

**MARITIME
REPORTER**
AND
ENGINEERING NEWS

PASSENGER VESSEL ANNUAL



**Six Largest U.S. Yards Form Association -
Editorial by Duane "Buzz" Fitzgerald,
CEO, Bath Iron Works**



**International
Boatbuilding
Exposition**

**Casino
Riverboat
Review**

JANUARY 1995

International Compactor Incorporated
Proudly Introduces Two Great New Products!



Volume Reductions up to 50:1 with Densification to 25lbs / ft.

Great For
Recycling
& Storage
Reduction!

New
Densification
Equipment!

Economical and environmentally friendly. Densification of plastics, aluminum & metal cans.

BENEFITS-

- Densification to 25 lbs/ft.
- Volume Reductions up to 50:1
- No heat utilized during processing
- No polymer degradation
- No emissions

Available in Four Models — 10P, 20P, 40P & 80P

Our
NEWEST
Trash
Compactor!

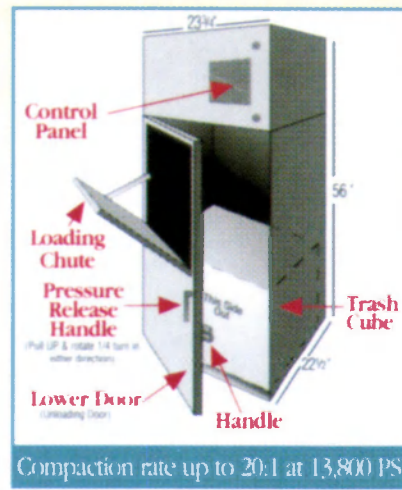


Our Revolutionary New
Mini Trash Compactor!

The All-New **Model MP-4S Mini Compactor!** Small & compact with the crushing power of our larger units. Crushes regular trash, 5 gallon paint cans, #10 cans and just about any type plastic container.

FEATURES-

- Space required, only 4 cubic feet!
- Unit Weight only 475 lbs.
- 3.8 cubic foot capacity, 700 lbs. per hour
- 25 -35 sec. cycle time, 2 stage cylinder
- Chute Door Opening, 19 3/8" X 16 1/2"
- Chamber Size, 20 1/4" X 19 1/4" X 35 3/8"
- Solid state electronics using only UL listed components
- Built-in motor protection with automatic shut-off after 60 seconds
- Stainless steel construction
- Larger units available



Compaction rate up to 20:1 at 13,800 PSI

ACCESSORIES: Container - Solid or Two-Piece Cubes • Bags - 3 Mil Plastic Bags • Strapping - For Baling Cardboard • Bag Holder - Top or side mounted for easy bag access • Oil Sight Bowl - Shows Hydraulic Oil Level When Plate is in the Up Position • Deck Legs - For marine use instead of casters • TrashLift - Winch-Type Hand truck for unloading container • Ejector Strap - Use to eject container or bale from unit • Odor Control - Controls odor inside unit.

**INTERNATIONAL
COMPACTOR
INCORPORATED**

Toll Free 1-800-423-4003

P.O. Box 5918 • Hilton Head Island, S.C. 29938
Telephone: 803-686-5503 • Fax 803-686-3290

AXIS™

Marine Radios



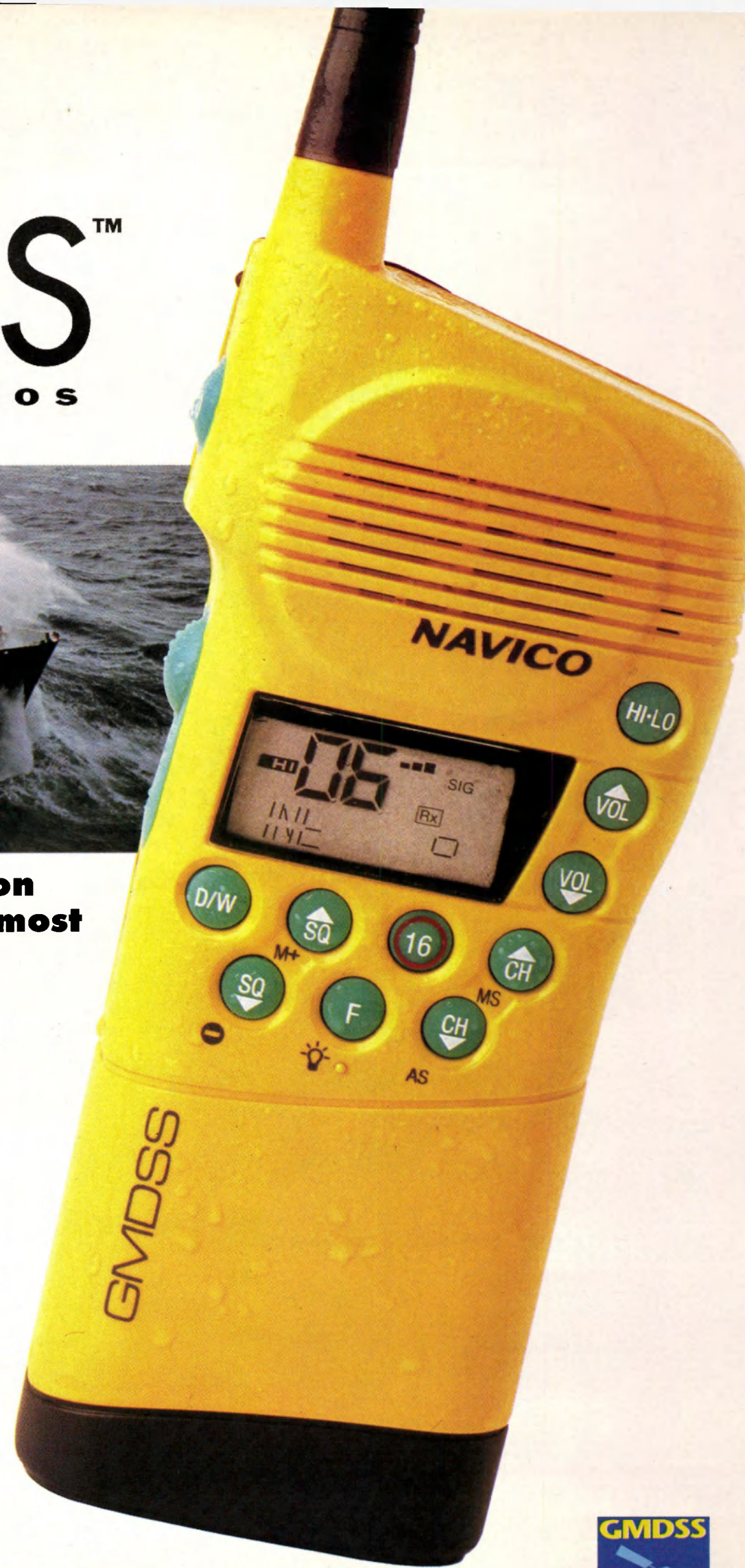
**Communication
when it counts most**



Chosen by coastguards, lifeboat services and world navies, AXIS submersible radios have established a new standard in handheld marine communications. Designed and built to survive the most hostile environments.

Call or fax Navico for complete specifications on the entire line of AXIS VHF radios.

Navico Inc.
11701 Belcher Rd. Suite 128 Largo, FL 34643
Tel: 813 524 1555 Fax 813 524 1355

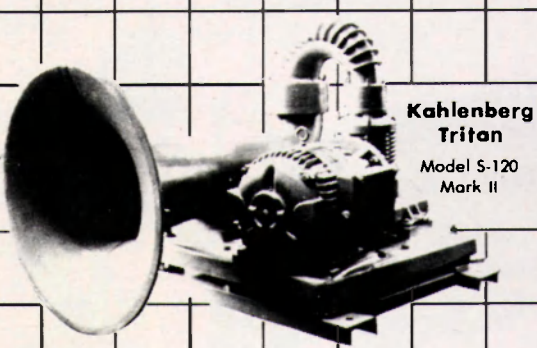


Circle 23 on Reader Service Card


SAVE up to 300 barrels of oil per year!

ELIMINATE THAT OLD STEAM HORN


The Kahlenberg **TRITON** Piston Horn is a unique sound producing unit because it requires no compressed air and no diaphragms yet utilizes air vibrations in a tuned sound column. The unit consists of an electric motor driving a piston with a cylinder similar in appearance to an air compressor. Very economical to operate and install. Write for bulletin. 92C. The KB-20 electric horn is available in 110 volt, A.C. or 24 volt, D.C. for vessels up to 246' in length.



Kahlenberg Triton
Model S-120
Mark II



Kahlenberg
Model KB-20



KAHLENBERG BROS. CO.
1986 Monroe St.
Two Rivers, Wisconsin, 54241 U.S.A.
414-793-4507

Circle 263 on Reader Service Card

ON THE COVER

The January issue of *Maritime Reporter & Engineering News* is dedicated to accomplishments in the passenger vessel segment. This year's selection of outstanding vessels vary widely in style, size and service; ranging from a 59-ft. (18-m) wave-piercing catamaran; to a 245-ft. (74.7-m) riverboat casino; to a 72.6-ft. (22-m) submarine. The binding thread among all of the selections is a dedication to quality, safety and service on the part of the designers, builders, suppliers and owners. The Passenger Vessel Annual starts on page 27.

8

EDITORIAL: The Power Play

Six U.S. shipbuilders have come together to form the American Shipbuilder's Association. Here's a sneak preview of the group's plans.
by Duane D. "Buzz" Fitzgerald, CEO, Bath Iron Works

27

Passenger Vessel Annual

MR/EN reviews some noteworthy passenger vessels delivered in 1994. Also, discover what's new at the Passenger Vessel Association show, including a preview of exhibitor plans.



42

Casino Riverboat Review

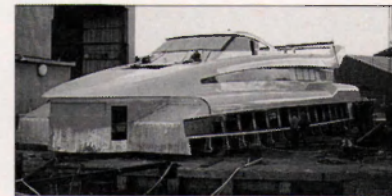
Business prospects are good in this niche market following legislative victories in Indiana and Louisiana.
by Dan Maniotis, Senior Editor



54

European Update

Speed vessels buoy the mid-size market: Vosper Thornycroft starts marketing new FRP hovercraft; FBM TriCat hits 52 knots in sea trials.
by Andy Smith & Carol Fulford, International Editors



14

MARKETS
Romania — The shipbuilding industry helps the country rebound.
by Kathleen Gleaves, Contributing Editor

26

Financial Update

26B

Propulsion Update — Cummins & Wärtsilä enter joint venture.

28

PVA '95

60

IBEX '95

SHOW PREVIEWS

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.

20

DEPARTMENTS

MarAd News
65 Classifieds

20

STATISTICS
Industry Trends

MARITIME REPORTER
AND
ENGINEERING NEWS

118 EAST 25th STREET
NEW YORK, N.Y. 10010
(212) 477-6700

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.

Member
BPA
INTERNATIONAL
Business Publications
Audit of Circulation, Inc.

No. 1 ISSN-0025-3448 Volume 57

Founder: John J. O'Malley 1905-1980

Wärtsilä Wins Gas-Diesel Engine Contracts

In two recent projects, Wärtsilä Diesel has received orders for a total of 12 gas-diesel engines. Four Wärtsilä 16V32GD engines will power a Floating Production Storage and Offloading (FPSO) unit being built by Far East Levingston Shipbuilding in Singapore for Smedvig AS in Norway. The second project involves the conversion of a Russian submarine repair vessel by Golar-Nor/McDermott for the first phase of BP's Foinaven plan in the North Sea.

For more information on Wärtsilä
Circle 166 on Reader Service Card

Port Of Portland Advisor: Find Operator Or Sell PSY

The Port of Portland has been advised by the investment firm of Kidder, Peabody & Company either to sell Portland Ship Yard (PSY), or at least find a global operator for the entire facility, so that the port may "focus on its transportation mission." The executive summary of the report said that since finding a buyer under present market conditions may be difficult, the port should contract with a single operator with a global reach to operate the entire facility.

The recommendation came in a study the port hired the firm to complete. The study and its findings were presented to the Port of Portland Commission by the firm at a public meeting on Dec. 22, 1994. It was stated in the study that the selection of an owner or operator for PSY who could attract business from foreign vessels as well as keeping the business base of U.S.-flag vessels was a key element in the success of the yard. It was also stated that repairing cruise ships could be one possible focus for the yard.

ABS Earns ISO 9001 Certification

The American Bureau of Shipping (ABS) has attained ISO 9001 (1994) quality system certification. The certification is a single, global certificate covering 154 offices around the world, covering all ABS support functions. In addition, two ABS affiliates, ABS Marine Services and ABS Quality Evaluations, Inc. also attained ISO 9001 certification for their operations.

For more information on ABS
Circle 170 on Reader Service Card

Bazan To Build New Ferry

Empresa Nacional Bazan and Compania Buquebus signed a contract for the construction of a new 413-ft. (126-m) fast ferry, built entirely of aluminum, which will operate on the River Plata, between Argentina and Uruguay. Delivery is scheduled for October 1996. The *Alhambra*, the name under which

the new vessel is to be built, will be driven by six Caterpillar engines and five waterjets.

Iversen To Oversee Silversea Cruises' U.S. Operations

Silversea Cruises Ltd. has appointed **Bob Iversen** as managing director, overseeing the company's U.S. operations. **John Bland**, the

current president, will retire.

AWO Takes Lead In Safety

The Board of Directors of the American Waterway Operators (AWO) voted unanimously to establish the AWO Responsible Carrier Program—a comprehensive safety program for barge and towing companies. A significant new initiative the Responsible Carrier Pro-

gram is the fruit of the labor of a specially constituted task force of senior barge and towing industry executives, which dedicated more than eight months to formulating the final plan. The program includes three principal parts: management/administration; equipment/inspection; and human factors. AWO's board of directors set January 1, 1998 as the target date for full member compliance with the Responsible Carrier Program.

IT SHOULD ONLY
TAKE 2 PEOPLE
TO REACH AN AGREEMENT

When you discuss your financing with SAFECO Credit, you talk about your needs with just one representative. One who wants to build a lasting relationship with you and your company. SAFECO is committed to providing individualized customer service, flexible, tailor-made loans and leases and the highest level of credit expertise. We process your requests in a timely fashion because timing can make or break a deal. It's all part of our idea of service, from people with expertise in the business. Contact one of our regional representatives to discuss your short-term goals and long-term aspirations.

Seattle 1-800-241-7476

SAFECO
Credit *What's right.®*

Circle 252 on Reader Service Card

NNS To Develop Construction, Repair Facility In UAE

Tenneco, Inc. announced that its shipbuilding division won a major competition to develop a new shipbuilding and ship repair business in the United Arab Emirates (UAE). The UAE Offsets Group and Newport News Shipbuilding (NNS) signed a letter of intent to develop a new business venture, Abu Dhabi Ship Building Co. (ADSB), for the construction and repair of naval and commercial ships.

Abu Dhabi Ship Building will be located in the Mussafah Industrial Area adjacent to the Mussafah Channel. It will provide repair services for commercial and naval ships operating in UAE and regional waters. New construction capabilities will include commercial tugs, boats, barges and Naval and Coast Guard ships.

The venture will be a public joint stock company, with the UAE's National Investor, 10N, serving as investment advisor and coordinator, and the UAE Offsets Group anticipates that a number of investors from the UAE will be interested in the new company. The investment advisor and coordinator will lead a team which includes the National Bank of Abu Dhabi, Ernst & Young, the UAE law firm Hadeef-Al-Dhahiri and Assoc. and the international law firm Simmons & Simmons.

Newport News Shipbuilding has stated its intention to invest in ADSB. The National Investor is coordinating the initial public offering of stock, which is planned for early 1995.

"It is intended that this new company provide a profitable investment opportunity, with the majority of the shares in the shipbuilding and ship repair business to be held locally," a spokesman for the UAE Offsets Group said. "Other benefits should include the transfer of shipbuilding know-how into the UAE, development of a naturalized shipbuilding workforce, establishment of a local, cost-competitive major refit service for the UAE Naval forces and Coast Guard, as well as civilian operators, and the provision of world-class quality in ship repair and construction." The company's initial focus will be on the ship repair side, expanding to the construction of larger vessels as heavier lift capability and equipment come on line.

For more information on Newport News Shipbuilding Circle 51 on Reader Service Card

NEW VIDEO MOVIE OFFER!



... Guarantees everything you asked for.

