 T.W. Spanglers, 186 W. 8th Ave., Vancouver, BC, CANADA, V5Y 1N2  
 Vibration Engineering Corp., 9300 Gamebird, Houston, TX 77034

**TOWING—Barges, Vessel Chartering, Lightering, Salvage, etc.**  
 Jack Faulkner, 2419 Caddy Lane, Flossmoor IL 60422

**TRAINING COURSES**  
 Marine Safety Int'l., Kings Point, NY 11024  
 Star Center, 2 West Davis Highway, Dana, FL 33004

**TRASH COMPACTOR**  
 International Compactor, P.O. Box 5918, Hilton Head, S.C. 29938

**TURBOCHARGERS**  
 ABB Turbocharger Co., 1460 Livingston Ave., North Brunswick, NJ 08902

**ULTRASONIC TESTING**  
 M.A.C.E., 5910 N.E. 15th Ave., Fort Lauderdale, FL 33331

**ULTRASONIC THICKNESS GAUGES**  
 Cygnus Instruments, Inc., 1920 Montford Pkwy., Suite 202, Annapolis, MD 21401

**VACUUM TOILET SYSTEM**  
 Envirovac Inc., 1260 Tunnel Dr., Rockford, IL 61111  
 Fast Systems, Inc., 3240 N. Broadway, St. Louis, MO 63147  
 Jet Vacuums Sewage Systems, P.O. Box 14, N-6560 Hamar, NORWAY

**VALVE CONTROL SYSTEM**  
 Elliott Mfg., P.O. Box 773, Englewood, NY 13902

**VALVES AND FITTINGS**  
 Cla-Val Co., P.O. Box 1325, Newport Beach, CA 92663  
 Derynshire Machine & Tool, 5100 Bedford Ave., Philadelphia, PA 19144-1788  
 ERI, Marine Products Div., P.O. Box 1026, New Albany, IN 47151-1026  
 Stacey Fetteroll Corp., P.O. Box 103, Skippack, PA 19474  
 Hydra-Search Co. Inc., 100 Log Conno Circle Silverdale, WA 21666  
 Leslie Controls, 12901 Tesson Dr., Tampa, FL 33637  
 Marotta Scientific, 78 Bonton Ave., Monville, NJ 07045  
 MMC International, 60 Inp Dr., Inwood NY 11696  
 Midland Mfg. Corp., 7733 Gross Point Rd., Skokie, IL 60076-0226  
 Service Valve & Fitting, P.O. Box 9665, Mobile, AL 36609  
 Teleflex Naval Tech., 205 Church Rd., North Wales, PA 19454  
 W.O. Supply, Inc., 3485 Evergreen Ave., Jacksonville, FL 32208-2326  
 Zueli Explorations, Inc., 3121 SW Moody Ave., Portland OR 97201

**VAPOR RECOVERY CONTROLS**  
 E.R.I. Marine Products, P.O. Box 1026, New Albany, IN 47151-1026  
 Midland Mfg. Corp., 7733 Gross Point Rd., Skokie, IL 60076-0226

**VENTILATION SYSTEMS / PRODUCTS**  
 Dry Air Technology, 4401 Kingsway, Anacostia, WA 98221  
 Novenco HePress A/S, P.O. Box 310, Roskildevej 325A, DK-2830 Taastrup, DENMARK

**VIBRATION ANALYSIS**  
 ProductCLL, 253 Winslow Way West, Bainbridge Island, WA 98110  
 T. W. Spanglers, 186 W. 8th Ave., Vancouver BC CANADA V5Y 1N2  
 Vibration Engineering Corp., 9300 Gamebird, Houston, TX 77034

**WASTE SERVICES**  
 Browning-Feris Industry, (Medical Waste Systems) 757 N. Eldridge, Houston, TX 77079

**WASTE WATER TREATMENT**  
 Envirovac, 1260 Tunnel Drive, Rockford, IL 61111  
 Research Products Blankenship, 2639 Andon Dallas, TX 7522

**WATER PURIFIERS**  
 Alfa-Laval, Desal A/S, Starholmen 93, DK-2650 Hvidovre, Copenhagen, DENMARK  
 Alfa-Laval Separation Inc., 555 Meams Rd., Warminster, PA 18974  
 Beaird Industries Inc., P.O. Box 31115, Shreveport LA 71130  
 Brinell Inc., P.O. Box 27468, Salt Lake City, Utah 84127  
 Everpure, Inc., 660 N. Blackhawk Dr., Westmont, IL 60559  
 LifeStream Water Purification Equip., 16811 Gemini Lane, Huntington Beach, CA 92647  
 Orlinone Marine Labs, 22294 El Toro Rd., Ste. 105, Lake Forest, CA 92650  
 Sea Recovery Corp., P.O. Box 2560, Gardena, CA 90247-0560

**WEATHER CHART RECORDERS**  
 Alan Electronics, 40 Washington St., Westborough, MA 01581

**WEATHER INSTRUMENTS**  
 Aarderaa Instruments, Fanaveien 138, 5050 Nestun, Bergen, Norway

**WELDING**  
 Bug-O-Systems, 3003 W. Carson St., Pittsburgh, PA 15204  
 Nu-Tech Inc., 5380 Holiday Terrace, Kalamazoo, MI 49009  
 Welding Consultants USA, 10399 Paradise Blvd. #101, St. Petersburg, FL 33706

**WELDING AND REFRIGERANT PRODUCTS**  
 Ashland Chemical/Drew Ameroid Marine, One Drew Plaza, Bonton, NJ 07005  
 Untor Ship Service Inc., 2375 West Esther Street, Long Beach, CA 90813

**WINCHES AND FAIRLEADS**  
 Jeamarr Winches Ltd., 53 Maple Ave., Richmond Hill, Ontario L4C 6P3, CANADA  
 MMC International, 60 Inp Dr., Inwood NY 11696  
 Maskey Machinery Co., 75 South Horton St., Seattle, WA 98134  
 McKay Machine & Mfg. Co., Inc., P.O. Box 4454, Blount MS 39535-4454  
 New England Trawler Equipment Co., 291 Eastern Avenue, Chelsea, MA 02150  
 Skokum/Ropeklaster, P.O. Box 290, Hubbard, OR 97032  
 Smith Berger Marine Inc., 516 S. Chicago St., Seattle, WA 98108  
 T.C.W., 1607 Port Barmouth Pl., Newport Beach, CA 92660


**WIND MONITORING SYSTEMS**  
 Aarderaa Instruments, Fanaveien 138, 5051 Bergen, NORWAY

**WINDOWS—Windshield Wipers**  
 Metwac, Inc., P.O. Box 959, Pagan Forest, NC 28768

**WIRE AND CABLE**  
 Antiker Inc., 2617 Edenborn Ave., Metairie, LA 70002  
 Seacoast Electric Company, 50 Broadway, Hawthorne, NY 10532

## PROFESSIONAL

**JOHN G. ALDEN QUOTE LINE**  
**1-800-330-3370**  
 For fast response on  
**TUGS • BARGES • RIGS**  
**CREW, WORK & SUPPLY BOATS,**  
**SIGHTSEEING.**




**MARINE INSURANCE**  
 1300 SE 17th Street, Fort Lauderdale, FL 33316  
 Fax: 305-525-0588



**BISSO MARINE**  
 • HEAVY LIFT SPECIALIST  
 • MARINE SALVAGE  
 • WRECK REMOVAL  
 • UNDERWATER ELECTRONIC SURVEY

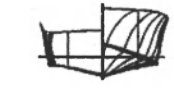
P.O. BOX 4113  
 NEW ORLEANS, LOUISIANA 70178  
 Phone: (504) 866-6341  
 Fax: (504) 865-8132



**SHIP ACTIVATIONS / DEACTIVATIONS • PORT ENGINEERS / CAPTAINS • SHIP REPAIR • MACHINING & FABRICATION • RIGGING & INSTALLATIONS • VIBRATION ANALYSIS • BALANCING & ALIGNMENT • INFRARED THERMOGRAPHY • SHIPBOARD / SHORESIDE INVENTORIES • VESSEL SURVEYS**

Alexander, Starr, & Kersey, Inc.  
 Marine Engineering & Technical Services  
 Portsmouth, Va. North Kingstown, RI.  
 (804) 487-7559 (401) 294-3341

**DONALD L. BLOUNT AND ASSOCIATES, INC.**  
 NAVAL ARCHITECTS/MARINE ENGINEERS



2550 Ellsmere Avenue ♦ Suite K  
 Norfolk, VA 23513 USA  
 804-857-1943 ♦ FAX 804-857-4160



21 CHARLES STREET  
 WESTPORT CT. 06880  
 PHONE 203-226-5200  
 FAX 203-226-5246  
**WORLD WIDE SERVICE**  
 SINCE 1962

**CBH SERVICES, INC.**  
 MARINE ENGINEERS

• Topside Repairs • Deepwater Dock  
 • Vessel Worldwide Delivery  
 • Reconditioned Turbo Generator Sales  
 Nederland, Texas  
 Phone: (409) 722-8043