-  Guarantees 1st run, top ranked,* newly released video movies delivered to your ship within 45 days of video release date.
-  Guarantees, if a delivery contains a movie presently on board, we will replace it with a new movie at no extra charge.
-  Guarantees UPS delivery anywhere in the USA, direct to your ship.
-  Guarantees fully licensed for shipboard public viewing.
-  Guarantees lower prices than video stores.
-  Guarantees your video selection and shopping problems are over!
-  Guarantees all tapes supplied NEW and of high quality duplication.
-  Guarantees tapes may remain in ship's library for up to 2 years.

Call, write or fax for full details:

WUSA
WALPORT USA

840 Bond St. • Elizabeth, NJ 07201
1-908-527-1223 • Fax: 908-527-8772

*As selected by the movie going public

Circle 24 on Reader Service Card

Shipbuilders Announce Incorporation Of American Shipbuilding Association

Six of the U.S.'s largest shipbuilding companies — employing more than 90 percent of the U.S. workers involved in ship construction — have formed a new, Washington, D.C.-based industry group, the American Shipbuilding Association (ASA). (See related editorial, page 8)

The founding members of the group include: Avondale Industries, New Orleans; Bath Iron Works, Bath, Maine; General Dynamics, Electric Boat Division, Groton, Conn.; Ingalls Shipbuilding, Pascagoula, Miss.; National Steel and Shipbuilding Co. (NASSCO), San Diego; and Newport News Shipbuilding, Newport News, Va. ASA members are the largest private employers based in Virginia, Mississippi, Maine and Louisiana, and among the largest in both Connecticut and California. Together through ASA, the companies will work to focus public and government attention on the need for additional action to preserve America's capability to build major naval vessels and large oceangoing commercial ships.

ASA members build all of the U.S. Navy's major combatant ships and large auxiliary ships, including: nuclear powered aircraft carriers; amphibious assault ships; amphibious landing ships; attack submarines; fast

ammunition supply ships; fleet oilers; AEGIS guided missile destroyers; strategic ballistic missile submarines; and strategic sealift ships.

The Navy shipbuilding budget, as has been well recorded, has sharply declined in recent years. ASA members are implementing aggressive cost reduction programs and working to re-enter commercial markets in order to help sustain the unique defense capabilities their shipyards and skilled workers possess. ASA elected officers for 1995 include: **Albert L. Bossier, Jr.**, CEO of Avondale; **Duane D. "Buzz" Fitzgerald**, CEO of Bath Iron Works; **Jerry St. Pe**, CEO of Ingalls Shipbuilding; **W.R. "Pat" Phillips**, CEO of Newport News Shipbuilding; **James E. Turner, Jr.**, CEO of General Dynamics Electric Boat Div.; and **Richard H. Vortman**, CEO of NASSCO.

For additional information on American Shipbuilding Association members, circle the corresponding number on the Reader Service Card in this issue.

Avondale	45
Bath Iron Works	46
General Dynamics, Elec. Boat Div.	47
Ingalls Shipbuilding	48
NASSCO	49
Newport News Shipbuilding	50

Krupp MaK Wins Engine Orders For Container, Cargo Vessels

Krupp MaK of Kiel, Germany received an order to supply engines for a series of five container vessels owned by Elite Shipping I/S. The engines are for 5,400-dwt vessels which measure 320 ft. (100 m), with a capacity of 650 TEU. The vessels will be built by Aarhus Flydedock A/S. The 8M 552C type engines to be used on the ship operate on heavy fuel and have an output of six MW. The engines will be delivered continuously between spring 1995 and the beginning of 1996. Krupp MaK also received an order for four propulsion engines of the M32 type for a series of four seagoing dry cargo vessels owned by Russian Shipping AS of Stavanger. The vessels will be built by the Russian shipyard OKA in Navaschino, and each will be equipped with one propulsion engine model 8M32, with an output of 3.5MW.

For more information on Krupp MaK Circle 53 on Reader Service Card

Raytheon To Buy Anschutz Marine Navigation Business

Raytheon Co. has entered into an agreement to buy the marine navigation business of German-based Anschutz & Co., GmbH.

Terms of the transaction were not disclosed. Raytheon expects to complete the acquisition, which is subject to German government approval, by early this year.

Located in Kiel, Anschutz is a leading maker of gyrocompasses, autopilots and steering control systems for the commercial and military marine market. Anschutz will become part of Raytheon Marine Co., a \$140-million marine electronics company which sells to the merchant shipping, commercial fishing, recreational boating and government markets worldwide. The new organization will also provide complete integrated ship navigation systems for the commercial shipping fleet, including autopilots, gyrocompasses and radars.

For more information on Raytheon Circle 56 on Reader Service Card

Maritime Reporter/Engineering News

MARITIME REPORTER AND ENGINEERING NEWS

118 E. 25th St.
New York, N.Y. 10010
tel: (212) 477-6700
fax: (212) 254-6271

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

EDITORIAL
Editorial Director: Charles P. O'Malley
Managing Editor: Greg Truthwein
Senior Editor: Dan Manolis
Editorial Consultant: James E. McCaul
International Editors: Graeme MacLennan
Alan Thorpe
Carol Fulford
Andy Smith

PRODUCTION
Production Manager: Patricia Kennedy
Asst. Production Manager: Joa Wansmaker
Circulation Manager: Dale L. Barnett

SALES
International Sales Manager: Daniel A. Arnold
Regional Sales Manager: Lucia Annunziata
Classified Sales Manager: Susan Cosmo

Representatives

U. S. Gulf States
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-27124 Ystad, Sweden
Telephone: 46 411-38400
Telefax: 46 411 10531

United Kingdom
MR. MICHAEL J. DAMSELL
Euromedia Ltd.
P.O. Box 122
Hayward's Heath
West Sussex RH16 1JP ENGLAND
Telephone: 0444 417360
Telefax: 0444 417360

Italy
Ediconsult Internazionale
Piazza Fontane Marose,
3-16123 Genova, Italy
Telephone: (010) 583684
Telefax: (010) 566578
Telex: 281197 EDINT I

Korea
MR. C.H. PARK
Far East Marketing Inc.
Room 1310, Golden Towers Bldg.
191 ZKA Choongryngno
Seodaemeeun-ku
Seoul, Korea

Subscriptions: One Full year (12 issues)
\$18.00 in U.S.; Outside of U.S. \$96.00
including postage & handling. For sub-
scription information contact Dale Barnett,
fax: (212) 254-6271.

Bondareff Named To MarAd Chief Counsel Post

Maritime Administrator **Albert J. Herberger** announced the appointment of **Joan M. Bondareff** as the Maritime Administration's chief counsel. She will also serve as a member of the Maritime Subsidy Board. **Joan Bondareff** brings a

unique perspective and broad experience to MarAd during this critical time for the American maritime industry," Mr. **Herberger** said.

Her strong maritime background, legal experience and Capitol Hill service will be extremely beneficial to the agency and the maritime industry.

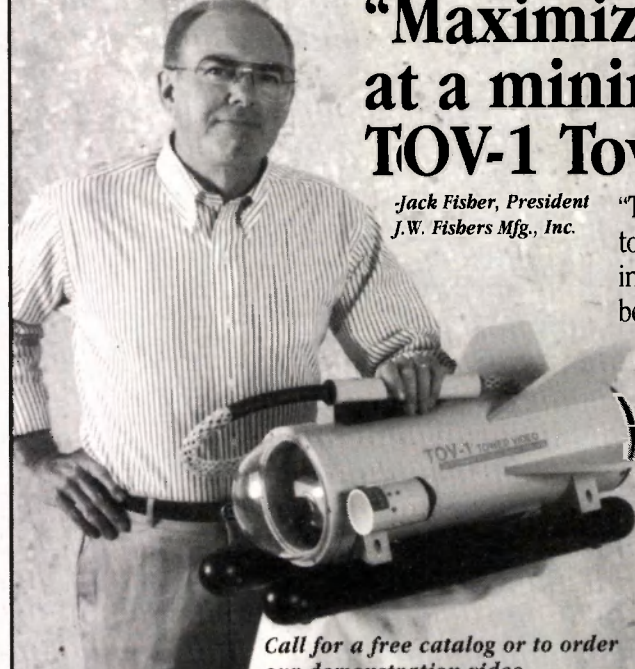
Prior to joining MarAd, she was senior counsel to the House Merchant Marine and Fisheries Committee. In that position, she devel-

oped and drafted legislation on a wide range of ocean, coastal and maritime issues, including maritime reform and shipbuilding support legislation.

Ms. **Bondareff** spent more than 11 years in various professional staff positions at the Department of Commerce's National Oceanic and Atmospheric Administration.

From 1982-87 she served as assistant general counsel for Ocean Services.

"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." Under \$4,000


J.W. Fishers Mfg., Inc.
65 Anthony Street, Berkely, MA 02779 USA
(800)822-4744 Tel. (508)822-7330
FAX: (508)880-8949 or 822-1931

Pulse 8x




\$1,145

DHC-1




\$3,195

SSS-100K



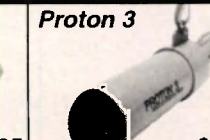
\$26,995

Sea Otter



\$17,995

Proton 3

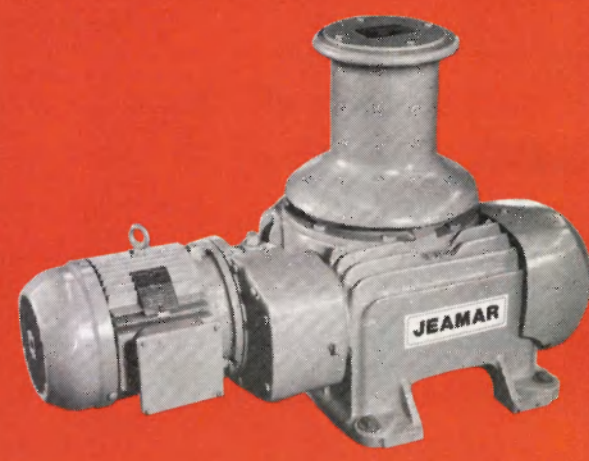


\$7,895

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

Circle 217 on Reader Service Card

HEAVY DUTY CAPSTAN WINCHES



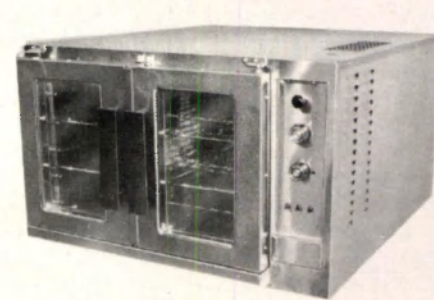
- DIRECT DRIVE
- HIGH STARTING LINE PULLS
- ROPE CAN COME OFF AT ANY ANGLE
- EIGHT SIZES AVAILABLE

CAN BE ELECTRICALLY-HYDRAULICALLY OR AIR POWERED

JEAMAR WINCHES INC.
1051 Clinton St., Buffalo, N.Y. 14206
TEL (716) 854-3211 FAX (716) 854-4141

Circle 223 on Reader Service Card

Marine Tough.



Lang marine convection ovens are built to last with stainless steel interiors and exteriors, hatchable to 26" x 66" and UL 197 tested and listed to include the marine supplement per U.S. Coast Guard regulation CFR 46 111.77-3. Available in standard and extra deep sizes.

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

lang

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

Circle 226 on Reader Service Card

American Shipbuilding Association

Yards take action today to ensure the U.S. shipbuilding capability tomorrow

by Duane "Buzz" Fitzgerald, CEO, Bath Iron Works

The six largest shipyards in the U.S. formed the American Shipbuilding Association (ASA), a new Washington, D.C.-based industry trade association. The six yards include Avondale, Bath Iron Works, General Dynamics' Electric Boat Div., Ingalls Shipbuilding, National Steel and Shipbuilding, and Newport News Shipbuilding.

The ASA will work to focus public and government attention on the need for additional action to preserve America's capability to build major naval ships and oceangoing commercial vessels.

Among them, ASA member shipyards build all of the U.S. Navy's complex combatant ships and large auxiliary ships including: AEGIS guided missile destroyers; aircraft carriers; amphibious assault ships; amphibious landing ships; attack submarines; fast ammunition supply ships; fleet oilers; strategic ballistic missile submarines; and strategic sealift ships.

The Navy shipbuilding budget has dramatically declined in recent years.

ASA members have taken steps to restructure operations and re-enter commercial markets.

Doing so can help sustain the unique defense industrial base capabilities that the ASA member shipyards and skilled workers possess.

Prior to the November 1994 formation of the ASA, the six largest U.S. yards had relied primarily on the Shipbuilders Council of America (SCA) to represent its namesake industry to the public and our national leaders.

In addition to the major Navy shipbuilders, the SCA membership has included a number of smaller firms engaged primarily in ship repair, the building of coastal and inland waterway commercial vessels, and the building of smaller, mostly non-combatant, naval vessels and craft.

The interests and policy objectives of the large new construction yards and those of the smaller yards and repair firms have grown increasingly different as conditions in the industry have changed in the post-Cold War period.

U.S. shipbuilding yards must find

ways to re-enter the world market for commercial ships, a market that almost completely disappeared for U.S. yards and suppliers when our government terminated the Construction Differential Subsidy (CDS) program without corresponding action by our trading partners.

The response by our trading partners to the end of CDS in 1981 was not to follow suit and end their direct subsidy programs. Instead, they expanded their ship construction and shipyard infrastructure subsidies.

They have dominated the market for more than a decade. In that time, they have become highly proficient at constructing commercial ships.

The case for preserving the defense shipbuilding industrial base has not been made in recent years with clarity.

The member yards of the American Shipbuilding Association confront a very different challenge: to retain the unique capability to design and construct complex Navy ships. We must diversify our businesses and adopt the best practices of commercial shipbuilding while also preserving those skills, systems and business practices that are essential and unique to the design and construction of complex ships for the U.S. Navy.

Preserving elements of our shipbuilding industrial base will mean little if we are unable to preserve and advance the capability and tech-



Duane "Buzz" Fitzgerald

nology to design and build ships critical to our national defense.

ASA member companies have actively supported recent government efforts to revitalize commercial shipbuilding — the expanded Title XI loan guarantee program, MARITECH matching funds for commercial shipbuilding technology development, and negotiation of an international agreement on shipbuilding subsidies.

American Shipbuilding Association member companies appreciate the efforts of the Clinton Administration and the Congress to revitalize commercial shipbuilding in the last several years. But we contend that the magnitude of the challenge our industry confronts has not yet been fully understood or addressed.

Foreign shipbuilders have an enormous advantage as measured by the small number of labor hours they expend to build large oceangoing ships.

The advantage has been established and sustained, because of their access over many years to a wide mix of major support programs from their governments. The OECD Agreement on

Shipbuilding does not solve the problem.

The proposed agreement permits foreign governments to continue to subsidize commercial ship prices another four years and to provide shipyard infrastructure assistance indefinitely.

American Shipbuilding Association members have advocated temporary government support to level the playing field to make the necessary transition.

Twice in the last session of Congress, the U.S. House of Representatives passed — by overwhelming margins — legislation that contained such a program, the Series Transition Payments (STP) program.

Unfortunately, the Administration chose to oppose the program and the Senate was unable to act.

The situation was not helped when some of the smaller U.S. yards chose during last session's Congressional debate to argue that a STP program was not necessary and that an OECD Agreement (apparently in any form) combined with Title XI loan guarantees would more than adequately level the playing field in commercial shipbuilding.

As reflected and conveyed through the Shipbuilders Council of America, especially last year, our industry has not spoken with one voice. Great confusion has ensued.

Our industry's interests, and, we believe, the national interest, were poorly served because of that.

The ASA member companies, employing more than 90 percent of U.S. shipbuilding workers, believe that the only way to preserve this country's capability to build warships is to preserve the major Navy shipbuilding yards through continued Navy programs and more focused policy action to assist us in achieving a re-entry into the international commercial market. Neither element alone will sufficiently maintain this nation's vital defense shipbuilding industrial base, or its unique capabilities.

Re-entering the commercial market is key.

We must do that in order to preserve the skills to design and build warships into the next decade at the low production rates that already characterize the status of naval shipbuilding.

Diversification into commercial shipbuilding will help keep the costs of naval ships affordable, despite low production levels.

It isn't a choice of building warships or commercial ships. We must preserve the capability to do both.

It isn't a choice of building warships or commercial ships. We must preserve the capability to do both.

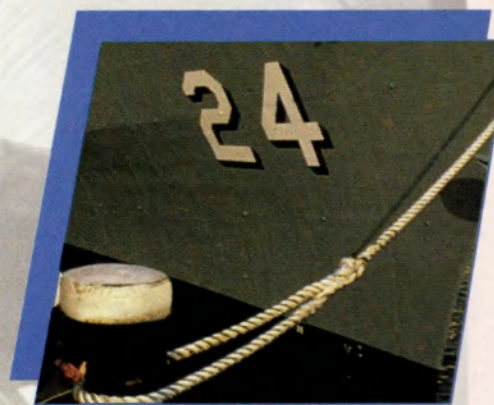
A Commonly Asked Question From Our Readers



Q. Is there a difference between Dacron® and polyester fibers for ropes and cordage?

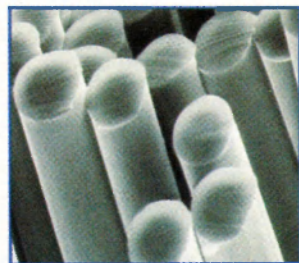


A. *Dacron is nothing more than a trademark indicating the source for that polyester material.*



Technically, all polyester (including Dacron polyester) is made from the polymerization of a dicarboxylic acid ester with ethylene glycol, a dihydroxy alcohol.

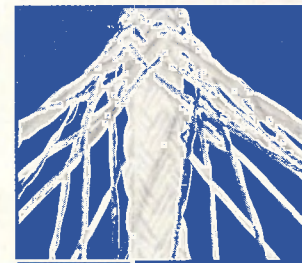
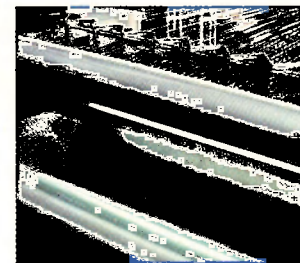
The key difference is in the engineering of the fiber for the



application. All polyester offers great flexibility in manufacturing. This is exemplified by AlliedSignal Fibers application-oriented line of polyester products. Polyester can have ultra-low elongation (for heavy lifting applications), high modulus (for tires), or low shrinkage (for broad woven fabrics).

At AlliedSignal Fibers, we pride ourselves on a history of supplying solutions to a customer's specific application. Our polyester for ropes and cordage is engineered to be cost-effective and provide the

optimal properties required for the wet environment. And, our revolutionary SeaGard® overfinish ensures the ultimate performance and protection against wet abrasion for polyester, as well as nylon.



When considering any type or brand of polyester, be aware of the

engineered properties required for your application. The more important question is: which polyester is the best engineered product for the specific application?

For further information, contact AlliedSignal Fibers, 224 West 35th Street, Suite #1500, New York, NY 10001.

AlliedSignal
FIBERS

Circle 200 on Reader Service Card

©1994 AlliedSignal Inc.

Dupont Names Wintzer To Market Corian

Dupont Corian has appointed **Peter Wintzer** of Interior Marine AB as consultant, with responsibilities to market and promote the Corian product range to the marine industry. Corian solid surface material is suitable for use in cruise liners (both newbuilds and refurbishments), conventional and fast ferries, casino and excursion boats, naval ships, megayachts, power and custom-built boats.

For more information on Dupont
Circle 71 on Reader Service Card

Wilkes Named Texaco VP

Lester A. Wilkes has been appointed vice president of Manufacturing Reliability for Texaco USA, effective Dec. 1, 1994. Mr. Wilkes is returning to Texaco after six years with Star Enterprise, most recently as president and CEO. Star Enterprise is a 50/50 joint venture between subsidiaries of Texaco and Saudi Aramco that refines, distrib-

utes and markets petroleum products under the Texaco trademark in 26 East and Gulf Coast states and the District of Columbia.

For more information on Texaco
Circle 74 on Reader Service Card

Moquin Named King's National Sales Manager

Ronald J. Moquin has been appointed national sales manager for King Engineering Corp., Ann Arbor, Mich. He will serve as a liaison between the factory and King's technical representative/distributor network in 40 cities. King Engineering specializes in the design and manufacture of tank level gauging systems and instrument grade compressed air filtration systems.

For more information
Circle 73 on Reader Service Card

Carroll Becomes TMM's Liner Services Director

Transportacion Maritima Mexicana SA de CV (TMM) an-

nounced the appointment of **Lee S. Carroll** as liner services director. Mr. Carroll joins TMM from Sea-Land Service, Inc. where he was vice president and general manager for the Caribbean and Central America division since 1992. He joined Sea-Land in 1965. Mr. Carroll succeeds **Luis Goya**.

OMI Receives Safety Certificate From DNV

OMI Corp. has become one of only two U.S. shipping companies to receive Det Norske Veritas' (DNV) Safety and Environmental Protection Certificate. In a presentation at OMI's New York headquarters, **Helge Dan Tangen**, vice president and head, division Americas of DNV, presented **Jack Goldstein**, president and CEO of OMI, with the certificate.

NRC's Smith, Ives Join American Marine

John Ives and **Gerald P. Smith**, both formerly of National Response

Corporation (NRC) of Calverton, N.Y., have joined American Marine Corporation (AMC) of Ossining, N.Y.

— Mr. Ives as executive vice president and Mr. Smith as the company's marketing vice president.

American Marine Corp. is a full-service, level E provider of OPA 90 response coverage. In addition to oil and hazardous waste containment, cleanup, temporary storage and disposal, the company supports a range of industry needs in marine salvage, emergency lightering, marine firefighting, diving and emergency towing.

Seay Elected Tidewater VP

Tidewater Inc.'s board of directors has elected marine division executive **Austin M. Seay** as vice president. Mr. Seay manages the company's marine operations in the Asian Pacific, and is responsible for a fleet of approximately 45 vessels operating in 10 countries. Mr. Seay joined Tidewater in 1978, and has managed foreign operations for Tidewater in Mexico, Venezuela, China, the North Sea, Scotland, Egypt and Brazil.



**Interior Buildouts
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 253 on Reader Service Card

Alden SATPHONE
The Affordable Satellite Telephone



Think Of It As A Phone Booth That Goes Anywhere.

The Alden SATPHONE lets you call any telephone in the world, no matter where you are. It uses the worldwide Inmarsat-M satellite system to provide you with high quality, private voice, fax and data communications. New technology makes it about half the cost and half the antenna size of older systems, so it's ideal for boats as small as 35 feet. A portable briefcase model is also available. You can trust Alden's 45 years of marine electronics and satellite communications experience to provide the best value for the money.



To stay on top, you have to stay in touch. Call on the Alden SATPHONE. For details call 800-225-9492 ext. 2203

ALDEN ELECTRONICS
40 Washington Street Dept. 76
Westborough, MA 01581-0500 USA
Phone: 508-366-8851 Fax: 508-898-2427



Briefcase Model Available in some areas.

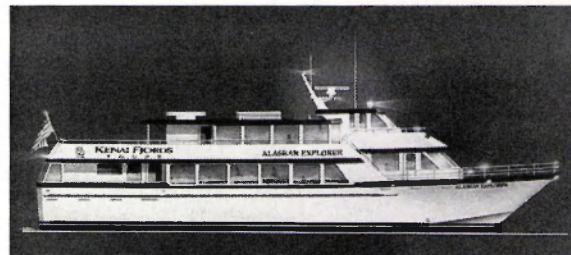
Circle 252 on Reader Service Card

Westport To Build Kenai Fjord Tours Boat

Kenai Fjord Tours, which hosts day excursions out of Seward, Alaska, to Kenai Fjords National Park, will take delivery of a new, 100-ft. (33-m) by 23-ft. (7-m) boat built by Westport Shipyard in the spring. The vessel was designed by Jack Sarin, Naval Architects of Bainbridge Island, Wash. and the 149-passenger boat will be U.S. Coast Guard-certified for coastwise service.

The vessel is based on a Series 9500 high speed hull (fiberglass construction with Airex/PVC core and fire retardant resin), which has been tank tested to 45 knots. However the *Alaskan Explorer*, as the boat will be named, will be powered by 3512 DITA Caterpillar engines — driven through 2.5449:1 ZF marine gears and developing 1,750 hp at 1,800 rpm — to a top speed of 28 knots. Features to be incorporated in to the vessel include Twin Disc's Power Commander engine controls with monitors at two control

stations. Ride control involves the Koop Nautic Sea Rocq 2030 system, a system from The Netherlands which reduces roll and corrects for listing, and incorporates electronic gyro, AVA sensor and 9.5-sq.-ft. fins. The exterior arrangement is designed to allow easy passenger movement between decks, and the plan will



allow more passenger on deck when the vessel tours the glaciers and bird rookeries found in the park.

For more information on Westport Shipyard
Circle 5 on Reader Service Card

Alaskan Explorer Particulars

Owner	Kenai Fjord Tours
Builder	Westport Shipyard
Architect	Jack Sarin, Naval Architects
Length	100 ft. (33 m)
Width	23 ft. (7 m)
Main engines	Caterpillar
Gears	ZF
Stabilizer system	Koop Nautic
Bowthruster	Wesmar
Generator	Northern Lights
Air compressor	Grainger
Seats	Eknes Industries

Imodco Wins Contract To Supply Buoy System For Tanker Mooring

Calabasas Hills, Calif.-based Imodco Inc. won a contract from the Korean Petroleum Development Group (PEDCO) to supply a buoy system for installation near Pusan, S. Korea. PEDCO is the S. Korean government agency which stores petroleum reserves. According to Imodco, installation of the company's system for PEDCO, the seventh supplied to S. Korea by Imodco, will be complete in February.

The Catenary Anchor Leg Mooring (CALM) system is a self-contained offshore marine terminal which reportedly provides flexible, economical and reliable means for both mooring and transferring the fluid cargo of very large vessels. Once moored, the vessel is able to load or discharge its cargo while freely responding to wind, wave and current forces.

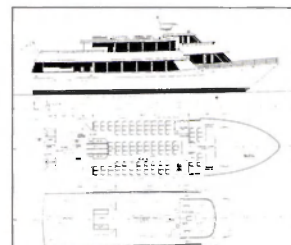
For more information on Imodco
Circle 57 on Reader Service Card

BethShip Gets ISO 9002 Certification

Bethlehem Steel's BethShip Div., Sparrows Point Yard, has become the first East Coast ship repair yard to be certified to ISO 9002, said David Watson, division president. "With the recent and projected reductions in the defense budget and the resultant halving of the Navy's 600-ship fleet, there is not enough Navy work to go around," he said. "The competition for the Navy work that remains has been and will continue to be fierce."

Therefore, in addition to remaining an outstanding shipyard for U.S. Navy and domestic ship repair, BethShip has increased its focus on the international commercial repair market."

For more information on BethShip
Circle 54 on Reader Service Card



THE NAVIGATOR

A High Precision ECS/DGPS System

The Navigator is the DGPS ChartViewer of the 90's. With 10 ft. accuracy when supplied with its 12 channel differential receiver, our detailed chart displays your precise movement directly on the screen.

- Shows all Depth Markings & Bottom Contours.
- Add/Delete Nav aids.
- Worldwide Navigation Database.
- Chart Update Program.
- Voyage Recorder.
- Automatic Beacon Selection.
- Vessel Traffic Surveillance Capability, ADS.
- Portable Pilot Pack Version.



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.

Electronic Marine Systems, Inc.

800 Ferndale Pl. • Rahway, New Jersey • 07065
908•382•4344 fax 908•388•5111

Circle 214 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 Center

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

Circle 213 on Reader Service Card

NNS's Waryas Previews Double Eagle Tanker At SNAME Meeting

Edward A. Waryas of Newport News Shipbuilding (NNS) presented a paper on NNS's re-entry into commercial shipbuilding at the second meeting of the New York Metropolitan section of the Society of Naval Architects and Marine Engineers (SNAME), held on Oct. 27, 1994 at the Whitehall Club in New York City. The meeting began with the award of certificates of appreciation for service on various committees to **Allen Chin, Philip B. Kimball, Walter M. Maclean, Frank H. Sellars and Lawrence W. Ward.** The guest of honor for the meeting was **Thomas Jones Jr.**, a SNAME member since 1952.

Mr. Waryas's technical presentation, *Newport News Shipbuilding's Re-Entry into the Commercial Shipbuilding Market*, detailed how NNS — which has built only military vessels for the last 15 years — achieved the letter of intent for two Double Eagle tankers for Eletson Corp. of Piraeus, Greece,



An Oct. 27 SNAME meeting featured a presentation on Newport News Shipbuilding's strategy in re-entering the commercial market. From left to right: **William Peters**, section treasurer; **Jan Ziobro**, chairman, Papers Committee; **Richard Rodi**, section chairman; **Edward Waryas**, author; **Alfred Bozzuffi**, section vice chairman; and **Christopher Reyling**, section secretary.

including design development and marketing strategy. Mr. Waryas also offered hints as to what was soon to come — the actual contract signing, which took place a mere four days after Mr. Waryas' presentation, on Oct. 31. The contract is the first commercial ship order placed with a U.S. yard by a foreign owner since 1957.

New Cruise Ship To Be Called Costa Victoria

The new 75,000-ton cruise liner being built for Italy's Costa Crociere by four companies in the Vulkan Group will be named *Costa Victoria*, according to **Nicola Costa**, chairman and CEO of Costa Crociere. Construction work on the ship is

currently on target, with the delivery scheduled for June of 1996. Vulkan Group members Bremer Vulkan Werft, Schichau Seebeckwerft, Lloyd Werft and STN Atlas Elektronik are building the luxury liner under joint responsibility.

For more information on the Bremer Vulkan Group
Circle 59 on Reader Service Card

Austal Wins \$28 Million Ferry Order

Leading aluminum shipbuilder Austal Ships has confirmed an order for a \$28 million, 193.6-ft. (59-m) "Auto Express" vehicle-passenger ferry to operate in the Baltic Sea, from Hebrides Ship Ltd. of Vanuatu.

The vessel will be chartered to EMINRE AS, an Estonian joint venture company, to operate on its Tallink Express fast ferry service — replacing the Russian-built hydrofoils currently operated on the service.

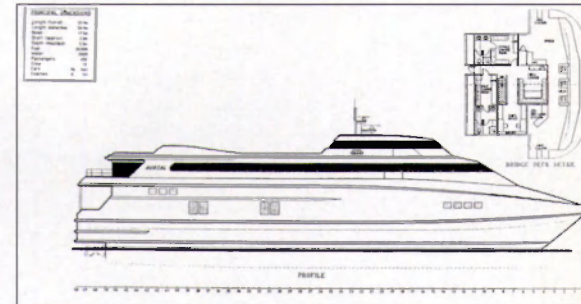
The Estonian vessel will be a smaller version of the "Auto Express 79," the 260-ft. (79-m) vehicle passenger ferry currently under construction at Austal for Sea Containers Ltd. of the U.K. Principal dimensions of the new vessel are 196.5 ft. (59.9 m), with a molded beam of 55.8 ft. (17 m), molded depth of 18 ft. (5.5 m), and maximum hull draft of 6.6 ft. (2 m). Total deadweight of the vessel will be about 180 tons.

Propulsion will be by a pair of the latest V20 MTU 1163 engines, each developing 6,500 kW and driving KaMeWa waterjets.

Production of the vessel commenced in December 1994 at Austal's new \$18 million shipbuilding facilities on the Jervoise Bay waterfront, and will be delivered in November 1995.

"During the recent negotiations, Austal was very aware of the tragic accident involving the conventional Baltic ferry *Estonia*," said Austal Ships' Managing Director **John Rothwell**. He further explained

that catamarans have significant reserves of stability and furthermore, the car decks are located high above the waterline on the bridge deck structure between the hulls. "It is highly unlikely that such a car deck could become flooded, and if it did, it would not adversely affect stability,



with any entrained water simply flowing overboard," he said.

Stability of the vessel and passenger comfort will be further enhanced by Austal's fully computerized "Ocean Leveller" stabilizing system. This system was developed by Austal in conjunction with the Australian Maritime Engineering Co-operative Research Centre, and greatly reduces a vessel's vertical motion in rough sea conditions.

For more information on Austal
Circle 34 on Reader Service Card

Carrier Transicold Lands Three Major Orders

National Steel and Shipbuilding (NASSCO), Bremer Vulkan Shipyard and Kvaerner Masa Shipyard have awarded contracts totaling nearly \$8 million to Carrier Transicold's Marine Systems Group.

NASSCO chose Carrier to supply more than \$4 million worth of marine air conditioning and ship stores refrigeration for the new Sealift Ship construction program for the Military Sealift Command. Carrier Transicold will supply 35 marine centrifugal chillers and 14 refrigeration plants to a total of seven ships over the next several years.

Each shipset of equipment will include five 435-ton Marine 19XL centrifugal chillers with HFC refrigerant R-134a, which has a zero Ozone Depletion Potential. The 35 units, with special marine features, meet U.S. Coast Guard and ABS requirements.

Bremer Vulkan Shipyard of Bremen, Germany, placed a \$2 million-plus order for custom-designed 17-Series Centrifugal Chillers, also with R-134a, to be installed on a new Costa Cruise Lines ship.