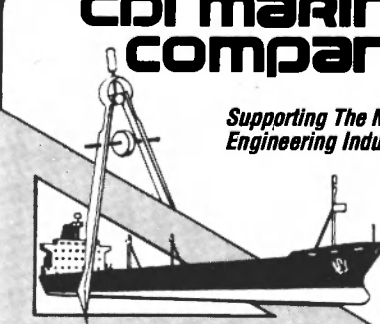
**CAPTAIN ASTAD COMPANY INC.**  
 • SHIPBROKERS & MARINE CONSULTANTS  
 • SALE & PURCHASE ANY TYPE VESSELS  
 • NEW CONSTRUCTION - CONVERSIONS  
 • OWNERS REPRESENTATIVE

2800 Energy Centre, 1100 Poydras Street  
 New Orleans, LA 70163-2900  
 Office Phone: (504) 585-7317 • Private (504) 522-3007  
 Fax: (504) 585-7301 • (504) 522-8008


**BAND, LAVIS & ASSOCIATES, INC.**  
 Naval Architects & Marine Engineers

Specializing in the Design of  
**Fast Ferries and Waterjet Propulsors**  
 900 Ritchie Highway, Ste. 200, Baltimore, MD 21286  
 Tel: (410) 554-2800 • Fax: (410) 547-3411  
 E-Mail: bla@gaccess.digex.net

**COI marine company**  
 Supporting The Marine Engineering Industry

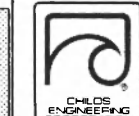


JACKSONVILLE (904) 399-4550  
 PHILADELPHIA (610) 278-1853  
 PORTSMOUTH (804) 397-9000  
 BREMERDON (208) 478-8828  
 SAN DIEGO (619) 878-0128  
 BOSTON (617) 345-8958  
 PASCAGOULA (601) 475-6985



**C. BAXTER, JR. & ASSOCIATES**  
 NAVAL ARCHITECTS/ENGINEERS & SURVEYORS

3113 Cottage Hill Road  
 Mobile, AL 36609  
 Tel. (334) 476-1998  
 (800) 398-6691



**CHILDS ENGINEERING CORPORATION**  
 WATERFRONT ENGINEERING-DIVING INSPECTION

BOX 333 MEDFIELD, MA 02052 (608) 288-8848

# INFORMATION SHOWCASE

Get Free Information Fast

Circle the appropriate Reader Service Number  
on the opposite page



ADVERTISER	EQUIPMENT /SERVICE	CIRCLE NO.
ALASKA DIESEL	NORTHERN LIGHTS GENERATOR SETS	287
ALLIEDSIGNAL	ROPES & FIBERS	200
AMERICAN INTL. SHIPBUILDING EXPO.	SHOW	201
ANIXTER, INC.	WIRE & CABLE	270
ANTARCTIC SUPPORT ASSOC.	BID PROPOSAL	202
APPLIED FLOW TECHNOLOGY	COMPUTER SOFTWARE	203
AQUAMASTER RAMA	PROPELLERS	271
ASTILLEROS ESPANOL	SHIPBUILDING	204
ATLANTIC MARINE	SHIPYARD	256
AUTOSHIP SYSTEMS	SOFTWARE	205
AVONDALE	SHIPYARD	288
BAYWOOD	HATCH COVERS	269
BENDER SHIPBUILDING	SHIPBUILDING	206
BLOHM & VOSS	SIMPLEX COMPOUND 2000	207
BOLL FILTERS CORP.	FILTERS	296
BOLLINGER	SHIPYARD	257
H.O. BOSTROM CO.	SEATING	258
BILL BROWN ENTERPRISES	AIR CONDITIONING	208
CAPITOL DIESEL	ENGINES & GENERATORS	209
CARRIER TRANSCOLD	REFRIGERATION	259
CATERPILLAR	MARINE ENGINES	272
COSPOLICH	REFRIGERATION	210
CREATIVE SYSTEMS	HYDROSTATIC SOFTWARE	212
CUSTOM SHIP	JOINER CONTRACTOR	213
DATREX	LOW LOCATION LIGHTING SYSTEMS	293
DEL GAVIO MARINE	MARINE HYDRAULICS	214
DELTA SYSTEMS	VENTILATION	289
DET NORSKE VERITAS	TRAINING VIDEO	215
ELECTROCATALYTIC	CATHODIC PROTECTION	216
ELECTRONIC MARINE	NAVIGATOR	261
ENVIROVAC	VACUUM TOILET	217
ESGARD, INC.	PAINTS	218
R.W. FERNSTRUM	GRID COOLERS	283
FERRO CORP.	LIQUID COATINGS	281
J.W. FISHERS	UNDERWATER METAL DETECTORS	274
FURUNO	COMMUNICATION RADAR	219
L.F. GAUBERT	ELECTRICAL CABLE	275
GUIDO PERLA	ARCHITECT	222
HAMILTON JET	WATER JETS	220
HITACHI ZOSEN, INC.	SHIPBUILDING	280
IGBE	SHOW	221
IMA ASSOC.	BUSINESS REPORT	279
IMO GEMS	SENSORS	223
IMSSCO	MARINE SUPPLY & SERVICE	224
INDUSTRIAL METALS	INDUSTRIAL METALS	276
INSULATIONS	MARINE CONTRACTORS	225
INT L. COMPACTOR	TRASH COMPACTORS	226
JEAMAR WINCHES	WINCHES	227

ADVERTISER	EQUIPMENT /SERVICE	CIRCLE NO.
JEFFREY'S STEEL	FULL SERVICE STEEL	228
KIENE DIESEL	DIESEL ENGINE TEST & SERVICE EQUIP.	229
KAHLENBERG BROTHERS	HORNS/WHISTLES	262
LANG MFG.	GALLEY EQUIPMENT	230
LEEVAAC SHIPYARDS	SHIPYARDS	231
MARINE EQUIPMENT, INC.	MARINE EQUIPMENT	277
MARINE GEARS	MARINE GEARS	232
MCELROY	MARINE EQUIPMENT	233
MGI INTL.	LIFE SAVING EQUIPMENT	234
MIDLAND MFG.	VALVES/GAUGES/ALARMS	285
MOBIL OIL	MARINE OIL	235
MOTOR SERV. HUGO STAMP	DIESEL ENG. SPARE PARTS	236
MUNSON MFG.	BOATS	237
O TECH	SHIP & BOAT REPAIRS	260
OFFSHORE MARINE	REVERSE OSMOSIS	291
E.H. O'NEILL	MARINE DECKING	238
PANEL SPECIALISTS	BULKHEAD PANEL	282
PAULUHN	MARINE LIGHTING	290
PERMA STOP RUST	ANTI-CORROSION SYSTEM	263
RESOLUTION MGMT	DISPUTES ANALYSIS	286
REXROTH CORP.	INDUSTRIAL HYDRAULICS	264
SAFECO	MARINE FINANCING	239
SCANMIX CORP.	SHOWER FAUCETS	240
SCHUYLER RUBBER	RUBBER FENDERING	273
SCIENCE APP. INT'L. CORP.	CUSTOM ENCLOSURES	241
SENER	SOFTWARE	295
KARL SENNER	SHIPBUILDING	265
SERVICE MARINE INDUSTRIES	SHIPBUILDING	242
SERVICE VALVE & FITTINGS	VALVE & FITTINGS	243
SIMRAD	RADAR EQUIPMENT	244
SKIPPERLINER	SHIPYARDS	245
STANDARD COMM.	HAND HELD VHF RADIO	246
STEEL CAD AB	ENGINEERING & DESIGN SERVICE	247
TEXAS INSTRUMENTS	NIGHTSIGHT	248
THRUSTMASTER OF TEXAS	JET BOW THRUSTERS	294
TRINITY MARINE	SHIPBUILDING	249
TURNBULL	SEATING	266
UNIVERSAL SHELTERS	TEMP. PERMANENT SHELTER	278
VIOLET DOCK PORT	BERTHING FACILITIES	251
WALKER ENGINEERING ENTERPRISES	AIR SEPARATORS	252
WARTSILA DIESEL	DIESEL ENGINES	253
WATERMAN SUPPLY	MARINE EQUIPMENT	254
WESTERN MACHINE	HYDRAULIC TOW PINS	285
WESTINGHOUSE	PROPULSION SYSTEM	292
WILLARD MARINE	RIGID INFLATABLE BOATS	255
WOOSTER PRODS.	STAIR SAFETY TREADS	267
ZODIAC OF N. AMERICA	RIGID INFLATABLE BOATS	268

The listings above are an editorial service provided for the convenience of our readers.