Carrier Transicold was also chosen by Kvaerner Masa Shipyard, in Turku, Finland, to supply four marine 19XL centrifugal chillers with R-134a for a new cruise ship ordered by Laeisz Lines of Germany.

For more information
Circle 58 on Reader Service Card

GOLTENS — 'ROUND THE CLOCK, 'ROUND THE WORLD.

FUEL EQUIPMENT REPAIR

Fuel equipment needs constant attention. 'Round the clock, 'round the world, Goltens will save you valuable time and money. At Goltens, our trained experts use special testing and repair equipment as well as a huge inventory of replacement parts to help minimize your downtime. So if you have problems associated with your fuel equipment, count on Goltens. We'll do the job right away...and we'll do it right.

Goltens WORLDWIDE

Oslo (47-22) 68 90 80
 Hong Kong (852) 7550161 • Dubai (971-4) 341642
 Shanghai (86) 21 4811721 • Singapore (65) 8 61 52 20
 Rotterdam (31-10) 4 16 79 00 • Jakarta (6221) 640 8091
 Wilmington, CA (310) 549-2650 • Miami, FL (305) 576-4410
 Fairhaven, MA (508) 993-2631 • New York, NY (718) 855-7200

Circle 216 on Reader Service Card

Sperry Plans Joint Venture With Chinese Company

A delegation from China recently visited Sperry Marine in Charlottesville, Va. to draft a letter of intent between Sperry and Shanghai Marine Instrument Co. This was the planned next step in joint venture negotiations that Sperry Marine Chairman **John F. Lehman** initiated earlier this year in Beijing.

The joint venture will permit Sperry to build on the company's recent commercial sales and manufacturing progress and make available the advanced quality and high technology products manufactured in Sperry Marine's Charlottesville plant in the expanding Chinese maritime navigation equipment market.

For more information on Sperry
Circle 60 on Reader Service Card

British Maritime Technology Enters Technical Merge Agreement

British Maritime Technology Ltd. (BMT) and the Defense Research Agency (DRA) entered a long-term agreement to merge and jointly operate their technical resources for the hydrodynamic modeling of ships, underwater vehicles, marine structures and other specialized applications. The joint operation will include all hydrodynamic model making, measurement and analysis, will be centered on the DRA Haslar site at Gosport (Hants) and will be operated as the Haslar Hydrodynamic Test Center.

Under the agreement, a combined specialist team will manage and develop the comprehensive hydrodynamic testing facilities at DRA Haslar which will be supplemented by the relocation of hydrodynamic test equipment operated by BMT at Teddington.

For more information on BMT
Circle 66 on Reader Service Card

Seaward Awarded \$3.32 Million Contract To Operate, Maintain Air Force Vessels

Seaward Services, Inc. was awarded a five-year, \$3.32-million federal prime contract by the 325th Contracting Squadron of Tyndall Air Force Base to provide for the operation and maintenance of three 120-ft. (36.5-m) high speed missile retrievers and two 24-ft. (7.3-m) range clearance vessels. Seaward Services provides a variety of marine, engineering and technical support services to the Naval Surface Warfare Center (Ft. Lauderdale, Fla.), the Naval Undersea Warfare Center (Newport, R.I.) and the U.S. Environmental Protection Agency (Chicago).

For more information on
Seaward Services
Circle 63 on Reader Service Card

ABS In Agreement With USCG On Passenger Vessels

The American Bureau of Shipping (ABS) entered into an agreement of cooperation with the U.S. Coast Guard (USCG) to facilitate satisfactory control verification examination of foreign-flag passenger ships — ABS-class ships carrying more than 36 passengers — which

intend to trade in U.S. territorial waters.

"This is another in a long line of working arrangements between ABS and the USCG aimed at improving safety and administrative efficiency to the benefit of the marine industry," said **Robert Somerville**, ABS president.

Under the terms of this agreement, ABS will verify compliance with applicable USCG standards

during the design, plan review, and inspection phases of foreign-flag passenger ship construction or conversion projects. ABS will act as a single point of contact for the shipyard and owner while the USCG will maintain oversight. The direct line of communication and cooperative effort is designed to facilitate USCG acceptance.

For more information from ABS
Circle 64 on Reader Service Card

REDEFINING SHIP DESIGN

autoship
Systems Corporation

403 - 611 Alexander Street
Vancouver, Canada V6A 1E1
Tel: (604) 254-4171
Fax: (604) 254-5171

AMERICA
Official Yacht Design Software

Autodesk
Registered Application Developer

NAVAL ARCHITECTURE SOFTWARE WITH THE SOPHISTICATION TO MATCH YOUR CREATIVE DESIGNS.

- Design
- Hydrostatics
- Power & Resistance
- Construction

All with the superior user interface of Windows.

Ask for your free demo disk and catalog. Gain the competitive edge.

Circle 212 on Reader Service Card

Romanian shipbuilding & design: Business is looking good

Icepronav is focal point of Romanian shipbuilding

by Kathleen Gleaves, contributing editor

Forty years of Communist rule has left Soviet-dominated countries grappling with the free-market concept, but Romania has embraced its new freedom with true entrepreneurial zeal. Five years after the revolution, the country is eager to enter the world business market in perhaps its strongest suit, shipbuilding and design.

The Eastern block, along with a few countries straddling the socialist wall, kept Romanian shipbuilding at the peak of production during the Communist era.

Icepronav, S.A., the research and design institute for shipbuilding, played a vital role in the country's success.

The former director of shipbuilding for the Romanian government, **Gelu Kahu**, founded the Institute in 1966 and serves as its chairman today. Mr. **Kahu** worked for many years to convince his government of the need for such an all-encompassing institution.

He was the driving force behind the growth and diversification that led to Icepronav's current incarnation as one of the most unique de-



The Institute's model shop constructs wood and/or paraffin wax models for use in its test facilities.

sign, research and test facilities in the world. Its new general manager, Dr. **Jean Sever Popovici**, shares Mr. **Kahu's** confidence and enthusiasm for both the Institute's and Romania's future in the shipbuilding industry.

An educational/exchange arrangement with an engineering school in Trieste, Italy, gives Romanian engineers the opportunity to augment their education. In exchange, the Institute provides mentors and test facilities for student research. Many innovations in ship design have resulted from this partnership.

Icepronav employs a staff of 700, most of them licensed professional engineers, many of them holding doctorate degrees in marine engineering and naval architecture.

The diversified staff offers complete design documentation, specification drawings, working drawings and as-builts.

It also maintains a complete research and test facility consisting of two towing tanks, a maneuvering and seakeeping tank, a cavitation chamber, a wind tunnel, a fire testing lab and a noise/vibration lab. In addition, it has its own model shop and foundry constructing both hull and propeller models.

Test engineers work closely with design engineers. Design faults or areas for improvement are readily recognized during testing, and corrections can be made immediately via their computer design system. Their computer research and design capabilities are derived in part by the use of the TRIBON program from Kockums Computer System (KCS).

Designers select from a massive data bank of manufacturer-specific equipment and materials when selecting cables, piping, frames, motors, etc. The construction yard merely notifies the institute of its standard vendors and the computer will select those products in the design. It will also check to ensure that additional equipment is compatible with that vendor's product specifications. The bottom line: pipes and joints, flanges and bolts, motors and mounts all fit together.

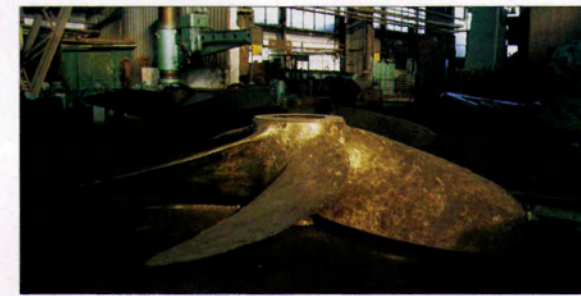
The institute's production list includes more than 3,000 ships. Its design library contains more than 200 different types of vessels, ranging from a 50-ton scow to a 150,000-dwt oil tanker; plus floating cranes, offshore drilling rigs and related marine structures. Not limited to working vessels only, they also design small- to medium-sized cruise ships and passenger ferries.

Ships are designed in accordance with and all existing regulatory bodies; ABS, U.S. Coast Guard, Lloyd's, DNV, et. al.

Tank Tests

Icepronav has been a member of the International Towing Tank Conference since 1990. Once a design is complete, Icepronav's hydrodynamics division enters the project. Models are produced and tested first in the tow tanks where the model's still-water performance is monitored, including wake, resistance and speed field around the ship.

Next the maneuvering tank is employed to check the seakeeping abilities of the vessel. The tank uses two banks of snake-action, wave-mak-



The Galati Foundry next door to the Institute casts the propellers and anchors designed by Icepronav.

ing panels, all computer-controlled and programmed to simulate wave conditions in any part of the world. Ships are tested for bending, sheering and torque under actual working wave conditions. Maneuverability and handling response in zigzag, circles, spirals and pull-outs are charted via strobe photography and stored in a computer for analysis and redesign, if needed.

The cavitation tunnel is used to accumulate data on new propeller designs, as well as verifying the most efficient propeller for a given hull. Not only the functioning of the propeller, but also the forces and moments on the propellers, rudders and nozzles are recorded. Propeller-induced forces on the stern and shaft line are also monitored.

Noise and vibration calculations are an integral part of the design process. Engineers con-

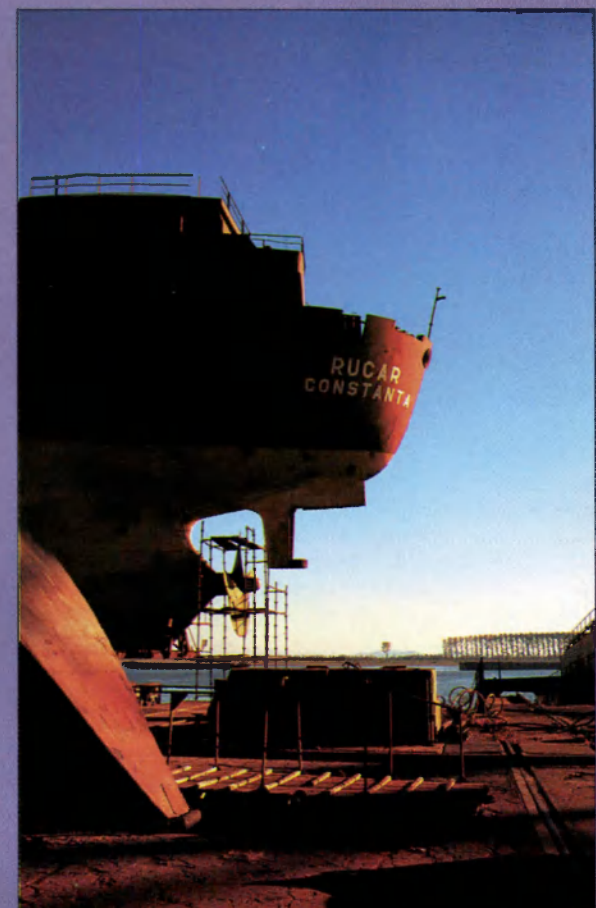
Shipbuilding in Galati, Romania

From the engineering University, to the shipyard itself, Galati is a shipbuilding town. Icepronav provides the design and research technology, and the foundry next door casts the propellers and anchors. The shipyard, situated a few blocks from the Institute, employs nearly 7,000. Additionally, the town ranks first nationwide in iron smelting production, providing the raw material for the shipyard.

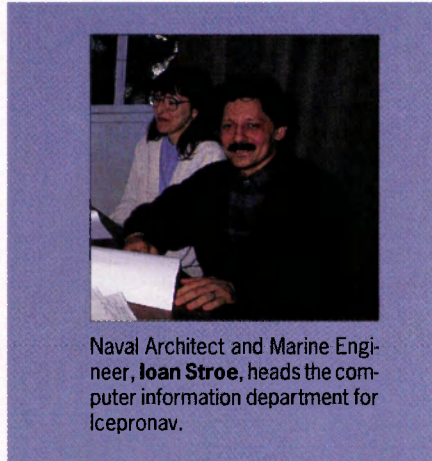
Momentarily stunned by the collapse of the Soviet Union, its major foreign customer, and the financial confusion brought on by the country's own revolution, the shipyard has nevertheless quickly recovered. In only five years it is back to nearly full production capacity. Customer today come from Greece, Norway, Belgium, Israel, Italy, China and, slowly, Romania.

Political changes left the yard with several unpaid bills and unfinished vessels for customers who no longer existed. Its own newly-won freedom allowed it to market these ships itself, and most of them have been bought, finished and delivered. In some cases, additional vessels of the same design have been purchased by the new owners, most notably a cargo ship capable of beach landings.

Production Chief Engineer, **Horia Cristea**, points to, among other things, the recently acquired NC plasma cutting machines as evidence of the yard's continuing efforts to maintain state of the art status. Galati lies at the confluence of the Danube River with the smaller Siret and Prut rivers. Just 93 miles (150 km) from the Black Sea, Galati is the largest Romanian port on the Danube.



The Galati, Romania Shipyard.



Naval Architect and Marine Engineer, **Ioan Stroe**, heads the computer information department for Icepronav.

duct computerized analyses of potential vibrations then compare their predictions to the readings obtained during model testing. According to Dr. **Stefan Totolici**, head of the Hydrodynamics Department, there is rarely more than a one- to two-percent variation between actual readings and those calculated by designers.

Aerodynamic forces and moments, speed and pressure distribution, and optimum placement of the funnel and air intake vents are all determined with the wind tunnel tests. In addition to ships, all of the above-mentioned tests can be performed on stationary and floating marine platforms, and various marine equipment. Icepronav's involvement does not stop at design and testing. They can act as the owner's representative overseeing production at the Galati Shipyard or anywhere else in the world.

Doing Business In Romania

The language barrier is not as bad as it is perhaps perceived, and English is used as a common language between foreign parties, regulatory bodies and so forth, and all documentation language is per the shipowner's request.

If its on-site assistance as an owner's rep is not required, the Institute, with the help of the TRIBON program, can set up a project management, purchasing and scheduling map for the builder. It will provide training for shipyard personnel in the use of TRIBON, and is a sales representative for KCS.

Section cutaways or system drawings come complete with detailed product "shopping" lists. TRIBON's project management feature facilitates the ordering of materials in keeping with construction progress to ensure product availability while reducing overstock and storage costs.

The system can provide automated cutting tapes, and even robotic programming information.

In any engineering firm, wages are the largest factor in determining fees. Wages in Romania are still comparatively low, as professional engineers earn roughly ten percent of what a North American counterpart would. Design services are priced accordingly, making Icepronav competitive in today's market.

For more information on Icepronav
Circle 55 on Reader Service Card
January, 1995

HHI To Build 11-Cyl. Engines

Hyundai Heavy Industries (HHI) in the fall completed shop testing the first of three 11-cylinder engines ordered by its licensor, MAN B&W Diesel A/S. The 11-cylinder engine develops 66,385 bhp and is for a 4,800-TEU container vessel under construction at HDW for American President Line.

For more information on Hyundai
Circle 65 on Reader Service Card

Singmarine Wins \$25M Contract From Steamers

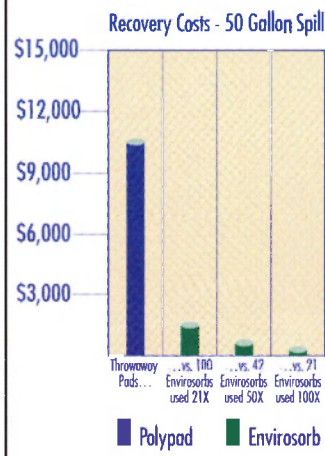
Singmarine Industries Ltd. (Singmarine) won a \$25 million contract from Steamers Containerships Holdings to build a feeder containership. The 8,000-dwt ship will be built by Singmarine's shipbuilding and shiprepair subsidiary, Singmarine Dockyard & Engineering Pte. Ltd. The ship will carry 600

TEUs and will be completed by the second quarter of 1996. Singmarine's current orderbook is about \$105 million.

For Steamers, this ship will be the first newbuilding under its new initiative to invest in a fleet for trade in the charter market. In April the company acquired a 1,020-TEU ship with an existing charter and renamed it *Kedah*.

For more information on Singmarine
Circle 85 on Reader Service Card

Clean Up Without Getting Soaked



True breakthroughs only come along once in a great while. But when they do, they change the way we do things forever.

Envirosorb™ Waste Recovery is a spill reclamation system. It is not just another sorbent pad. What does that mean to you? Quite simply, money. Reusable Envirosorb pads dramatically reduce the cost of lost spilled resources as well as spill clean-up and disposal. That pleases the government, pleases industry and pleases the planet.