## Principal Contracts Recorded — October

(Alphabetically by vessel type)

For more information, contact: Fairship, San Francisco de Sales No. 8, 28003, Madrid, Spain; tel: +341 441 4138; fax: +341 441 4138. Publisher not responsible for omissions or errors.

OWNER/OPERATOR	COUNTRY	SHIPYARD	COUNTRY	TYPE	SUBTYPE	No.	TEU	DWT	GT	DELIVERY	PRICE M \$
SHOEI KAIJUN	JAPAN	KYOKUJO	JAPAN	REEFER	—	1	—	5,000	4,500	8/96	—
MARITIMA DEL NORTE	SPAIN	C. N. P. FREIRE	SPAIN	REEFER	—	2	—	5,500	—	—	—
SEATRUCK U.K. LTD.	U.K.	SØVIKNES VERFT	NORWAY	RESEARCH	—	1	—	—	—	1996	—
UKRRICHFLOT JOINT STOCK S.C.	RUSSIA	SOCIETATA COMER. NAVOL	ROMANIA	RIVER/SEA CARGO	—	5	3,000	3,000	—	96/97	—
UNKNOWN	JAPAN	KITAHIHON	JAPAN	RO-RO	—	1	—	4,800	11,000	5/96	—
ATLANTIC SHUTTLE/PENNECON	CANADA	SAMSUNG	KOREA	SHUTTLE TANKER	—	1	—	127,000	—	1997	—
MOBIL OIL/CHEVRON	CANADA	SAMSUNG	KOREA	SHUTTLE TANKER	—	1	—	127,000	—	1997	—
LAMALCO	U.A.E.	SINGMARINE DOCKYARD	SINGAPORE	SUPPLY	—	1	—	1,450	—	—	—
INDL	SINGAPORE	IMABARI	JAPAN	TANKER	AFRAMAX	1	—	107,000	—	1997	42
IMICO	IRAN	IRAN MARINE CO.	IRAN	TANKER	PRODUCTS	1	—	4,000	2,600	4/96	—
SSANGYONG	KOREA	TSUNESHII	JAPAN	TANKER	PRODUCTS	1	—	35,000	—	10/96	32
OCEAN TANKERS PTE.	SINGAPORE	HITACHI SINGAPORE	SINGAPORE	TANKER	PRODUCTS	3	—	12,700	—	1996	—
HYUNDAI MM	KOREA	HALLA	KOREA	TANKER	VLCC	2	—	300,000	—	—	—
GARLAND SHIPPING PTE. LTD.	SINGAPORE	IMABARI	JAPAN	TANKER	—	1	—	107,000	—	10/97	42
GARLAND SHIPPING PTE. LTD.	SINGAPORE	KOYO DOCK	JAPAN	TANKER	—	2	—	107,000	57,900	1997	—
R. NAVIGATION S. A.	LIBERIA	KOYO DOCK	JAPAN	TANKER	—	1	—	107,000	57,900	1997	—
MISCO	MALAYSIA	HYUNDAI	KOREA	TANKER	—	1	—	105,000	—	—	—
HIBERNIA	CANADA	SAMSUNG	KOREA	TANKER	—	2	—	127,000	—	97/98	147
BP	U.K.	SANTODOMINGO	SPAIN	TUG	—	1	—	—	—	1996	13.3
DJEN DJEN HARBOUR	ALGERIA	ZAMACONA	SPAIN	TUG	—	2	—	—	—	1996	—
EDISON CHOUEST OFFSHORE	U.S.	NORTH AMERICAN SB	U.S.	TUG	—	6	—	750	499	1998	—

Please fax any additions or corrections to the above information to +341 441 4138.



**ONE, TWO, THREE:** Pictured is the progressive loading of LPG tanks into the newbuilding LPG carrier *Sestri Cantiere Navale* is building for Carbocoke. Each tank weighs 700 tons. The newbuild can be seen right alongside another newbuilding, *Snam Portovenere*, an LNG carrier.

## Construction Progresses On LPG At Fincantieri Yard

Loading operations are being carried out for the four cargo tanks of the 37,000-ton Liquefied Petroleum Gas (LPG) carrier ordered by Carbocoke Armamento S.p.A. from Sestri Cantiere Navale S.p.A. (SCN), a yard of the Fincantieri Group of Italy.

The vessel, with main dimensions of 590 ft. (180 m) long overall and 95.1 ft. (29 m) in breadth, had its keel laid in April 1995 and was launched in November. It is scheduled to be delivered to its owner in the first months of 1996. It is expected to be capable of 16-knot speeds. The tanks are independent and insulated, made of cryogenic steel in order to

contain liquefied gas at -55 degrees Celsius. The prismatic tanks weigh 700 tons each, and are designed to be installed inside a separate hold fulfilling the hold's available capacity with a perfect geometric fit. The lifting operations and installation of the four tanks and all corresponding pre-outfitted blocks on the main deck were expected to take approximately two weeks. Sestri Cantiere Navale is also building *Snam Portovenere*, an LNG (Liquefied Natural Gas) carrier ordered by Snam for the carriage of LNG at a temperature of -160 degrees Celsius. In addition, SCN's newbuilding orderbook includes the



construction, beginning in late 1996, of two RoRo car carriers for the Grimaldi Group. For more information on Sestri Cantiere Navale Circle 33 on Reader Service Card

## PROFESSIONAL

**GRAPHICS & PHOTO  
CONFIGURATION DATABASES**

**COMPUTER & VIDEO BASED  
TRAINING & SAFETY**

**MATERIALS MANAGEMENT**

**MAINTENANCE MANAGEMENT**

*Windows™ Based Software*

**CHAND  
CORPORATION**

*Standard & Custom Packages • Installation • Support • Implementation*

157 HWY. 654, MATHEWS, LOUISIANA 70375  
PHONE (504) 532-2512 / FAX (504) 532-2571

**C-M-C**

**CONTINENTAL MARINE CONSULTANTS INC.**

618 North U.S. 1, Suite 301  
P.O. Box 14915  
Nort Palm Beach, FL 33408

**OWNERS REPRESENTATIVE  
MARINE SURVEYORS**

- VESSEL DESIGN REVIEW
- CONSTRUCTION SUPERVISION
- VESSEL OPERATION PROBLEMS
- CONDITION & VALUE SURVEYS

**ANY TIME ... ANY PLACE**

**TOM DRENNAN WALT VERNER**  
Phone: (407) 844-6111  
Fax: (407) 844-7152

*Serving the marine industry for over 140 years*

**CRANDALL  
DRY DOCK ENGINEERS, INC.**

Consulting • Design • Inspection  
Railway and Floating Dry Docks  
Dry Dock Hardware and Equipment

Box 505804 Chelsea, MA 02150 (617) 329-3240 Fax (617) 884-8466

**GHS**

*General Hydrostatics*

**CREATIVE SYSTEMS, INC.**  
CREATORS OF GHS

Stability Software Products  
GHS ..... Full-featured hydrostatics  
BHS ..... Mid-range package  
BHS/YACHT ..... Yacht designer's package  
GLM ..... Shipboard trim and stability  
GHS/SALVAGE ..... Salvage oriented package

P.O. Box 1910 Fort Toward, VA 20338 USA  
TEL (206) 385-6212 FAX (206) 385-6213

**CT MARINE**

• NAVAL ARCHITECTS • MARINE ENGINEERS •

• VAPOR RECOVERY TUGS • TOWBOATS • BARGEES

Tel. 203-831-0405 Fax. 203-831-0407  
18 Vesey Street  
56 CROOKED TRAIL, ROWAYTON CT. 06853

**C. R. CUSHING & CO., INC.**

NAVAL ARCHITECTS, MARINE ENGINEERS  
& TRANSPORTATION CONSULTANTS

NEW YORK, N.Y. 10007  
TEL (212) 964-1180 CABLE CUSHINGCO  
TX: 752481

**ARTHUR D. DARDEN  
INCORPORATED**

NAVAL ARCHITECTS & MARINE ENGINEERS

3200 RIDGELAKE DRIVE, SUITE 403  
METAIRIE, LOUISIANA 70002  
(504) 832-3952 FAX (504) 832-3953

**ENCON Management Incorporated**

Marine Structures • Engineering Analysis • Marine Survey  
Project Management • Loss Prevention • Naval Architecture

P.O. Box 7760 • Beaumont, Texas 77726  
(409) 547-2562

1311 Leggat Drive  
Kanata, Ontario, Canada  
Phone: (613) 592 2830  
Fax: (613) 592 4950

Trials and Instrumentation  
Structural Assessment  
Fatigue/ Fracture Experts  
Shafting/Vibration Analysis  
Performance Prediction  
Model Testing

**FTL FLEET TECHNOLOGY**

**Capt. E.S. Geary, ASA**

Accredited Senior Appraiser - Ships & Yachts  
AMERICAN SOCIETY OF APPRAISERS  
CERTIFIED SHIP VALUATIONS WORLDWIDE TO ANY TONNAGE  
P.O. Box 1246 - Fajardo - Puerto Rico 00738 - USA  
Tel: (809) 860-1508 • Fax: (809) 863-9019

**GIBBS & COX INC.**

*Naval Architects & Marine Engineers*

1235 Jefferson Davis Hwy 50 West 23rd Street P.O. Box 1306,  
Arlington, VA 22202 New York, NY 10010 46 Church Road  
703-416-1240 212-366-3900 Brunswick, ME 04011  
207-721-8200

**JOHN W. GILBERT ASSOCIATES, INC.**

*Naval Architects Marine Engineers*

(617) 523-8370 199 STATE STREET  
FAX (617) 523-2178 BOSTON, MASS 02109

Seattle, Washington  
Phone: 206-624-7850  
Fax: 206-682-9117

**THE GLOSTEN ASSOCIATES, INC.**  
CONSULTING ENGINEERS SERVING THE MARINE COMMUNITY

**HEGER DRY DOCK ENGINEERS, Inc.**

P.O. Box 6605, 426 South Street, Holliston, Massachusetts, 01746

*Specialists in all types of dry docks*

- Design
- Inspections
- Certifications
- Docking Calculations
- Dockmaster Training Classes
- Engineer/Diver
- U.S. Navy 1625C Facility Certification Reports

Telephone: (508) 429-1800 Fax: (508) 429-1811

**C. RAYMOND HUNT ASSOCIATES, INC.**

Designers • Naval Architects

High-Speed, Deep-V Commercial Craft

69 LONG WHARF • BOSTON • MASSACHUSETTS • 02110  
TEL: 617-742-5669 FAX: 617-742-6354

Speed/Power Consultants  
NavCad™ and EasyProp™  
Ship Propulsion Software

20 Ridgely Avenue, Suite 100  
Annapolis, MD 21401 USA  
410-268-7810  
FAX 268-7812

**HYDRCOMP**

**DAIHATSU**

**Marine Engines  
Service and Parts**

Crankshaft refinishing in place  
24 hours worldwide

**IN-PLACE MACHINING COMPANY**  
Milwaukee, Houston, Miami, Norfolk  
Phone 414 562 2000 Fax 414 265 1000

**MITSUBISHI**

**Marine Engines  
Service and Parts**

Crankshaft refinishing in place  
24 hours worldwide

**IN-PLACE MACHINING COMPANY**  
Milwaukee, Houston, Miami, Norfolk  
Phone 414 562 2000 Fax 414 265 1000

**JAFCO Marine**

tug & barge sales

YOUR MARINE CONSULTANTS (708) 798-2419  
P.O. Box 371, Flossmoor, Illinois 60422-0371 FAX (708) 798-1077  
1-800-399-1077

**JMS**

JAMESTOWN MARINE SERVICES INC.

- Complete Engineering Services
- HEDSALV™ 3-D Computer Strength & Stability Modeling
- Ultrasonic Geogues, Marine Surveyors, Naval Architects, P.E.s,  
Ocean and Salvage Engineers Who Dive

*Your satellite engineering department...*  
▶ (800) 332-0100



## PROFESSIONAL

**JJH**  
A Division of XenoTechnix, Inc.


Bensalem, PA  
**(215) 633-9331**

Arlington, VA  
**(703) 415-1403**  
Portsmouth, VA  
**(804) 399-4096**

Naval Architects • Marine Engineers • Marine Consultants

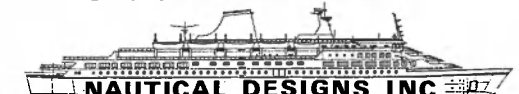


**USCG APPROVED**  
**RADAR: Recerts: WALK-IN**  
Originals: Monthly  
**FLASHING LIGHT CERTIFICATION**  
TEST HERE ANY DAY!!  
Prepare for ALL USCG EXAMS  
CALL 1-800-429-9267  
FL. LAUDERDALE, FL




**CRUISE SHIP SPECIALISTS**

**NAUTICAL DESIGNS INC.**  
NAVAL ARCHITECTS & MARINE ENGINEERS  
2101 S. ANDREWS AVE. FORT LAUDERDALE, FL 33316 (305) 463-2033



**Alan C. McClure Associates, Inc.**  
NAVAL ARCHITECTS • ENGINEERS  
2600 South Gessner • Suite 504 • Houston, Texas 77063  
(713) 789-1840 • (713) 789-1347 Fax



**PREDICTOLI**

Marine Engineers & Technical Services


- Machinery Vibration Analysis
- Condition Monitoring Services & Products
- Torsional & Structural Vibration Analysis
- In-Place Dynamic Balancing
- Mechanical Engineering
- Shaft Alignment
- Noise Reduction

253 Winslow Way West Tel: (206) 842-7656  
Bainbridge Island, WA 98110 Fax: (206) 842-7667



**Michael R. Keough, CPC**  
**KEOUGH ASSOCIATES**  
P.O. Box 010990  
Staten Island, NY 10301-0006  
PH: (718) 979-8698 FAX: (718) 667-8347

Our 21st Year, Providing Executive Search & Technical Recruitment Services to the Maritime Community and Supporting Industries.




**Coast Guard/State Pilotage License Insurance**  
Worried about defending your license or yourself in a hearing conducted by the Coast Guard, National Transportation Safety Board or a State Pilotage Authority, which could result in license revocation, suspension or assessment of a fine/money damages against you personally?  
Stop worrying. Insure yourself and your license with a Marine License Insurance Policy. For more information contact R.J. Mallus & Co., 71 Hudson Street, New York, N.Y. 10013, Tel: (212) 962-1590 Fax (212) 385-0920

**M. ROSENBLATT & SON, INC.**  
NAVAL ARCHITECTS AND MARINE ENGINEERS

<b>New York City</b> 350 Broadway New York, NY 10013 Tel: (212) 431-6800 Fax: (212) 334-0837	<b>San Francisco</b> 620 Folsom Street San Francisco, CA 94107 Tel: (415) 777-0300 Fax: (415) 777-4015
<b>Washington, D.C.</b> Newport News Norfolk	<b>Bremerton</b> San Diego Charleston

M. ROSENBLATT & SON, INC.  
NAVAL ARCHITECTS AND MARINE ENGINEERS



**JAMES S. KROGEN & CO., INC.**  
NAVAL ARCHITECTS & MARINE ENGINEERS  
Tel: (305) 577-3455 Fax: (305) 577-6062  
799 Brickell Plaza, Ste. 701 Miami, FL 33131

**H. J. Merrihue**  
**DIVING**  
and  
**MARINE SERVICES**

All Underwater Needs  
For Shipping

CRANE BARGE SERVICE  
MAGNETOMETER/SONARS  
INSURED MARITIME

**(504) 466-2800**  
NEW ORLEANS  
24 HOURS



**SARGENT & HERKES, INC.**  
NAVAL ARCHITECTS • MARINE ENGINEERS  
225 BARONNE ST., SUITE 1405  
NEW ORLEANS, LA 70112  
504-524-1612 • 504-523-2576 (Fax)

**M.A.C.E.**

FT. LAUDERDALE - USA - WORLDWIDE  
PHONE: (305) 493-8913 • FAX: (305) 493-9559

- Thickness - hardness - crack determination
- Ultrasonic flaw detection
- Vibration - noise - structural/modal analysis
- Field balancing
- Torque - torsional vibration analysis
- Predictive Maintenance • Telemetry systems


**sms**  
Scientific Marine Services, Inc.

Naval Architects, Instrumentation Engineers  
Mechanical Engineers, Software Engineers

HULL MONITORING SYSTEMS  
TRIALS and TESTING  
MARINE INSTRUMENTATION

151 State Place  
Escondido, CA 92029  
Tel: (619) 737-9605  
Fax: (619) 737-4252  
email: sms@scinet.com

P.O. Box 10455  
Jacksonville, FL 32247-0455  
(904) 387-4784  
Murray D. Black  
President  
**MARINE DRILLING & BLASTING, INC.**  
Marine Contractors • Underwater Drilling & Blasting  
Contract Consulting



PHONES:  
(201) 984-2295  
1-800-762-9383


**MOWBRAY'S**  
**TUG AND BARGE SALES CORP.**  
35 DE HART STREET  
MORRISTOWN, N.J. 07960

NIGHT:  
(201) 538-1789

FAX:  
(201) 984-5181

SPECIALISTS IN  
BUYING, SELLING  
AND RENTING  
TUGBOATS  
• BARGES  
• CONTRACTORS  
• FLOATING  
EQUIPMENT

YOUR MARINE CONSULTANTS



**Free PropellerSoft™ For Windows Demos**  
Fully automated 3D propeller CAD software  
Multiple Viewports • Volume Calc • Animation • DXF Out  
**Seastar Software Developers International**  
743 Kingfisher Way • Oxnard, CA 93030  
Tel: (805) 487-7375 Fax: (805) 487-8608


**John J. McMullen Associates, Inc.**

**JJMA**

Naval Architects • Marine Engineers • Transportation Consultants

New York, N.Y. • Arlington, Va. • Newport News, Va. •  
Port Hueneme, Ca. • Bath, Me. • Seattle, Wa. • Pascagoula, Ms.