- Envirosorb pads reclaim 98% of the spilled product for recycling by utilizing an oil extraction system.
- Envirosorb pads are reusable virtually indefinitely.
- Save up to 80% on disposal costs. There are no transportation, permit, testing, storage, burial or incineration costs.
- Reduce costs associated with environmental damage legal claims.
- Lower liability and workman's comp since the reusable pads remain lightweight, even when saturated. (1 to 6 lbs. depending on oil viscosity)

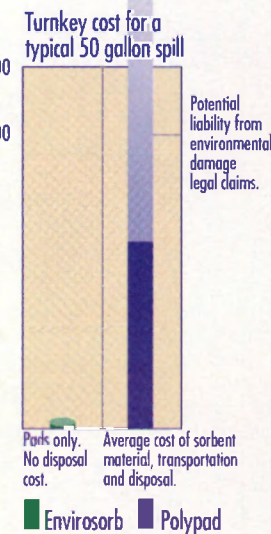


Geosource, Ltd.

4100 One Shell Square New Orleans, LA 70139
(504) 566-7722 FAX (504) 566-7729
1-800-858-8444

Circle 29C on Reader Service Card

- Envirosorb pads are easy to deploy in any situation and any geography.
- Envirosorb's performance is actually enhanced by adverse weather conditions making it ideal for rough seas, rapidly flowing water, or extremely cold water.
- Holds spillage indefinitely providing a barrier to soil, water, wetlands, subsoil and groundwater pollution.
- Saturation is achieved in minutes, depending on the spilled oil product, making clean-ups faster.
- Envirosorb will absorb all hydrocarbon based products including all types of crude oil and number 6 fuel oil.
- The Envirosorb system is available for purchase or lease in flexible configurations for any application or location.
- Warranty: If an Envirosorb pad fails in normal service within one year from date of purchase, Geosource will replace it free.



Potential liability from environmental damage legal claims.



Palau Aggressor II Heads For South Pacific

The *Palau Aggressor II*, a waterjet-driven catamaran built by Nichols Brothers Boat Builders, left the yard's Whidbey Island, Wash. facility in November.

The vessel's first stop was Hawaii, where operator Live/Dive Pacific completed her outfitting, and it then proceeded to the Micronesian island of Palau.

Nichols built the *Kona Aggressor II* for Alaska Dive Boat Inc. in 1992. The *Palau Aggressor II* is a Subchapter T boat under U.S. Coast Guard (USCG) regulations, and was designed by International Catamarans Pty. Ltd. (Incat).

The 106-ft. (32.3-m) *Palau Aggressor II* is powered by a pair of 1,050-hp Caterpillar 3412 diesel engines driving Hamilton waterjets through ZF 2.03:1 reduction gears.

With this setup, the boat will make 25 knots with a full load of 16 passengers, 1,400 lbs. of luggage, 4,120 gallons of fuel, 2,000 gallons of water, 2,000 lbs. of dive gear, 2,500 lbs. of stores and the crew.

The waterjet drives were selected to keep the draft shallow (4.6 ft./1.4 m at full load) since the boat would be operating in an area where coral

reefs are often close to the surface, said **Matt Nichols**.

The "Z" hulls used on the *Palau Aggressor II* represent a new development from Incat designed to reduce wake, enhance fuel efficiency and improve the vessel's ride in the open sea.

For more information on Nichols
Circle 6 on Reader Service Card

Palau Aggressor II Details

Owner	Alaska Dive Boat
Builder	Nichols Brothers Boat Builders
Designer	International Catamarans
Length	106 ft. (32.3 m)
Beam	29 ft. (8.9 m)
Main engines	Caterpillar
Gears	ZF
Waterjets	Hamilton
Generators	Northern Lights
Air conditioning	Hydronics



GULF ISLAND TANKER DESIGN FROM INGALLS: This is a computer-generated concept of Ingalls' new Gulf Island Tanker. Designed in-house, Ingalls said this new class of 42,000 dwt product carriers will economically carry petroleum products, meeting all U.S. and international environmental and safety standards. Ingalls also said the Gulf Island design is environmentally sensitive — with a double hull and state of the art navigational and safety features — and economical to operate over the long term, with standardized machinery components.

MA-107

**THE RELIABILITY YOU
NEED TODAY.
THE CAPABILITY YOU
NEED TOMORROW.**

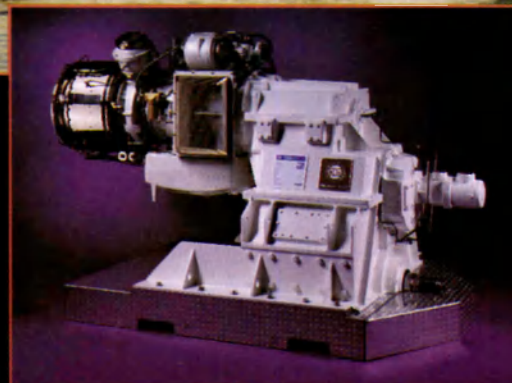
In the world of high performance marine reduction gears, The Cincinnati Gear Company's reputation for quality and reliability is unsurpassed.

Experience gained from over 20 years of high performance marine gear design and production has been used to develop the MA-107, one of Cinti's MA Series of standard gas turbine powered gearboxes.

The MA-107 was designed with higher power capability to accommodate anticipated increases in turbine power ratings in the years ahead. This makes MA-107

capable of handling higher power in the future, without expensive gearbox replacements and ship modifications.

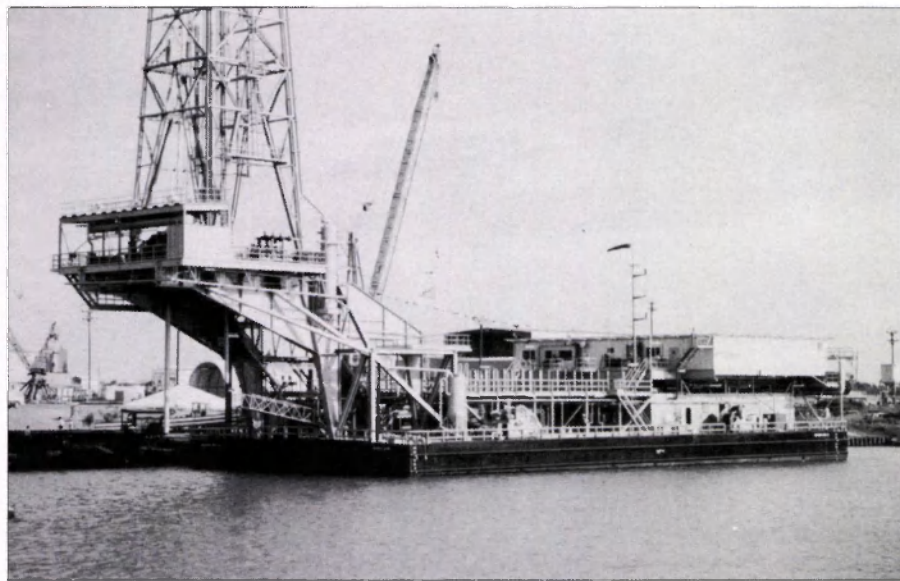
Rated Power: 4600 HP/3430 Kw
Reduction Ratio: 6.21:1 thru 24.1:1
Output Speed: 2500 / 640 RPM
Turbines: TF40 and 501
Dry Weight: 3637 Lbs./1648 Kg
Cast Aluminium Housing
C or Z Drive Configurations
Complete Lube System
CODOG & CODAG Arrangements



**THE
CINCINNATI GEAR
COMPANY**

5657 WOOSTER PIKE • CINCINNATI, OH 45227
513-271-7700 • 513-271-0049 FAX

Amfels Delivers Advanced Drilling Barge For Lake Maracaibo, Venezuela



Touted by its builder as the most modern and technologically advanced drilling barge to be built specifically for Lake Maracaibo, Venezuela, the *Maersk Rig 61* was recently delivered by Amfels.

The prototype rig was built and delivered in less than seven months from contract signing.

Although the rig is intended to be a workover rig, it has the capability of drilling to 12,000 ft. (3,657

m) with only minor modifications.

The Drilling Barge

The hull of the vessel is 200- x 85- x 15-ft. (61- x 26- x 4.5-m). Below the steel deck is a system of longitudinal and transverse watertight bulkheads, and the watertight integrity is maintained up to and including the main deck. Salt water ballast tanks, drill water, fresh water, fuel oil, mud pits and drain tanks are all

built into the vessel as part of the structure, while small fuel tanks and lube oil tanks are independent.

The new design has a 45-ft. (13.7-m) high extra heavy Amfels designed cantilever, weather protection bulkheads for the engines, four double drum winches for an eight point mooring system, a raised pipe rack, exceptional ballasting capabilities, fully contained main deck discharging into only four drain lines, full contained drill floor discharging into an oily water separator, enclosed mud pits below deck, mud pumps below deck and more open main deck space for future expansion and ease of daily operations.

The vessel was built under the special supervision of the Surveyors of the American Bureau of Shipping, and is classed and distinguished in the Record as +A1 Cantilevered Drilling Barge for Lake Maracaibo service.

The Builder

Amfels, established in 1987, is an independent subsidiary of the Far East Livingston Shipbuilding Ltd. (FELS). Amfels has the design, construction and facility capabilities of handling sophisticated shipbuilding, repair and offshore products.

Located in the Port of Brownsville, Amfels offers easy access from the Gulf of Mexico, with 40-ft. (12.2-m) channel depth up to its facility.

For more information on Amfels
Circle 157 on Reader Service Card

Seacos Enters Contract With SAJ Instrument

Seacos Computersystem & Software GmbH, a manufacturer of shipboard computer hardware and software, has completed a cooperation contract with SAJ Instrument AB of Finland. SAJ developed a draft measuring system with dynamic trim/heeling sensors, and the contract permits the integration of the SAJ-online data directly into the MACS3 system for loading/discharge and performance monitoring.

For more information on Seacos
Circle 139 on Reader Service Card

Kirkpatrick Group Offers New Non-Petro Based Wire Rope Lubricant

The Kirkpatrick Group developed a non-petroleum based wire rope lubricant for use with all models of Kirkpatrick Wire Rope Lubrication Systems, following more than two years of development and testing. The product, trade named Dynagard "E", can be produced in low and high viscosity consistency. Physical performance testing at U.S. Army Corps of Engineers Dam sites showed that there was no corrosion evident on the Dynagard "E" coated portion of the rope after 10 months of submersion on dam gate hoist wire ropes.

For more information on Dynagard "E"
Circle 148 on Reader Service Card

REPAIRS AT ASTILLEROS

"BEST VALUE FOR MONEY"

ASTANO

P.O. BOX 994
15080 Ferrol
La Coruña - Spain
Tel. (3481) 34 3211
Fax (3481) 34 3252

ASTANDER

P.O. BOX 10
39080 El Astillero
Cantabria - Spain
Tel. (3442) 54 0050
Fax (3442) 54 0026

CADIZ

P.O. BOX 39
11080 Cadiz
Spain
Tel. (3456) 27 3350
Fax (3456) 27 8362

**ASTILLEROS
ESPAÑOLES**

Circle 256 on Reader Service Card

Krupp Unit's Ship Unloader Transported To Operating Site

In the port of El Ferrol on Spain's northwest coast, a 131.2-ft. (40-m) high continuous ship unloader weighing 1,246 tons was moved from its assembly site to the pier, loaded onto a pontoon and transported to its operating site. With this unloader Endesa Empresa Nacional de Electricidad SA can continuously unload imported coal from oceangoing vessels of up to 100,000 dwt, at a maximum hourly rate of 2,300 tons. Commissioning is currently taking place, and a test-unload of the first ship was scheduled for early December 1994.

PWH Anlagen + Systeme GmbH, a subsidiary company of Krupp Fordertechnik GmbH, designed the continuous unloader. Imenosa SA, El Ferrol, manufactured the main structural steel components and assembled the facility complete including the core units supplied by PWH of St. Ingbert-Rohrbach, such as a bucket elevator, mechanical components and the sampling station. Assembly of the electrical plant is being handled by Isolux Watt SA, La Coruna. From the assembly site the continuous



unloader was moved approximately 490 ft. (150 m) to the shipyard pier of Astano SA, from where it was edged onto a ballastable pontoon capable of carrying up to 8,900 tons and supplied by Dragados y Construcciones SA, Madrid.

For more information on Krupp Fordertechnik
Circle 35 on Reader Service Card

Ingalls-Built Destroyers Christened, Commissioned



More than 700 guests were on hand on November 12, 1994 as the new U.S. Navy guided missile destroyer, DDG 65, was christened Benfold at Ingalls Shipbuilding Division of Litton Industries.

DDG 65 Christened Benfold

"The technology embodied in this Aegis destroyer is already changing our military's operational strategies and tactics," the Honorable Paul J. Kaminski, Under Secretary of Defense for Acquisition and Technology, said at the christening of the Arleigh Burke class Aegis guided missile destroyer Benfold (DDG 65) at Ingalls Shipbuilding Division of Litton Industries in Pascagoula, Miss.

"These highly capable ships can operate in smaller numbers, with more firepower, against the entire spectrum of threats." The christening took place on Nov. 12, 1994.

DDG 65 is the seventh Aegis destroyer to be launched and christened of 14 ships contracted or allocated to Ingalls. The vessel is named in honor of Hospitalman Third Class Edward Clyde Benfold, USN, a native of Staten Island, N.Y., who was posthumously awarded the Medal of Honor for heroism during the Korean War.

DDG 57, Mitscher, Commissioned



USS Mitscher (DDG 57), the third U.S. Navy Aegis guided missile destroyer to be built by Ingalls Shipbuilding Division of Litton Industries, was commissioned in Pensacola, Fla. on December 10, 1994. The Honorable John H. Dalton, Secretary of the Navy, delivered the principal address.

DDG 57, the seventh of the Arleigh Burke (DDG 51) class guided missile destroyers, and the third to be built by Ingalls, was commissioned USS Mitscher and reported for Atlantic Fleet duty during ceremonies at Pensacola Naval Air Station in Pensacola, Fla. on Dec. 10, 1994.

The Honorable John H. Dalton, Secretary of the Navy, delivered the principal address. Commander Roy Balaconis accepted command of the new ship, which will be homeported in Norfolk, Va.

For more information on Ingalls
Circle 8 on Reader Service Card

Prototype Cargo Handling System To Be Tested At Port Of Gothenburg

A test port facility for a future cargo-handling system is to be built at the Port of Gothenburg's Alvsborg Harbor. The system will reportedly be able, under favorable conditions, to load and unload 1,600 containers on a ship in less than two hours.

The test harbor is connected to the plans of a very fast shipping line between Gothenburg in Sweden and Zeebrugge in Belgium, using the so-called FastShip concept. These plans indicated that two ships of a new design could offer daily sailings from each port.

The speed would be in excess of 30 knots, giving a sea time of 17 hours and a revolutionary 1-2 hour port time.

The test port is to be built in the eastern part of the Alvsborg RoRo harbor at Gothenburg. Before the arrival of a ship, containers and trailers would be placed on special platforms to be used in-terminal and on-ship.

These platforms have air cushion devices fitted that make them lift under operation.

The platforms are tied together, a terminal locomotive is attached, and the entire train of platforms is pushed aboard the ship by the RoRo method.

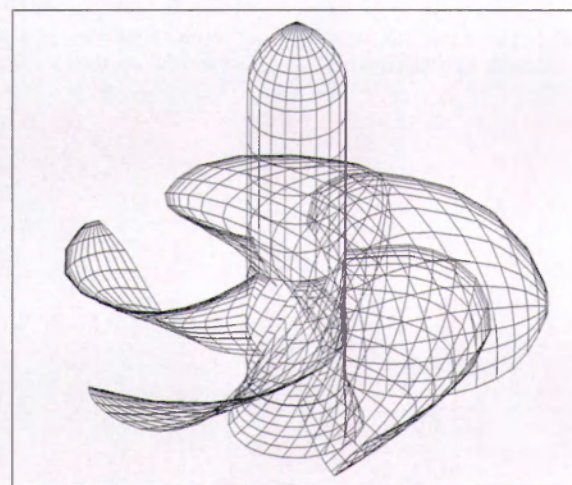
The locomotive provides the power for the air-cushion devices, and rails on the terminal area guide the train of platforms, as do rails onboard the ship.

Each platform can carry two 40-ft. or four 20-ft. containers or one trailer. The ship can carry 800 TEUs. The unloading and loading operation taking between one and two hours, is, according to the port, equal to a 24-hour job on a conventional containership.