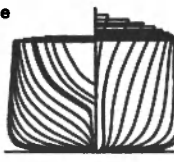
The World Trade Center/Suite 3000/New York, New York 10048/(212) 466-2200



**CAD/CAM/CAE SOFTWARE**

- Over 25 Programs Developed In-House
- NURB-Based Hull Design and Fairing
- Full Compartment Descriptions
- Damaged Stability Calculations
- Longitudinal Strength Analysis
- Resistance and Propeller Calculations
- Powerful PC-Based Software

**New Wave Systems, Inc.**  
79 Narragansett Ave., Jamestown, Rhode Island 02835  
Tel: (401) 423-1852 Fax: (401) 423-1810



**Seaworthy Systems, Inc.**

MARINE ENGINEERS AND NAVAL ARCHITECTS

Essex, CT 06426  
(860) 767-9061

SAN FRANCISCO • NEW JERSEY • WASHINGTON, DC



## PROFESSIONAL

### GEORGE G. SHARP, INC.

100 CHURCH STREET, NEW YORK, NY 10007  
TEL: (212) 732-2800 FAX: (212) 732-2809

WASHINGTON (703) 892-4000  
VIRGINIA BEACH (804) 499-4125  
PHILADELPHIA (609) 772-0888  
SAN DIEGO (619) 425-4211

MARINE SYSTEMS • ANALYSIS & DESIGN

### T.W. SPRETTGENS

TORSIONAL VIBRATION SPECIALISTS  
OUR 47TH YEAR SERVING  
INTERNATIONAL CLIENTS

186 W. 8th Ave. (604) 979-2974  
Vancouver, Canada V5Y 1N2 FAX: (604) 979-6588

### R. A. STEARN

A Division of John J. McMullen Associates, Inc.

NAVAL ARCHITECTS/MARINE ENGINEERS

- Ship and Barge Design
- Concept and Contract Design
- Construction Drawings
- Transportation Analysis

253 N. First Avenue  
Sturgeon Bay, WI 54235  
Phone: (414) 743-8282 Fax: (414) 743-9543

### STURGEON BAY MODEL SHOP

SHIP MODELS SINCE 1941

Wm. L. Herbst (414) 994-2859  
137 N. North Ave. (414) 743-2921  
Sturgeon Bay, WI 54235 (414) 744-3081

### A. K. Suda & Associates, Inc.

Naval Architects and Marine Engineers



3004 19TH STREET TEL: (504) 831-8371  
METAIRIE, LOUISIANA 70002 FAX: (504) 831-8371 EXT. 20

**VIBRANALYSIS ENGINEERING CORP**  
• PREDICTIVE MAINTENANCE PROGRAMS  
• VIBRATION ANALYSIS  
• FIELD & SHOP BALANCE  
• ACOUSTICAL CONSULTANTS  
• COMPUTERIZED DATA COLLECTION  
• MARINE APPLICATIONS  
**VIBRANALYSIS ENGINEERING CORP** 800-553-1814  
9300 Gamebird 713-944-2633  
Houston, TX 77034 Fax: 713-944-8797

## THE MARINE MART

The Classified  
and Employment Section

### HOW TO PLACE YOUR CLASSIFIED AD - It's EASY!

MARITIME REPORTER'S Classified Section Has It All

- Employment/Recruitment
- Vessels For Sale or Charter
- Equipment and Products For Sale

#### FREQUENCY DISCOUNT RATES

1X .....	\$80 ea.
3X .....	\$75 ea.
6X .....	\$70 ea.
9X .....	\$65 ea.
12X .....	\$50 ea.

**Contact:** Susan Cosme, Maritime Reporter, 118 East 25th Street, New York, NY 10010 Telephone: (212) 477-6700 or Fax your ad copy to (212) 254-6271 ...

COLUMN WIDTH	COLUMN DEPTH
1 COLUMN - 3"	MINIMUM - 1"
2 COLUMN - 6 1/4"	MAXIMUM - 12"
3 COLUMN - 9 1/2"	

**DEADLINE:** The 15th of the month for the following months ad

## EQUIPMENT/PRODUCTS/SERVICES FOR SALE

### CUNNINGHAM MARINE HYDRAULICS CO., INC.

SERVICE • REPAIR • PARTS  
CONSULTING • DESIGN

24 HOUR ON-SITE & SHOP SERVICE  
CUSTOM FABRICATION & INSTALLATION

201 Harrison St. • Hoboken, NJ 07030  
(201) 792-0500 (212) 267-0328  
FAX: (201) 792-7716  
1-800-322-2641



### PURIFIER/SEPARATOR Spare Parts

## SCARDANA

Fax: (1) 514-671-3898 (24 hrs.)  
Tel: (1) 514-465-2480 (24 hrs.)

### International Marine Services of Jacksonville, Inc.

P.E. BARGE CERTIFICATION  
OWNER'S REP. MARINE DESIGN CONSULTANT  
PH 904-707-0482 FAX 904-285-2413

**PATC** Pan American Systems Corp.  
P.O. BOX 62269 VIRGINIA BEACH, VA 23466

In A Complex World Of Automation  
"WE MAKE IT SIMPLE"

Navigational Light Panels  
Engine Room Alarm Systems

Level Sensors, Bilges, Tanks, Others  
Custom Made Products Available

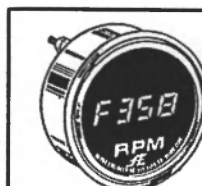
1-800-262-2296

### SHELTERS FOR SALE WE SHIP WORLDWIDE



Work & containment shelters for sand blasting, paint spraying, and 100's of other applications. Sizes from 12' W x 12' L to 300' W x 1000' L. All clear span from \$3 - \$15/sq. ft. Galvanized steel frame with industrial grade vinyl fabric covers. Warranties from 5 - 20 years. Erect in hours, no slab or foundation required. Custom hanging, rolling & side mount shelters available. Call for free brochure, other standard shapes/styles.

**poly-steel SHELTERS**  
1-800-330-9294 FAX 407-395-9893



**SHAFT TACHOMETER**  
Speed & Direction  
Accurate to 1 RPM  
Economical & Reliable  
**AETNA ENGINEERING**  
800-776-7962 FAX 818-366-7896

Maritime Reporter/Engineering News



**EQUIPMENT/PRODUCTS/SERVICES FOR SALE**



**Archway Announces the 1996 Marine Lighting Catalog**

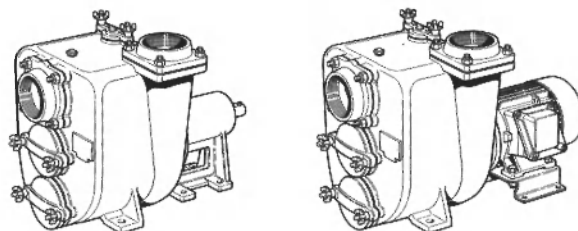
*New Items Include: Stearns Jackets - Empco, CG Listed Portable Nav. Lights - ITT Night Vision Products - Casino Boat Lighting*

*Please call, fax or write for your FREE COPY today!*

**Archway Marine Lighting**  
4501 Swan Avenue • St. Louis, MO 63110  
Ph: (800) 737-1314 • Fax: (800) 627-1065  
Ph: (314) 535-1314 • Fax: (314) 535-5471



**Gilkes J Series Self-priming Marine Duty Pumps...**



*Compare these features:*

J Series pumps range from 1-1/2" x 1-1/2" to 12" x 12" suction and discharge sizes. Flow rates up to 6300 USGPM and pressures to 140 PSI.

TQS version includes cast iron casing with protective zinc anodes, aluminum bronze alloy impeller and wear plate, 316 SS shaft and oil lubricated mechanical seal for run dry protection.

TBS version includes all aluminum bronze alloy casing with 316 SS shaft and oil lubricated mechanical seal for run dry protection.

Semi open impeller design allows pumps to handle from 3/4" to 3" solids.

JV and JL pumps have large impeller clean out ports for removing debris.

Large inhouse inventory with off the shelf pumps and spare parts availability.

J Series pumps are available in pedestal mount, close or long coupled to electric motors, electro-clutch pulley and manual clutch pulley versions.

For more information about Gilkes J Series self-priming marine pumps contact your local Gilkes distributor or call (713) 474-7622 for the distributor nearest you.

**GILKES**

P.O. Box 628  
Seabrook, Texas 77586  
Tel: (713) 474-7622  
Fax: (713) 474-5304

*Distributorship inquiries welcomed.*

**MARITECH Marine Service, Inc.**

*Specialty: Technical Services of BERG CP PROPELLERS Since 1981.*

200 Leslie Dr. Suite #1128 Phone: (305) 454-7990  
Hallandale, FL 33009 Fax: (305) 454-7702

**FOR SALE**

**Active Offshore Boat Company in South Texas - Docks, Warehouse with 3 furnished offices, 10 ton Cherrypicker, 2 trucks, Spare Parts, Tools etc., five Passenger/Supply Vessels USCG certified, 100-125', built 1978-1982**

**(512) 758-3673**

**SERVICE MARINE INDUSTRIES, INC.**

**For Quality Workmanship**

*On Time and on Budget . . .*

THREE DRYDOCKS UP TO 3,000 TON CAPACITY  
REPAIRS AND NEW CONSTRUCTION  
STEEL AND ALUMINUM  
BARGE FLARING FACILITY  
24 HOUR SERVICE  
OFFSITE REPAIR SERVICE  
SANDBLASTING AND PAINTING  
NEW CONSTRUCTION  
VESSEL DESIGN


**A FULL SERVICE SHIPYARD**  
Mile 88.5 West  
Intracoastal Waterway

Physical Address: 626 Ford Industrial Road, Arnaud, LA 70340, Phone (504) 631-0511  
Mailing Address: P. O. Box 3806, Morgan City, LA 70381, Fax: (504) 631-2933



**PERKINS TV8-540M MARINE ENGINES. BOBTAIL 1-6000 HOURS. GOOD RUNNING CONDITION 1-3500 HOURS. RECENTLY REBUILT MANY EXTRA PARTS- \$3000.00**

**1-800-343-0480 JOHN PAYNE**



**CORROSION & WALL THICKNESS GAUGE**

TI-12 measures metal wall thickness and corrosion from one side - ultrasonically!

- Ship's hulls and bulkheads
- Storage tanks
- Metal plates
- Pipes

Range: 0.030-3.000" (0.8-80.0mm)  
Accuracy: ± 0.5%

**Call Toll Free 1-800-645-4330**

ELECTROMATIC Equipment Co., Inc.,  
600 Oakland Ave., Cedarhurst, NY 11516.  
Tel. (516) 295-4300 • FAX (516) 295-4399


**CHECK-LINE**  
BY ELECTROMATIC

**OUR SPECIALTY**

Parts and Service for Fairbanks-Morse Engines Model 38D81/8 O.P. We have genuine and replacement parts in Stock.

**Schoonmaker Service Parts Co., Inc.**  
424 Payran Street - P.O. Box 621  
Petaluma, CA USA 94953-0621  
Phone: 707-763-8100 Fax: 707-763-8240

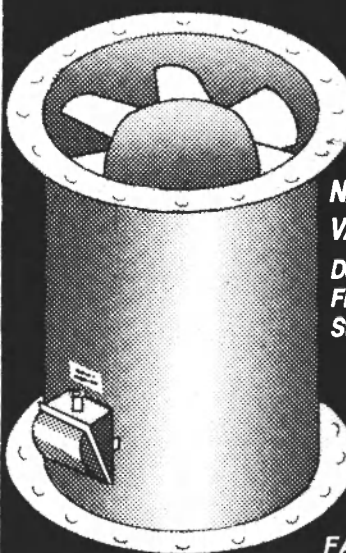
**Tired of nautical reproductions**



Maritfacts has only **authentic marine collectibles** rescued from scrapped ships: navigation lamps, sextants, clocks, bells, barometers, flags, binnacles, telegraphs, portholes & more. Current Brochure - \$1.00 FAX: 904-645-0150

**MARITFACTS, INC.**  
P.O. Box 8604 Jacksonville, FL 32239-0604  
**PHONE: (904) 645-0150**

**JON M. LISS ASSOCIATES, INC.**  
411 BOREL AVENUE, SUITE 505 • SAN MATEO, CALIFORNIA 94402



**NAVY STANDARD VANEAXIAL FANS**

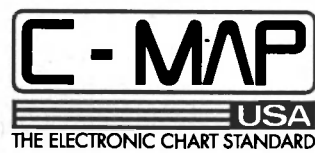
Delivery From Stock

**(415) 573-9191**  
FAX (415) 572-8458

**EQUIPMENT/PRODUCTS/SERVICES FOR SALE**

**ELECTRONIC CHARTS**

- Contract services for custom applications
- Library of over 8500 customizable charts
- Virtual worldwide coverage available
- Bathymetric charts



133 Falmouth Road  
Mashpee, MA 02649  
Tel 508-477-8010  
Fax 508-477-6168

**SEA CATCH** Replace your unsafe, unpredictable, uncertified quick release. Featuring Perpendicular or parallel release directions. **McMillan DESIGN, INC.** 465 N. 45th St. #400 Seattle, WA 98109 Tel: 1-206-632-8917 Fax: 1-206-632-4954

the Sea Catch TOGGLE RELEASE TR7  
Hitch-pin safety lock  
Computer generated from stainless steel plate  
Weight: 4 lbs.  
Certified break load: 35,210 lbs.  
Patent Pending

**SCRAP SHIPS WANTED**

Looking for scrap ships over 2000LDT. Will prefer those ships under power and on its last voyage to Far East.

Contact: **GLOBAL SHIP TRADING LTD.**  
686 Princess Street  
Kingston, Ontario Canada  
Tel: (613) 546-6616  
Fax: (613) 531-0418

**Smith Berger Marine, Inc.**  
SHIPBOARD SYSTEMS & FISH PROCESSING EQUIPMENT  
The leader in deck hardware for over 60 years.  
Ph: 206/764-4650 Fax: 206/764-4653  
Smith Berger Marine, Inc. 516 S. Chicago St. Seattle, WA 98108

**ALL WEATHER PROTECTION FROM CAROLINA COCKPIT**  
Corrosion Proof, Lightweight, Engineered, Deck Structures and Control Cabs  
Ready to Install aboard your vessels and equipment.  
P.O. BOX 83037 PORTLAND, OR 97283  
(503) 735-0339 FAX (503) 735-0337

**LOW COST PRECISION ANALYZERS**  
Portable Main 3000 - Diesel Engine Analyzer Award Winning  
Main CDM - Crankshaft Deflection Meter  
**FCS, INC.** 22 Main Street Centerbrook, CT 06409  
Tel: (203) 767-3065 Fax (203) 767-1283

**WORKBOAT AUCTION**  
**Annual Clearance!**  
**Demo's Trade-In's New**  
**THURS - MARCH, 7th @ 1:00 PM**  
**On Site American Eagle LaConner, WA**  
**At: Manufacturing**

**\*\* Partial Boat Inventory \*\***

**NEW** 36' Zulu, T600 Cats, Kamewa Jets  
**T/IN** 72' Oil Skimmer ( in California )  
**DEMO** 40' Oil Barges for oil skimming, Alum  
**NEW** 17' **CAF** LaConner Yacht  
**DEMO** 23' Cabin Workboat, Volvo Duo-Prop  
**NEW** 18' Munson Skiff, Double Wall, Partial  
**DEMO** 23' Cabin Workboat, 175HP Yamaha  
**NEW** 19' **CAF** Yacht Tender  
**DEMO** 17' **CAF** 115HP Merc.  
**T/IN** 36' Dive Boats, ( in Hawaii )  
**DEMO** 26' Cabin Workboat, Volvo Duo-Prop  
**DEMO** 21' **CAF** T/140HP Tohatsu  
**NEW** 23' Workboat, No Power or Options  
**DEMO** 21' **CAF**, 200 HP  
**NEW** 17' **CAF**, No Power  
**NEW** 30' Oil Skimmer, Lori, 175HP

**PREVIEW: March 5th & 6th 10:00am-4:00pm**  
Exceptional Offering! W/ Financing! Conducted By:  
5% Buyers Premium Subject to Prior Sale International  
**Boat & Marine**  
Auction Services  
WA License #011768  
For Catalog, Video, Specifications & Warrantys Call  
**1-800-530-4561**

SILENCERS - FLEX CONNECTORS  
VIBRATION ISOLATORS - EXPANSION JOINTS  
Call for a complete catalog or Engineering Manuals  
for Cummins/Onan, Caterpillar, DDC, Kohler  
**SILEX INC. - One Source... One Supplier**  
TOLL-FREE 1-800-387-7818

**FOREIGN SPARE PARTS**  
**SCARDANA**  
Fax: (1) 514-671-3898 (24 hrs.)  
Tel: (1) 514-465-2480 (24 hrs.)  
M/E - T/C - Aux. - Machinery - Equipment.