The system, called Alicon (for "Air-Lift Containers") was developed by Thornycroft, Giles & Co. Inc. of Washington, D.C., the same firm that developed the FastShip design.

For more information on Thornycroft, Giles & Co.
Circle 79 on Reader Service Card

New Calculation Method Designed To Enhance Propeller Design



Rolla SP Propellers, through participation in a research program with the Massachusetts Institute of Technology, helped develop a new and sophisticated "panel method" calculation program that allows more accurate determination of a propeller design's cavitation characteristics resulting from shaft angle and varying wake.

The study, comprehension, and elimination or reduction of these unwanted characteristics, which can lead to declining propeller performance and even its rapid deterioration, is particularly important in all cases of high speed boats with highly inclined shaft line and high propeller rpm — which is reportedly the condition in today's most powerful and heavy fast planing boats.

The improvement and validation of the calculation system is carried out by the continual experimentation of new propeller profiles and geometries tested respectively in the cavitation tunnels of the Berlin and Lausanne universities. This enhances Rolla's ability to scientifically study the parameters that influence propeller characteristics and propose the best propeller design for each application.

For more information on Rolla
Circle 9 on Reader Service Card

Bimark Anti-Slip Surfacing Used By Seacat Operator

Bimark's anti-slip surfacing system, which has been subjected to the rigors of the maritime environment, has demonstrated its flexibility in a recent application used by a Seacat owner.

A new Seacat vessel terminal and Seacat service to the Isle of Man was inaugurated at the Pier Head, Liverpool, by the Isle of Man Steam Packet Co. A flat steel pontoon 98 ft. x 49 ft. x 9.8 ft. (30 m x 15 m x 3m) to a design by Transmaritime was fabricated by Appledore Shipbuilders of Devon. On top of this pontoon is erected a hydraulically activated landing stage. The surface was primed with Acraprime SP for further steel protection.

A single layer of Bimagrip Slurry was applied at approximately 4mm. An aluminum oxide aggregate dressing was chosen for the finish. The final product: a system which offers RoRo operators and cargo handlers a reportedly safe, durable and comfortable surface to drive on.

The company also worked on the refit of the Russian ship *MV Vilnius* at the Cammell Lairds shipyard in Birkenhead, Merseyside — a refit which specified the application of a Bimark anti-slip surface to its ramp.

For more information on Bimark
Circle 126 on Reader Service Card

CONSTRUNAVES Member Receives \$18M Contract To Build Freezer Trawlers

Astilleros Balenciaga, a member of CONSTRUNAVES, signed a contract with Jaczon BV, a Dutch fishing company, to build two medium tonnage advanced-technology freezer trawlers.

The two freezer trawlers to be built — for a contract price of \$18 million — will be outfitted with the latest fish-finding, catching, processing and preserving techniques.

The vessel will measure 168 ft. (51.4 m) long with a 38-ft. (11.6-m) beam. The freon-brine fish freezing system employed, after a first stage in which fish is kept refrigerated with sea water (RSW), produces a final product of reported good quality.

Each ship will have a freezing capacity of 60,000 kg/day in vertical plate freezers.

The frozen blocks or packages will be stored in two refrigerated holds with a total capacity of 686-sq.-m.

Astilleros Balenciaga has built more than 300 ships in its nearly 75 years in business. The yard recently invested \$4 million to remodel, making it possible to build practically 100 percent under cover.

The yard recently delivered two escort tugs to BP, and currently the yard is well advanced in its negotiations for other ship orders totaling more than \$15 million.

For more information on Astilleros Balenciaga
Circle 2 on Reader Service Card

Freezer Trawler Details

Owner:	Jaczon BV
Builder:	Astilleros Balenciaga
Length:	168 ft. (51.4 m)
Beam:	38 ft. (11.6 m)

INTERIORS

MARINE INTERIORS WORLDWIDE

MSC

MARITIME SERVICES CORP.



3457 Guignard Drive
Hood River, OR
97031 USA
phone 503-386-1010
fax 503-386-2269

Honolulu Miami New Orleans Portland Seattle Vancouver, BC

Circle 293 on Reader Service Card

BEST VALUE REPAIRS

ASTANO

P.O. BOX 994
15080 Ferrol
La Coruña - Spain
Tel. (3481) 34 3211
Fax (3481) 34 3252

ASTANDER

P.O. BOX 10
39080 El Astillero
Cantabria - Spain
Tel. (3442) 54 0050
Fax (3442) 54 0026

CADIZ

P.O. BOX 39
11080 Cadiz
Spain
Tel. (3456) 27 3350
Fax (3456) 27 8362

**ASTILLEROS
ESPAÑOLES**

Circle 256 on Reader Service Card

APL Asks MarAd Permission For Slot-Sharing With Mitsui, Nedlloyd, Orient Overseas

American President Lines, Ltd., (APL) is asking MarAd's permission to charter slots on foreign-flag vessels operated by Mitsui OSK Lines, Ltd., Nedlloyd Lines BV, and Orient Overseas Container Line Inc. APL and the other lines propose to participate in the Asia-Atlantic Alliance Agreement, a reciprocal slot exchange and coordinated sailing agreement, and a master slot charter agreement.

The geographic scope of the trade in U.S. foreign commerce of the Asia-Atlantic Agreement is between Japan, Taiwan, and the Pinang-Pusan range in continental Asia and ports on the Atlantic and Gulf coasts of the U.S. via the Panama Canal. The geographic scope of the trade in U.S. foreign commerce of the master slot charter agreement is between Hong Kong, Taiwan, and Japan and ports on the Atlantic coast of the U.S. and the Caribbean via the Panama Canal. All-water service under the agreement is to be performed entirely with vessels of the three foreign parties.

Persons or firms interested in commenting on the section 804 as-

pects of this application, designated Docket S-916, should submit three copies of their comments to the Office of the Secretary, Maritime Administration, 400 Seventh Street SW, Room 7210, Washington, D.C. 20590.

Lykes Seeks Permission To Charter Four Ships

Lykes Bros. Steamship Co., Ltd., has asked MarAd for permission to time charter up to four foreign registered containerships in the trade between ports on the U.S. Gulf and East coast and North Europe. The vessels are being built in a German shipyard for a U.S. documented citizen owner. Each will be able to carry 2,400 TEU. The first ship is scheduled for delivery in March, and the others at three-month intervals thereafter. Lykes has committed to long-term time charter the ships.

The vessels would likely call at the ports of Galveston, New Orleans, Miami, Charleston, Norfolk, New York, Boston, Antwerp, Bremerhaven, Felixstowe, and LeHavre, Lykes said in its application. 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.

MarAd Releases Port Report

MarAd released its annual report, *A Report to Congress on the Status of the Public Ports of the U.S. 1992-1993*. U.S. ports are a critical element in our national transportation system and important contributors to our national economy and security. They handle over 95 percent of the nation's foreign commerce and nearly a billion tons of domestic commerce.

The report is divided into three sections:

- Section one provides an overview of the U.S. public port industry;
- Section two discusses the key issues facing the U.S. port industry;
- Section three describes several related developments of interest or concern to the port industry, including matters pertaining to the 1993 Midwest flood, trade within North America, and national defense.

Copies of the report are now available from MarAd's Office of Port & Domestic Shipping, room 7201, 400 Seventh St., S.W., Washington, D.C. 20590; tel: (202) 366-4357.

OMI Seeks Operating-Differential Subsidy Agreements

On behalf of itself and Vulcan Carriers, Inc., OMI Corp. has asked MarAd for the necessary approvals to operate under operating-differential subsidy agreements six tankers now operated by Vulcan.

The request includes permission to assign the subsidy agreements to OMI, a waiver to permit OMI to continue operating foreign-flag vessels and permission for OMI to continue operating vessels in the coastwise trade. A notice of the request, designated Docket S-914, has been published in the *Federal Register*. Section 805(a) of the act prohibits subsidized operators and their affiliates from participating in domestic shipping activities without written permission from MarAd.

MarAd Approves Section 9

- Western Overseas, Inc., an Ohio

corporation, was given approval to sell the cargo vessels *Ruth Lykes* and *Letitia Lykes* to Ruby Enterprises, Inc., a British Virgin Islands corporation, for resale to P.R. Ship Breaking Corp., an Indian partnership. The vessels were built in 1966 and 1968, respectively. The vessels will be transferred to the St. Vincent and The Grenadines registry for one ballast voyage for ultimate scrapping in India.

- Chenco International, Inc., a Washington corporation, but not a citizen of the U.S. within the meaning of section 2 of the Merchant Marine Act, 1916, as amended, has been given approval to sell the 8,421-gt cargo vessel *Robert C. Norton* and the 10,849-gt bulk carrier *William A. Reiss* to Electra Maritime Jersey Limited, a British corporation, for scrapping in India. The vessels were built in 1943 and 1925, respectively.

Application Withdrawn

Marine Car Carriers has withdrawn its application to MarAd to change the registry of the 11,315-gt car carrier *Marine Reliance*.

Contract Canceled

The Maritime Subsidy Board has authorized the termination of Atlas Marine Company's Title V contract relating to the *American Heritage*. The vessel was built in 1976 with the aid of construction-differential subsidy (CDS). It is being sold solely for the purpose of scrapping and may not be used in any other capacity. Atlas is required to comply with all applicable provisions of the CDS contracts and the Merchant Marine Act, 1936, as amended.

Applications Received

- MarAd has received an application from Dorado Offshore Limited Partnership, One Market Street, San Francisco, Calif. for permission to sell and transfer to Liberian registry the jack-up drilling rig *Sonny Voss*. The proposed purchaser is Triton Holdings Limited, of the British Virgin Islands. The vessel would be used in offshore oil and gas drilling. It was built in Singapore in 1980.

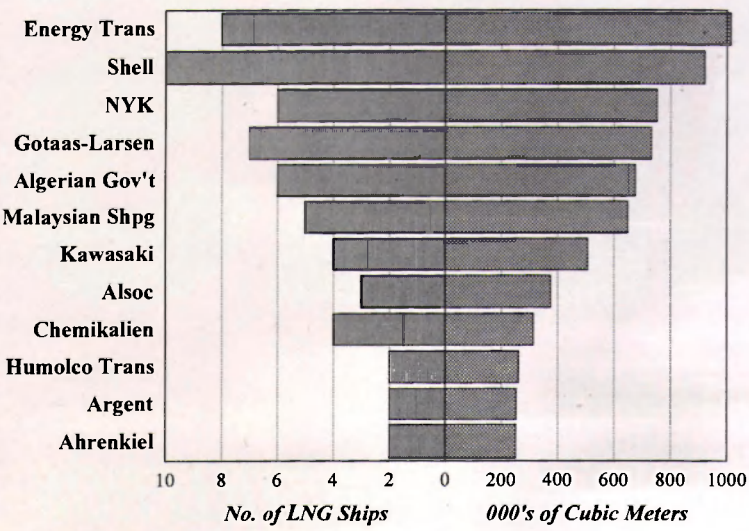
Fishing Vessel OK'd For Russian Registry

- MarAd has given approval to Mark F. Maring Enterprises II, Inc., Seattle, Wash., to transfer to Russian registry the 452-gt fishing vessel *Arctic Discovery*.

INDUSTRY TRENDS

by James R. McCaul, President IMA Associates, Inc.

LNG shipping is a highly concentrated market segment — with a dozen top carriers representing 78 percent of total LNG shipping capacity and 59 of the 86 LNG ships now in operation.



Source: IMA Associates, *Shipbuilding Industry Outlook*, 1995 Edition

Unitor Announces Management Appointments

Unitor Ships Service, Inc., appointed two territory managers, **Harry Muller** and **Jan Garman**, and a branch manager, **Caroline Medich**.

Responsible for customer sales and support, Mr. Muller has been appointed territory manager for the East Coast of the U.S., based in New Jersey. Formerly branch manager for Unitor's New Orleans operation, Mr. Garman's new position entails coordinating and developing Unitor's sales and service activities on the West Coast, including branches in Oakland, Portland, Seattle and Vancouver, B.C. Taking over as branch manager in Long Beach, Calif., Ms. Medich has specific responsibility for running Unitor's port supply operations in the Los Angeles/San Diego areas.

For more information on Unitor
Circle 72 on Reader Service Card

OMI's Barash Resigns; Stevenson Becomes Exec VP & COO

OMI Corp. announced that **Chaim Barash**, senior vice president of OMI Corp. and president of OMI Bulk Management Co., has resigned to accept a management position with Univan, a Hong Kong-based ship management company. Mr. Barash will continue to serve as an active consultant for OMI and with a joint venture of the company's.

OMI also announced that **Craig H. Stevenson Jr.** has been promoted to executive vice president and chief operating officer of the company. Mr. Stevenson joined OMI in 1993 as senior vice president of chartering.

Ventura Joins Bender

Bender Shipbuilding & Repair Co., Inc. named **Fred Ventura** to its sales staff. Mr. Ventura, who has more than 35 years of experience in the maritime industry, will work from Bender's Braithwaite, La. facility. Bender Shipbuilding & Repair Co., Inc. is a diverse shipbuilding and repair company with facilities in Mobile, Ala. and Braithwaite, La.

For more information on Bender
Circle 75 on Reader Service Card

Lamb Wins SNAME Award

Tom Lamb, director of marine engineering for Textron Marine & Land Systems, was presented with the William M. Kennedy award at the Society of Naval Architects and Marine Engineers (SNAME) annual meeting.

The award is presented annually for outstanding service and contributions in the development of systems and plans applying to shipbuilding and ship repair.

ACBL Announces Changes

American Commercial Barge Lines announced that **Stephen J. Brooks** has been named director of sales, responsible for the management of the day-to-day operations of the sales department; and **Barry Dyer** has been named director of river fleet operations, responsible for the management of all fleets north of Baton Rouge.

AlliedSignal Promotes Erenrich

Eric H. Erenrich was promoted to the position of manager, coatings market development for the Performance Additives business unit of AlliedSignal Inc.

In his position, Mr. Erenrich is responsible for the development of new products, applications and markets in the coatings industry for the

company's performance additives product lines.

Mr. Erenrich joined AlliedSignal in 1980, and most recently served as market manager, Western Hemisphere for the Performance Additives Group.

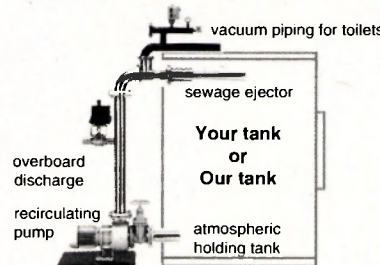
AlliedSignal Performance Additives manufactures low molecular-weight polyethylenes and copolymers.

For more information on AlliedSignal
Circle 70 on Reader Service Card

ENVIROVAC sewage systems solve all your marine sanitation needs.

Vacuum Toilet System

STANDARD DESIGN AND COMPONENTS
-NO SPECIAL ENGINEERING

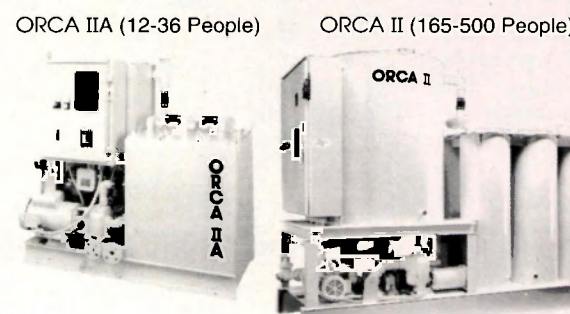


- Low Volume Fresh Water Flush Toilet (3 pints/flush)
- Small Diameter Piping... 1-1/2" and 2"
- Reduces Sewage Volume by 90%
- Flexible Piping Layout... With Vertical Lift
- Reduced Holding Tank Size... 80% Smaller
- Eliminates Toilet Vents
- Reduces Material & Labor Costs, and Topside Piping Weight
- Proven History of Reliability
- Over 3,500 Marine Installations Worldwide

ORCA II Marine Sanitation Device

SIZING TO FIT 12 TO 500 PEOPLE

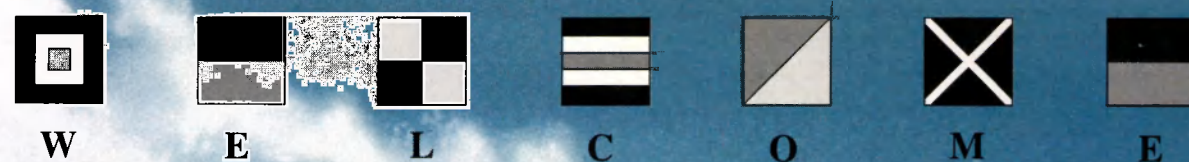
- Microprocessor Control and Monitoring System
- Simple Operation & Maintenance
- Fully Automatic Hands-off Operation
- Simple and Inexpensive Installation
- Compact and Lightweight
- Designed Specifically for the Marine Industry
- In Use on Vessels Worldwide
- U.S.C.G. Certified and IMO Approved
- Available 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 262 on Reader Service Card



NOR-SHIPPING '95

THE 15TH INTERNATIONAL SHIPPING AND MARITIME OFFSHORE EXHIBITION & CONFERENCE
13-16 JUNE 1995, OSLO - NORWAY

The shipping week you can't miss!
Pre-register now!