**MANITOWOC TRANSPORTERS**  
FOR SALE: Two (2) used 500-ton crawler  
transporters, manufactured and rated by Manitowoc  
**BLUE WATER ENTERPRISES INC.**  
Tel: (617) 837-9826 Fax: (617) 837-2228

**SHAFT HORSEPOWER MEASUREMENT**  
THE "DIGITAL TORQUE METER SYSTEM"  
\*\*FIBER OPTIC SENSORS \*\*STAND ALONE SYSTEM  
\*\*SOFTWARE PACKAGE FOR IBM OR COMPATIBLES  
\*\*CAN MONITOR UP TO THREE SHAFTS  
\*\*24 HOUR TECHNICAL SUPPORT LINE  
\*\*PATENTED  
**I.C.C., INC.**  
603-485-3800

**HAVE YOU HUNG OFF THE END OF YOUR PIER LATELY?**  
Call us. We'll hold your feet.  
Take a look at the pilings supporting your pier. Unprotected marine structures are in a constant state of corrosion. Effective protection from corrosion can now be easily applied. The TC Enviroshield protects steel, concrete and timber pilings with a new modular protection system.  
Call or fax for an informative video. **TC® ENVIROSHIELD**  
800/758-6041 Fax 800/332-8273 **TAPECOAT**



## VESSELS FOR SALE/CHARTER



*Specializing In Barges*

- ◆ Single or Double Hull, Inland or Ocean-Going
- ◆ Design, Construction & Modification
- ◆ Chartering, Sales & Brokerage



**ZIDELL MARINE CORPORATION**  
Ask for Bill Gobel, Jack Breshears or Brad Gobel  
503-228-8891 1-800-547-9259  
3121 SW Moody Avenue, Portland, Oregon 97201

## BUSINESS FOR SALE



**PROFESSIONAL MARINE ENGINEERING SERVICE, INC.**

A TRADEMARK IN MIAMI, FLORIDA SINCE \*\*\* 1972 \*\*\*

**FOUNDERS / OWNERS RETIRING**  
Phone: (407) 489-5505  
Fax: (407) 465-6402

## FULL-SVC SHIP REPAIR CO. FOR SALE OR MERGER

Ports of Hampton Rds, Virginia. Complete turn-key ship repair svc to military combatants & commer vessels. 50,000+ sq ft covered shop area; 3,500 linear ft berthing w/ 36 ft draft; 60-acre waterfront property. Serves home port of US Atlantic Fleet. Local ports proj to be largest commer port in nation. J. Poythress 813-573-5333

## EMPLOYMENT/RECRUITMENT

**BOAT JOBS!!!**

IMMEDIATE OPENINGS FOR:  
CAPTAINS, MATES, PILOTS, AB'S  
TANKERMEN, O/S'S, ENGINEERS AND DECKHANDS

WE ALSO OFFER TRIP WORK AND VESSEL DELIVERIES POSITIONS AVAILABLE INLAND AS WELL AS OFFSHORE PLEASE DON'T DELAY CALL 24 HRS.  
**(334) 380-0765**  
OR FAX YOUR REQUEST (334) 380-0571  
**MARINE JOBS, INC.**  
*'Charting Careers In The Marine Industry'*

## EMPLOYMENT/RECRUITMENT

### "BOAT CREWS"

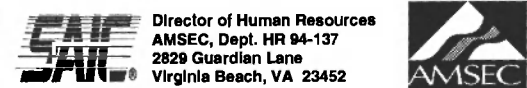
Captains, Pilots, Mates, Deckhands, Tankermen, AB's, and Engineers.

### CREWS NEEDED ASAP!

To work on tugs and vessels operating offshore and inland waters.

**Boat Crews USA - Pensacola, FL**  
**(904) 474-0990**

**PORT ENGINEERS - American Systems Engineering Corp. (AMSEC)** has provided Port Engineers and related marine services to the U.S. Navy, other government vessel operators and major ship operating companies for many years. As we expand our Marine Services Operations, we seek USCG licensed engineers with at least a BS in engineering, at least six years prior merchant vessel operational experience and significant depot/shipyard experience. NOAA, MARAD, MSC or commercial senior engineering management experience desirable. U.S. citizenship required. EOE. For further information, contact Andy Ott at (804)463-6666. Send resumes to:



Director of Human Resources  
AMSEC, Dept. HR 84-137  
2829 Guardian Lane  
Virginia Beach, VA 23452

### Technical Salesperson Wanted For Northeast

Ferrous Corp., a major supplier of fuel additives, is looking for a motivated salesperson in the northeast who has experience selling to the marine industry. Mechanical engineering background a must. Knowledge of chemical sales would be valuable. The position would require travel primarily in the northeast. Please send resumes to Ferrous Corporation, P.O. Box 1764, Bellevue, WA 98009. Fax: 206-454-6308/800-451-6320.

A New York based tug and barge operation is presently reviewing applications for the position of Port Engineer.

A good working knowledge of marine pneumatic, hydraulics, automation and propulsion systems is a must. License and sea time preferred. Duties will include, but not limited to vessel inspections, design, engineering & troubleshooting.

For further information call Personnel at 1-718-816-8167.

## HELP WANTED

### Chief Executive Officer

The Humboldt Bay Harbor, Recreation and Conservation District is recruiting a Chief Executive Officer. The salary range is open depending on qualifications plus benefits package.

The Chief Executive Officer is responsible for the day-to-day operations of the Port of Humboldt Bay to an elected, five member Board of Commissioners.

The duties will include promoting maritime and commercial uses of the Harbor; project development including a new terminal project and the U.S. Army Corps of Engineers Deepening Project in 96-97; developing recreational uses of Humboldt Bay; implementing marketing and economic programs and the Five Year Strategic Plan including environmental planning and enhancement.

Desirable Qualifications: Requires a bachelors degree in business or related field and four years experience in port or marine transportation management or a combination of education and experience which provides the necessary knowledge of management principles and techniques as applied to port operations and administration and methods and practices of the West Coast environmental community.

Please send a covering letter, resume and list of professional references to the **Search Committee, Humboldt Bay Harbor, Recreation and Conservation District, P.O. Box 1030, Eureka, CA 95502-1030** by 31 January 1996.

## HELP US PERFECT THE CRAFT.

Join an international ship repair leader with the resources, technology and integrity you need to take your career full-steam ahead.

### Project Manager

Make the most of your proven ability to successfully plan/schedule large commercial ship repair jobs. Must have a 4-year marine-related degree plus demonstrated expertise in contract administration, estimating and craft coordination.

You'll enjoy a strong salary and benefits package including health/dental/life insurance, relocation assistance, generous paid vacations & holidays, profit sharing and 100% tuition reimbursement.

Interested? Call 1-800-650 WAVE or send your resume (indicating position desired) to: **Human Resources, Atlantic Marine, P.O. Box 3202, Mobile, AL 36652. Fax: 334-690-7690.** An equal opportunity employer m/f.



**Atlantic Marine, Inc. - Mobile**  
*Building On Integrity*

**TO RESERVE YOUR CLASSIFIED AD CALL (212) 477-6700 OR FAX YOUR ORDER TO (212) 254-6271**

EMPLOYMENT/RECRUITMENT

### Take Your Career Full Steam Ahead

For over 30 years, Atlantic has been preeminent in ship building and repair. And our excellence has been no accident. We make a point to hire the most capable, career-minded people available...and we reward them with one of the most impressive packages in the industry.

#### Ship Repair Coordinator

We seek a recent maritime academy graduate to develop and implement production schedules, monitor job progress and expenditures, oversee purchases/rentals of related materials and contractors, and coordinate crafts and outside services. Bachelor's Degree in Naval Architecture or Marine Engineering required. Prefer 1-2 years' experience in the ship repair field.

#### Dockmaster

Require a Dockmaster to manage the marine railways, piers, bulkheads, associated equipment and all vessel handling, docking, launchings, and company diving operations. Must be highly self-motivated with knowledge of docking procedures, ship handling, project scheduling and ship design. Knowledge and experience in compliance with EPA, OSHA, USCG and US Navy regulations. Must be proficient in computer applications including CAD. Bachelor's Degree in Naval Architecture or Marine Engineering is required, with 3-5 years' experience preferred. Consideration will be given to those applicants with a Bachelor's Degree in Mechanical or Civil Engineering with extensive ship handling experience.

#### Shipfitter Leaderman

To direct job site production which includes the layout and fabrication of metal structures such as plates, bulkheads, decks and frames in accordance with blueprints, plans, specifications and contractual requirements. Proven proficiency in planning, scheduling, estimating and intercraft coordination is required. Computer proficiency with CAD knowledge is desirable. AS Degree with 3-5 years' shipfitting experience required.

#### Machinery Foreperson

Manage/supervise the daily operations of the Machine Shop at our Mayport Naval Station facility. Must be motivated to ensure quality production in compliance with contract specifications and requirements. Knowledge and experience in compliance with EPA, OSHA, USCG and US Navy regulations. 3-5 years' supervisory experience required. Bachelor's Degree is preferred.