Get your visitor's pack in advance by contacting us on fax +47 22 43 19 14, calling +47 22 43 91 00 or writing to Nor-Shipping '95, P O Box 130 Skøyen, N-0212 Oslo, Norway.

1965 - 1995
FIRMLY ANCHORED FOR 30 YEARS



Circle 232 on Reader Service Card

Trinity Member Wins \$11 Million Special Operations Command Contract

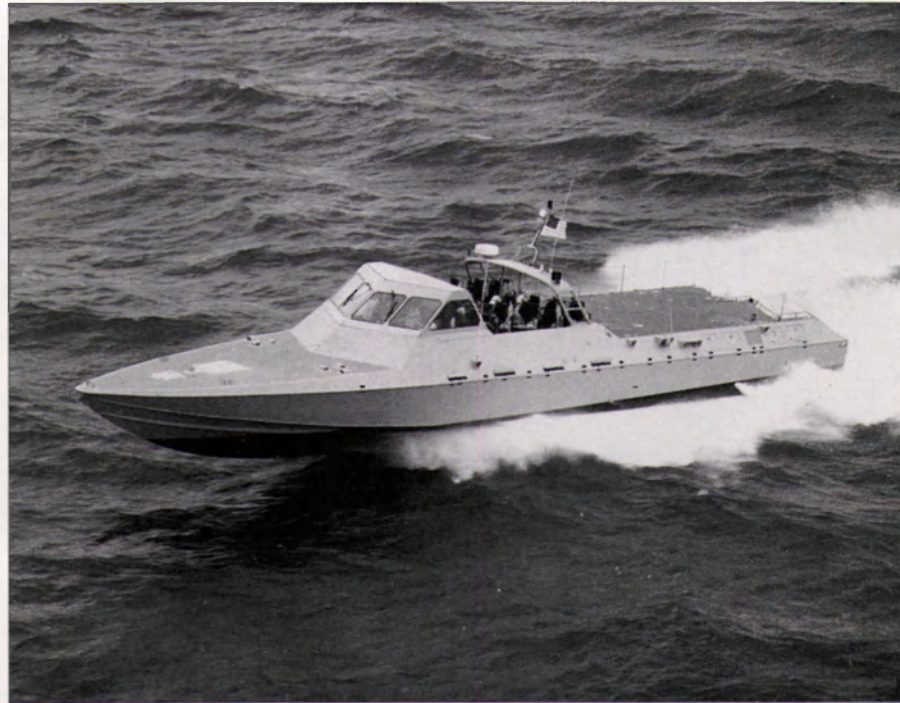
Contract Potential: 40 Boats, \$190 million

Halter Marine, Inc. of the Trinity Marine Group was chosen by the U.S. Special Operations Command (SOCOM) to build the Mark V, the next generation of high-speed craft designed to insert and extract U.S. Navy SEAL teams and other special operations forces (SOF) personnel.

The model to be built is an all-aluminum monohull design variant of Trinity's XFPB (extra fast patrol boat) now in service with the Mexican Navy. The initial SOCOM contract is estimated to be worth more than \$11 million, and calls for the construction of two SOC systems, with options for up to 38 additional craft and transportation systems, bringing the potential contract value to approximately \$190 million.

All of the boats will be built at Equitable Shipyards in New Orleans, an affiliated shipyard of Halter Marine in the Trinity Marine Group.

During the decision phase, Halter built two variations of the same design, but of different materials and power suites. The winning Halter *Pegasus* Mark V SOC measures 82 ft. (25 m) long with a 17.5-ft. (5.3-m) beam. It is powered by a pair of diesels developing 2,253 hp each at 2,000 rpm through two



Trinity Marine Group's Halter Marine was chosen by the U.S. Navy to build the *Pegasus* as its next generation Mark V, high-speed, special operations craft. The contract calls for an initial two vessels for \$11 million, and an optional 38 vessels which, if exercised, would drive the overall contract value to \$190 million.

waterjets. The other *Pegasus* Mark V SOC is nearly identical in appearance, but made of composites. It is powered by three diesels developing

1,450 hp each at 2,300 rpm through surface-piercing drive units.

Some of the SOCOM design and performance criteria which had to be met included:

- a diesel powered boat able to reach a top speed of well over the 45-knot minimum with a cruise speed of more than 30 knots in specified sea states
- the boat, support equipment and personnel had to fit in a U.S. Air Force C-5 aircraft
- at light load the boat had to be able to carry its crew of five, a full load of fuel and lubricants, and at least 6,400 lbs. of payload including 16 fully armed and equipped SOF personnel.

"We knew this would be a very challenging competition for requirements which call for the world's fastest patrol craft of its size," said **John Dane III**, president of the Trinity Marine Group. "We were quietly confident the Trinity/Halter *Pegasus* Class Mark V SOC would be selected based on previous Navy competitions we have won because of our mission and cost sensitivities and design and manufacturing experience and expertise."

The first two boats are scheduled for delivery by September 1995.

For more information on the Trinity Marine Group
Circle 52 on Reader Service Card

Bazan Delivers Mestral Fast Ferry

Spain's Bazan delivered the first of a new family of monohull fast ferry designs, and according to the builder, the sea trials have confirmed that the design lives up to promised specifications of terms of speed and comfort.

The 316-ft. (96.2-m) *Albayzin* features an aluminum alloy deep-V hullform, and at sea trials reportedly gave a smooth ride at 38 knots in a wide range of sea states. The vessel was delivered two months early from Bazan's San Fernando yard, and is the first of two vessels originally ordered by Spanish state-owned Trasmediterranea to operate between Barcelona and Palma de Mallorca. The new vessel — which cost approximately \$25 million to build — was to help reduce the crossing time on that route from

9.5 hours on conventional ferries to 3.5 hours.

In October it was confirmed that the *Albayzin* had been sold to Argentinean operator Buquebus, and chartered to Sea Shuttle in New Zealand to run across the Cook Strait between Wellington and Picton during the summer season. Immediately after sea trials, the vessel left Spain for New Zealand and was to enter service at the end of November. The ferry will return to Spain for the Barcelona-Palma service in time for the peak season on this route — leased to Trasmediterranea — joining her sistership, which is scheduled to be delivered in May of 1995.

Albayzin can carry 450 passengers and is powered by four Caterpillar 16-cylinder medium speed en-

Albayzin Particulars

Owner	Buquebus
Builder	Bazan
Length	316 ft. (96.2 m)
Capacity	450 passengers
Main engines	Caterpillar
Waterjets	KaMeWa

gines, 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 slide has a 100-person and a 50-person liferaft.

For more on Bazan
Circle 7 on Reader Service Card



NASSCO Fits KCS's TRIBON Into Modernization Plans

National Steel and Shipbuilding Co. (NASSCO) of San Diego has purchased the hull application of the TRIBON system from Kockums Computer Systems AB. The purchase was seen as part of the shipyard's plan to incorporate state of the art technologies in the modernization of its shipbuilding operations. NASSCO recently won contracts for conversions and newbuilds for the U.S. Military Sealift Command.

TRIBON is an integrated design and information system created to fit the shipbuilding industry. TRIBON applications cover all aspects of design, from initial design to production, including advanced features for the assembly phase of ship production and materials control.

For more information on TRIBON
Circle 43 on Reader Service Card

For more information on NASSCO
Circle 44 on Reader Service Card

Elliott Bay Designs Hvide Marine Tugs

Construction to start soon

A tractor tug designed by Elliott Bay Design Group (Seattle) for Hvide Marine Inc. of Ft. Lauderdale is expected to start construction by the end of the year.

"Hvide's clear vision of what they wanted in their new tug fit very well with our experience in tug design," said **John Waterhouse**, president of Elliott Bay. "We were quite pleased to be selected, and we're looking forward to seeing this outstanding vessel added to their fleet."

The new tug, to be powered by a pair of 2,550-hp EMD diesels — each driving an Aquamaster azimuthing propulsion unit — will measure 100 ft. (33 m) long and be constructed of all steel.

Auxiliary power will be provided by a pair of GM diesels, each driving an 85-kW Marathon generator. A third GM engine will power the hydraulic pumps, and a GM 12V92-TA will be dedicated to the Nijhuis HGT-1 fire pump. The boat will have 6,000-gpm firefighting capabilities, and will feature a stern skeg designed to accommodate the handling of submarines.

The tug will be outfitted with a Markey hawser winch rated at 400,000 lbs. load capacity, a 20-hp Markey bow capstan, a 30-hp Markey stern capstan and Nordic hydraulic tow pins.

For more information on Elliott Bay Design Group
Circle 128 on Reader Service Card

Zuidweg Named Project Manager For WSF

Laurens Zuidweg, a former project manager for the Washington State Ferries new Jumbo Mark II project, was named manager, vessel engineering for the state ferry system. In this position he will be responsible for design, renovation and construction of vessels for Washington State Ferries. There are

currently major projects immediately demanding his attention, including the construction of the Jumbo Mark IIs and the renovation of the super ferries.

He has been with the ferry system since September 1993, leading the Jumbo Mark II project team. Previously **Zuidweg** worked as an independent consultant. He had worked for Holland America Line for nine years as the director of newbuilding.

Shell Renews Sonsub's Contract For Mars Project

After a 12-month contract with Sonat Offshore Drilling, Sonsub was awarded an additional 18-month extension under which it will continue to provide Remotely Operated Vehicle (ROV) service to support the pre-drilling and batch setting phases of Shell's premier deepwater Mars project in the Gulf of Mexico.

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

- Meets New I.M.O. Regulation
- Listed U.L. 1994
- 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 212 on Reader Service Card

Hvide Tug Specification List	
Owner	Hvide Marine Inc.
Designer	Elliott Bay Design Group
Main engines	2x EMD 12-645F7B
Propulsion units	Aquamaster
Ship service generator	Marathon 85-kW
Fire pump engine	GM 12V92TA
Hawser winch hydraulic pump engine	GM 6-71N
Fuel oil transfer pumps	2x Viking LQ4123R
Lube oil pumps	2x Viking HL4195D
Dirty oil pump	Viking HL4195D
Fire, bilge, and ballast pumps	2x Aurora 344-7A
Engine coolers	Fernstrum grid coolers
Exhaust silencers	Maxim MSA1
Air compressors	2x Ingersoll-Rand H7100
Oily water separator	Microphor UST-1
Marine sanitation device	Ornipure 7ME
Air conditioning	Carrier Transicold
Engine room supply fans	2x Hartsell 44-32-DN3; 20,000 CFM
Alarm system	Radio Holland USA
Battery chargers	LaMarche
Hawser winch	Markey DYSF-47
Tow pins	Nordic Machine
Bow capstan	Markey CEW-70
Stern capstan	Markey CEP-80
Air horns	Kahlenberg
Searchlights	2x Carlisle-Finch
Navigation & deck flood lights	Aqua Signal 55
SSB radio	Stevens (SEA)
VHF radios	4x ICOM M120
Radar	Furuno
GPS	2x Trimble
Depth sounders	2x Data Marine
Refrigerator/freezer	Cospolich
Range/oven	Lang
Monitors	Skum 150EL/VR-150
Pump	Nijhuis HGT1-250.500
Pump proportioner	Skum PI-100
Foam pump	Viking HL 4197D

LOKATA LOKATA LOKATA LOKATA LOKATA LOKATA LOKATA LOKATA LOKATA LOKATA

9-IM SART

406 MHz EPIRB

ARE YOU WILLING TO BET YOUR LIFE?

MAYDAY! MAYDAY!
When the call goes out, there is no room for error. SEA offers a Lokata-designed rescue package that emphasizes innovation, ease of use, GMDSS certification, and uncompromising reliability. The 406 MHz Series 2 EPIRB, featuring automatic arming, comprehensive self testing and a superior release mechanism, alerts rescue authorities of your distress situation via satellite. The 9-IM SART, with built-in telescopic mast for rapid deployment and visual indication of radar activation, paints a direct track to your location on radar screens of responding aircraft and vessels. Call SEA or visit your local SEA dealer for more details.

7030 220th S.W. • Mountlake Terrace WA 98043 • (206) 771-2182 • Fax: (206) 771-2650

Circle 233 on Reader Service Card

TURN YOUR SHIP INTO A SEE-GOING VESSEL

SOLASOLV™ ROLLER SCREENS KEEP OUT GLARE, HEAT AND ULTRAVIOLET RAYS FOR BETTER VISIBILITY.

At sea, it is critical to have good visibility. Solasolv Roller Screens provide it. These easy-to-fit, easy-to-operate screens offer these advantages:

- Cut out glare, heat and UV rays during the day
- Roll out of sight when not needed
- Provide safer, more comfortable working area

For more information, contact us today!

MARKETEC, INC.
P.O. Box 999 • Pisgah Forest, NC 28768
Tel: (704) 884-5070 • Fax: (704) 884-5072

Circle 229 on Reader Service Card

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 J.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.

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



Maritime Takes To Water Like Horizon

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

Circle 231 on Reader Service Card

Toledo Shipyard Trains Longshoreman To Aid During Busy Repair Season

Initial job training in shipyard welding and repair work recently began at the Toledo Shipyard for approximately 20 Port of Toledo longshoremen who took advantage of a new off-season work opportunity conceived by the Toledo-Lucas County Port Authority, said **John M. Loftus**, port authority seaport director. The training program also has been offered to be conducted at H. Hansen Industries, the Port of Toledo's other main ship repair firm.

The port authority board of directors approved a port authority-sponsored training plan to help port longshoremen find wintertime employment following the close of the shipping season. The program will train longshoremen from Local 1982 of the International Longshoremen's Association to work as welders at the Toledo Shipyard during winter months when Great Lakes longshoremen are laid off. It also is the time when the yard faces its biggest need for skilled workers.

Said Mr. Loftus, "Not only will it provide a winter job for workers who normally face a three-month lay-off, it will help our shipyard meet important commitments for winter vessel repair work." Workers who successfully complete the training will receive certificates from ABS.

The Toledo Shipyard is expecting a busy repair season, as four vessels have already been scheduled for major drydock work, and there are more possibilities. The Toledo Shipyard is owned by the Port Authority and operated by the Toledo Shiprepair Co.

Mr. Loftus said Toledo is having its best grain shipping year in the past five years, and a longer St. Lawrence Seaway season will help make it better. He reported that the Seaway will remain open this year until Dec. 31, approximately 10 days later than normal, due to the unusually mild weather and increased activity. For the same reason, the Welland Canal will close on Jan. 4.

"Through Nov. 11 we exceeded all of last year's total grain movement," Mr. Loftus said. "Grain shipments are up 32 percent over last year and I anticipate exports to top two million tons this year."

Federal Ferry Funds Used To Re-Establish Miss. Service

The Mississippi County Port Authority will receive \$278,000 in federal funds to re-establish ferry service between Dorena, Mo., and Hickman, Ky. Service between the two towns was discontinued in 1991, after more than 150 years of operation.

"Getting these federal funds shows the value of a good local effort to get funds..." said **Jack Hynes**, waterways administrator for the Missouri Highway and

Transportation Dept. This is the second federal ferryboat funding package received in Missouri, as the Lewis County-Canton, Mo. port authority received \$140,000 in January to purchase a ferry and barge for vehicle and passenger transportation between Canton and Meyer, Ill.

The funding is part of a \$17 million plan to give 13 states the money for construction projects on ferry boats and ferry terminal facilities. There are currently six other fer-

ries operating in Missouri. All but one is privately owned and operated.

Beaird Industries Appoints Hinkle President

Harry W. Hinkle was appointed president of Beaird Industries, Inc., effective November 14. Mr. Hinkle studied engineering at Auburn University and is a graduate of Georgia

State University. The Shreveport, La.-based Beaird Industries is a wholly owned subsidiary of Trinity Industries of Dallas, and is a leader in large custom fabrication. Beaird has major manufacturing operations in Shreveport and Orange, Texas. The company is involved with partnership programs with customers and is in the process of implementing ISO 9002 and Quest, the total quality management process of the Trinity Industries Group.



How do you define **Bollinger**?