Enjoy a very attractive salary and benefits package that comes complete with health/dental/life insurance, generous paid vacations and holidays, profit sharing and 100% college tuition reimbursement. Interested candidates are invited to send resume indicating position desired and salary details to: Human Resources Manager, Atlantic Marine, Inc./Atlantic Dry Dock Corp., 8500 Heckscher Dr., Jacksonville, FL 32226, fax: 904-251-1579. An equal opportunity employer m/f.

 **Atlantic Marine, Inc.**  
**Atlantic Dry Dock Corp.**  
*Building On Integrity*

#### FULL CREWS NEEDED FOR:

• Offshore Tug Boats • Supply Boats • Utility Boats  
• Crew Boats • Inland Push Boats  
**CALL CHIEF ENGINEER - THOMAS BREWER TODAY!**  
OFFSHORE INTERNATIONAL, INC.  
3925 N. 1-10 Service Road W., Suite 130, Metairie, LA 70002  
Telephone: 504-455-1392 • Fax: 504-454-8866

## Global Challenges. Strategic Solutions.

Sea-Land



The challenge is truly global. And as an unquestioned leader in the international transportation business, it is a challenge that we take up each day. From Rotterdam to Hong Kong, Sea-Land sets the standard in integrated technology, unparalleled service, and unequalled reliability; our powerful infrastructure and state-of-the-art data network connect every major shipping center in the world, giving us power to move almost anything, anywhere. Join us in the following challenging opportunities.

#### Manager, Fleet Repairs

Duties include management of repairs and maintenance of Sea-Land fleet of vessels. Successful candidate should have background in marine engineering and commensurate experience.

#### Port Engineer

Responsible for repair of Sea-Land fleet of U.S. flag vessels. Marine engineering degree and experience required. NOTE: Union membership in District No. 1 MEBA is required for this position so current union members should apply or candidate should be willing to apply for membership.

We are seeking highly skilled individuals with the knowledge, experience and drive to keep us at the top of our industry and improve our business every day. If you have the desire to meet the challenges we can offer, contact Sea-Land now. We offer an attractive compensation and benefits package. Candidates, please send resume and salary history indicating position for which you are applying to: **Sea-Land Service, Inc., Human Resources, P.O. Box 2000, Elizabeth, NJ 07207.** Sea-Land is an Equal Opportunity Employer M/F/D/V and a Drug-Free Workplace.

**SeaLand**

#### CHIEF NAVAL ARCHITECT and SR. NAVAL ARCHITECT

Prestigious naval architectural firm has opening for Chief Naval Architect and Sr. Naval Architect for New York/Washington, DC area. Must have degree in Naval Architecture, advanced degree helpful, and more than 10 years' experience in commercial ship design. Requires knowledge of Regulatory Body Requirements, including USCG, ABS, LR, DNV, IMO, etc. Must be competent in naval architecture, ship design including structures, hydrodynamics, stability, general arrangements, cargo gear, deck machinery, hull outfit, and specifications writing. Capability in CAD and FEA helpful. U.S. citizen. Able to manage technical programs, meet with customers and have executive oral and written communication skills.

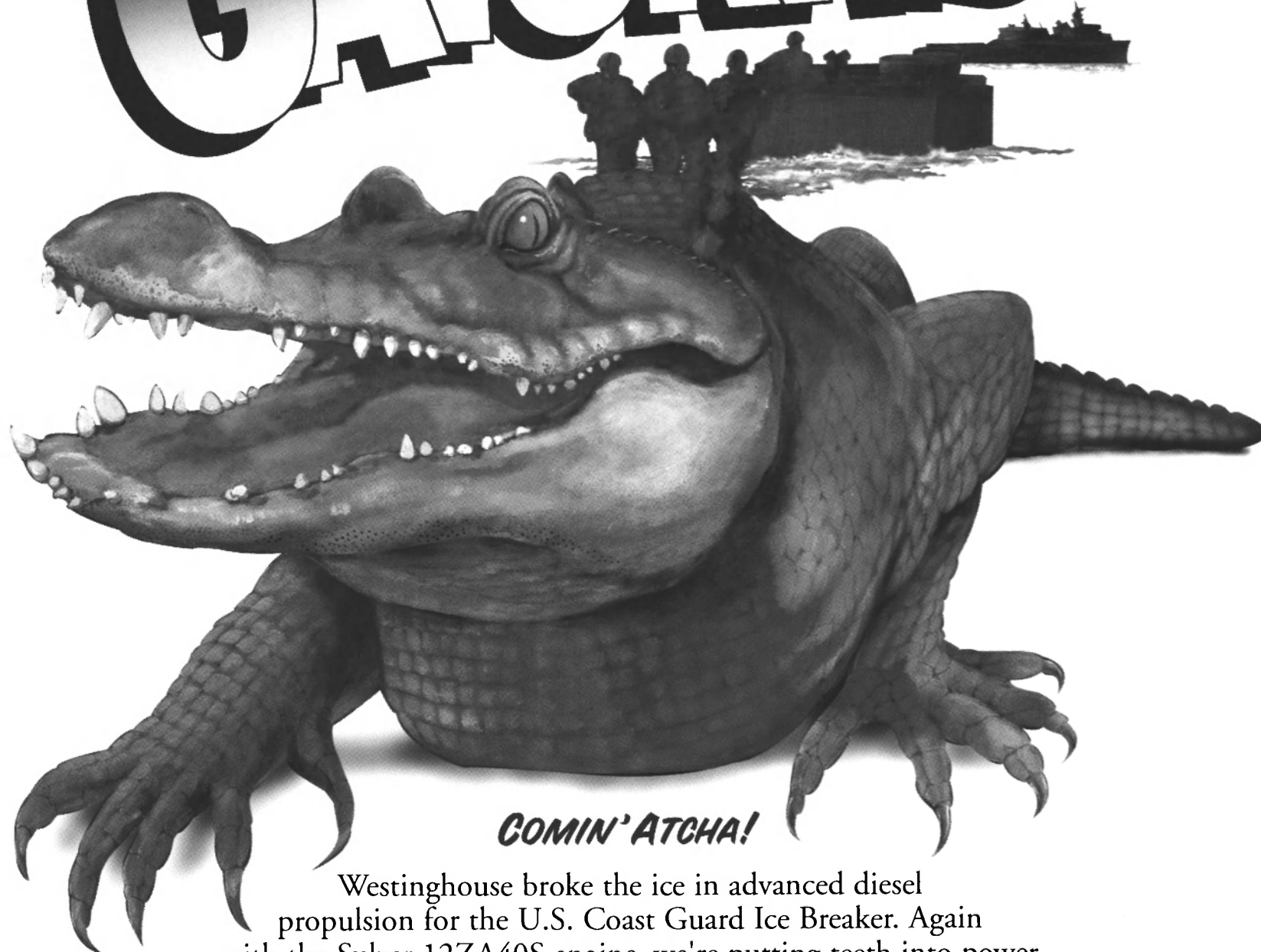
Please send resume to PO Box 1102

#### NAVY AIR COMPRESSORS

We are an established Navy supplier of shipboard air compressors who seek local representation to sell overhaul and repair services. Must regularly call on fleet and shore activities. Immediate need is Pearl Harbor HI, followed in mid-96 by Mayport, FL, Norfolk, VA and San Diego, CA. **Reply: Compressors, PO Box 155, Harwood, MD 20776-0155.**



# THE ULTIMATE GATOR-AID™



*COMIN' ATCHA!*

Westinghouse broke the ice in advanced diesel propulsion for the U.S. Coast Guard Ice Breaker. Again with the Sulzer 12ZA40S engine, we're putting teeth into power for the new Amphibious Transport Dock LPD-17.

**WESTINGHOUSE DIESEL PROPULSION FOR**

**LPD-17**



**WESTINGHOUSE MARINE DIVISION**

Sunnyvale, California

Circle 292 on Reader Service Card

## KARL SENNER, INC. ... WHEN ONLY THE BEST WILL DO



**M/V ELIZA**

Karl Senner, Inc. supplied the M/V ELIZA with Reintjes reverse reduction marine gears, model WAF 3355 - 4.957:1 ratio, vertical offset and four (4) station Rexroth pneumatic controls.

Owner: **Penn Maritime**

Builder: **Moss Point Marine/Trinity Marine Group**

**REINTJES**  
MARINE GEARBOXES

**REXROTH**  
MARINE CONTROLS

**ABB**  
ASEA BROWN BOVERI  
TURBOCHARGER SERVICE

**BERG PROPULSION**  
CONTROLLABLE PITCH PROPELLERS AND BOWTHRUSTERS

**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  
Telex: 58-7383  
Telefax: (504) 464-7528

**EAST COAST**  
Olof Wadehn Enterprises  
30 Sheppard Lane  
Huntington, Long Island  
New York 11743  
Mr. Olof Wadehn  
(516) 692-4548

Circle 26: on Reader Service Card