Bol-lin-ger (bäl-in-jer) n. Synonym for quality and service; also known as "The Boat People;" see also: COMPLETE MARINE SERVICE.

Bollinger... redefining your idea about new construction and repair.

Bollinger

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

Circle 206 on Reader Service Card

HOW ARE YOU AT CUTTING MAINTENANCE & REPAIR EXPENSES?

IMPOSSIBLE TO GET THE RESULTS YOU EXPECT?
TRYING ALWAYS TO REDUCE "THE BOTTOM LINE?"

In these days of tight budgets, fierce competition and demand for quality, only the smartest will survive. Intelligent managers are taking proven steps to reduce maintenance of electrical equipment, thereby saving those precious dollars!

How much are you currently spending? How many hours of production are lost?

Would you like to prevent:

- Unexplained Computer Malfunctions
- Telephone & Data System Failure
- Programmable Logic Control Failure
- Variable Frequency Drive Failure
- Premature Failure of Inductive Motors
- Fire Alarm & Security System Failure
- Unscheduled Electrical Equipment Downtime
- Early Light Bulb and Ballast Replacement



We Can Help You Reduce Electrical Maintenance,
Stop Damage From Lightning and Power Surges!

(800) 766-0486 or (904) 654-4447
innovative technology of Destin, inc.

P.O. Box 1212, 122 Azalea Drive, Destin, FL 32540

Circle 287 on Reader Service Card

KOBELT...

CONTROLS SHIPS AND BOATS WORLDWIDE!

KOBELT mechanical, pneumatic and electronic propulsion controls are the world's best.

Manual hydraulic steering installations for smaller vessels; full-power follow-up units for larger vessels. Die cast bronze and stainless steel parts. Comprehensive warranties.

There is only one logical choice...KOBELT.

KOBELT 11720 HORSESHOE WAY, RICHMOND
MANUFACTURING COMPANY LTD. B.C., CANADA V7A 4V5
TEL. (604) 271-2741 FAX (604) 274-6322

Circle 280 on Reader Service Card

FINANCIAL UPDATE

Insurance Institute Fights Proposed Rule

Proposed federal pollution regulations could erroneously produce enormously inflated environmental damage assessments — even in the case of small spills — according to the American Institute of Marine Underwriters (AIMU).

AIMU, which is an association of insurers which underwrites more than 90 percent of the marine insurance business in the U.S., said the natural resource damage assessment regulation proposed by the National Oceanic and Atmospheric Administration (NOAA) is "a significant threat to maritime commerce in the United States."

"Indeed, the maritime industries have reason to fear that the impact, if not the intent, of the regulation is to rid U.S. waters of all forms of watercraft, commercial as well as private," said **Walter Kramer**, president of AIMU, in a letter to NOAA. AIMU also said that the serious flaws in the proposed regulations and their methodologies served as a significant disincentive to the provisions of liability insurance under OPA 90.

The Proposed Legislation

The proposed regulations set out the various assessment procedures which will be available to government trustees in order to establish a dollar amount for natural resource damages for which responsible parties under OPA 90 would be held liable. In the letter, AIMU said an industry-sponsored analysis of the proposed rules found that they produced high damage assessments and other disturbing results. For example, applying the government computer model and formula, the study reported that a spill of

just 10 gallons of heavy crude resulted in nearly \$1.3 million in damage assessments.

This figure is based primarily on the computer-generated hunting losses for water fowl. The model assumes the death of 400,000 birds for each barrel of oil spilled, reported a study by Economic Analysis, Inc. The study said that this result has no connection with actual losses to water fowl, based on real scenarios.

The study was commissioned by the Water Quality Insurance Syndicate, a pool of U.S. marine insurers which provides coverage for pollution liabilities to vessel operators.

"Such erroneous results from application of the models and formulas are frequent," AIMU said in its letter. "Many of the losses associated with natural resource damage will be overstated by virtue of the flawed computer models and formulas."

AIMU also pointed out that natural resource damage assessment will represent a new category of claims payment generally not calculated into the rapidly increasing claims cost.

"The funds available to pay for natural resource damage assessments are finite," AIMU said. "Neither the insurance industry nor the vessel owners and operators have unlimited funds to pay for natural resource damage assessments."

The Study

Economic Analysis, Inc. (EAI) prepared *Comments on Proposed Regulations for Natural Resource Damage Assessments Under OPA 90*. In essence, the report concluded that the proposed regulations would result in dramatic increases

in cost because:

- Many more claims for natural resource damage may be expected under the proposed rules, with substantial damage claims anticipated even for spills of 10 gallons or less;

- The proposed methodologies and underlying data are erroneous and will result in the overstatement of natural resource losses and the assignment of excessively high dollar values to such losses;

- NOAA asserts more confidence in the use of Contingent Valuation (CV) than is justified in the literature, allows CV to be applied in ways that have been shown to provide unreliable results, and fails to establish adequate reality tests of CV results;

- The trustees will have virtually unlimited flexibility, and the proposed "rules of the game" would make it difficult for responsible parties to contest trustee decisions;

- Double recovery for the same natural resources can be expected through the use of simplified damage assessment methodologies by both federal and state trustees, despite specific preclusion in OPA 90.

On assessing the computerized model proposed for use in assessing the spill damage and costs, EAI reports that "the model is a simplified approach for assessing damages using limited information, such as the type and amount of oil spilled, the spill location and the amount cleanup. EAI also found what it deemed many "serious problems," including:

- It assumes that booms or dispersant are never used;

- It includes passive use value losses for temporary losses of common resources, and employs the results of economic studies which are high and otherwise not suitable.

EAI suggests that the computerized model must be corrected before it is used in the regulatory process. It suggests, as a reality check, the model should undergo a rigorous validation process by comparing the results of simulated spills with injury estimates from studies of actual spills.

This announcement appears only as a matter of record.

November 18, 1994

\$31,699,000

**United States Government Guaranteed
Export Ship Financing Bonds**

Issued by
CEPP COMPANIA DE ELECTRICIDAD DE PUERTO PLATA, S.A.

Consisting of

\$21,063,000 7.53% Sinking Fund Bonds Due December 7, 2001
and
\$10,636,000 8.01% Sinking Fund Bonds Due June 7, 2004

To Aid in Financing a 50 Megawatt Power Generating Barge.

Constructed Under a Turnkey Contract With
WÄRTSILÄ DIESEL

Principal and interest guaranteed under Title XI of the
Merchant Marine Act, 1936, as amended.

Price 100%
(Interest accrues from date of issue)

Sale of these securities has been arranged by the undersigned.

Kidder, Peabody & Co.
Incorporated

26

Circle 2E3 on Reader Service Card

NNS To Invest \$68M in Yard Upgrades

Newport News Shipbuilding (NNS) will spend \$68 million over three years to enhance the shipyard's competitive position.

Pat Phillips, chairman and CEO of NNS, said, "Completing this project is a crucial piece of our strategy to position Newport News to be the most versatile and cost competitive shipyard in the world."

Known as the World-Class Shipbuilder Project, the capital program will automate the yard's steel fabrication and assembly processes with advanced robotic equipment. In addition, funds will be used to augment the yard's computer-aided design and computer-aided manufacturing systems and integrate them with the robotic equipment for a paperless transfer of design data. The majority of the improvements will be operational in 1996, with completion scheduled for 1997.

Combined with the learning curve advantages of producing ships in a series, the World-Class Shipbuilder Project is expected to more than double the productivity of the shipyard's steel fabrication processes. During the past few years, NNS has lowered its operating costs substantially by redesigning its work processes and removing costly, unnecessary steps in the construction and repair of ships.

The shipyard that the World-Class Shipbuilder Project will improve its margins and enhance its competitive position in the market for product tankers and frigates. In October the yard won a contract from an international shipowner to build two double-hulled product tankers, with an option for two more.

Also, the yard has been short-listed by the United Arab Emirates (UAE) for a contract to build between four and eight frigates. Recently, the UAE selected NNS to develop a new shipbuilding and ship repair business in Abu Dhabi.

For more information on NNS
Circle 169 on Reader Service Card

Maritime Reporter/Engineering News

BOATS AND BARGES

Gladding-Hearn Delivers Pilot Boat To Biscayne Bay Pilots

Gladding-Hearn Shipbuilding, The Duclos Corp., delivered a new 52-ft. (16-m) all-aluminum pilot boat to Miami's Biscayne Bay Pilots Assoc. Designed by Gladding-Hearn and C. Raymond Hunt Assoc., the vessel—dubbed *Vizcaya*—joins three pilot boats operated by the Biscayne Bay pilots in the Port of Miami, and, according to pilot **Stephen Nadeau**, the new boat will relieve the pressure on the association's existing vessels, and may eventually replace an older boat.

The new boat's hull design is based on the Delaware class design, first built by Gladding-Hearn in 1978. The deep-V, hard-chine hull reportedly takes advantage of a high deadrise to provide a comfortable, dry upwind ride.

Vizcaya Particulars

Owner	Biscayne Bay Pilots Assoc.
Builder	Gladding-Hearn Shipyard
Architect	C. Raymond Hunt Assoc.
Length	52 ft. (16 m)
Beam	17 ft. (5.2 m)
Draft	4.5 ft. (1.4 m)
Speed	22 knots
Main engines	Detroit Diesel
Gears	Twin Disc
Gensets	Onan
VHF	Icom
Radar	Furuno
Depth sounder	Datamarine
UHF	Motorola
Engine controls	Morse
Air conditioning	Marine Air Systems

Powered by Detroit Diesel 8V-92N engines driving four-blade,



The *Vizcaya*, a 52-ft. (16-m) all-aluminum pilot boat built by Gladding-Hearn for the Biscayne Bay Pilots Assoc., is powered by Detroit Diesel engines.

nickel/bronze propellers through Twin Disc gears, the boat can reach speeds of 22 knots. The engines are each rated 364 bhp at 2,100 rpm.

With metal sheathed, acoustical insulation under the deck and against the engine room bulkheads, noise levels in the pilothouse are under 80 decibels, said shipyard officials. Also, a sound-reducing air-intake system, heavy-duty sound-

absorbing engine mounts and a hospital-grade muffler system help to further dampen sound. Onboard accommodations include furniture and cabinetry, air conditioning and seating for eight pilots in the pilothouse.

For more information on Gladding-Hearn
Circle 1 on Reader Service Card

Joint Agreement Signed To Run High-Speed Ferry Service In Philippines

CTS-Parkview Holdings Ltd. signed a joint venture agreement with Aboitiz Transport System to run high-speed ferry service in the Philippines.

The ferry route will provide a service between Batangas and Calapan.

Initially, one vessel will run the route, with additional ferries planned for production in 1995. Catamarans for the route will either be chosen from the existing CTS-Parkview Holdings fleet or will be purpose built for the joint venture company by the FBM marine group in the U.S.

Aboitiz Transport System is a part of the Aboitiz Group, an established company in the Philippines.

CTS-Parkview Holdings Ltd. is a joint venture company founded in 1993 with its shareholders being China Travel Service, HK Ltd. and the Hong Kong Parkview Group Ltd. It operates the fast ferry "Turbo Cat" passenger service.

Gladding-Hearn To Deliver Pilot Boat This Month

Gladding-Hearn Shipbuilding will deliver a 45-ft. (13.7-m) pilot boat to the Virgin Island Port Authority in St. Thomas, almost 25 years after the organization bought its first pilot boat from the marine manufacturer. Dubbed the *Winston L. Parris*, the new boat is nearly identical to its sister, except that it is all-aluminum construction, ver-

sus the steel construction of the former boat.

"The pilots wanted a medium-speed, aluminum boat that's as comfortable as their older one, but without the high maintenance of a steel boat," said **Peter Duclos**, Gladding-Hearn's vice president of engineering. "The new boat will be heavily built to displace 38,000 pounds without internal ballast."

Designed by Gladding-Hearn, the boat sports a modified V hull and is

powered by a pair of Detroit Diesel 6-71N engines (each rated for 230 bhp at 2,100 rpm) through Twin Disc gears driving a Hall & Stavert propeller, enabling the boat to reach speeds to 16 knots.

Onboard accommodations include furniture and cabinetry, air conditioning and seating for four pilots in the pilot house.

For more information on Gladding-Hearn
Circle 1 on Reader Service Card

Winston L. Parris Particulars

Owner	Virgin Island Port Authority
Length	45 ft. (13.7 m)
Beam	13.3 ft. (4 m)
Depth	6.5 ft. (2 m)
Main engines	Detroit Diesel
Gears	Twin Disc
Propellers	Hall & Stavert
Gensets	Onan
Autopilot	Hynautic
VHF	Horizons
Depth sounder	Furuno
Compass	Ritchie

When you need to make those tough decisions...



make sure you have the current facts...
in your hands every 10 days with

THE Marine Newsletter

Edited for Marine Industry decision-makers like yourself... and packed with the kind of "Need To Know"

information that you rely on to make critical business decisions... Every 10 days you'll receive your personal First Class copy of The Marine Newsletter... Order yours today!

SPECIAL CHARTER SUBSCRIPTION OFFER
20% DISCOUNT — SAVE \$59!

For **FAST** service, **FAX** your order to **(212) 677-8843**
Or mail your check for \$236 to: **MARITIME REPORTER**
118 East 25th Street, New York, NY 10010 USA

Yes! Enter my subscription to The Marine Newsletter. I'll receive a Full Year—36 news-packed issues at the special introductory rate of \$236.

Enclosed is payment of \$236. Bill me. Bill my company.

Name _____

Company _____

Address _____

City _____ State _____ Zip _____

Country _____

Signature _____

PROPULSION UPDATE

Cummins, Wärtsilä Agree To Joint Venture

Engine makers team to produce diesel and natural gas engines to 6,000 hp

Cummins Engine Co. Inc. of the U.S. and Wärtsilä Diesel International Ltd. Oy of Finland agreed to form a 50/50 joint venture to design, develop and manufacture two new families of heavy-duty, high-speed diesel and natural gas engine ranging up from 3,600 hp (2.7 MW) and 6,000 hp (4.5 MW), respectively.

"This new relationship furthers Cummins' strategic plan to achieve profitable growth in markets related to its core competencies," said Cummins President and CEO **James A. Henderson**. "It will further expand the horsepower range of what already is one of the broadest product lines in the diesel industry and will provide further growth in Cummins' increasingly

global sales base."

Pentti-Juhani Hintikka, president and CEO of Wärtsilä Diesel Group, said "The joint venture with a leading high-speed engine producer is a logical way to ensure Wärtsilä Diesel's high-speed business growth in its strong marine and heavy-duty power generation markets through higher volumes and cost effectiveness."

The first of the new families of engines to be released will be based upon the recently launched Wärtsilä 200 engine, which ranges up to 6,000 hp. The joint venture will begin production in 1995 at the present Wärtsilä SACM Diesel factory in Mulhouse, France. The second engine family will be a new 4.5 liter

per cylinder engine that will be tested in 1995, with initial production scheduled in 1996 at a location to be announced. It will provide up to 3,600 hp for durable high-load use while employing full-authority electronic controls with the latest in fuel system technology.

Engines manufactured by the joint venture will be sold by the partners to the worldwide markets for mining, power generation, rail and marine propulsion, as well as auxiliary applications. The engines will be marketed under the names of Cummins and Wärtsilä. The two engine manufacturers expect a finalization of the agreement by mid-1995.

Cummins will market the en-

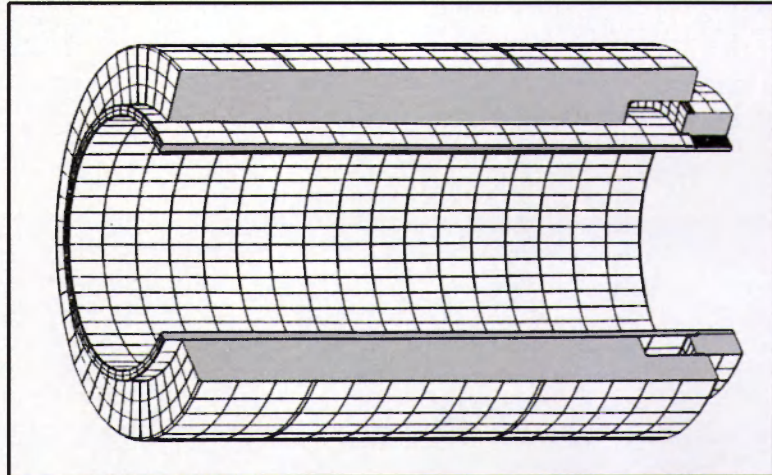
gines produced by the joint venture in the range of 2,500 hp to 6,000 hp as a part of its Quantum power system. The Quantum system meets the needs of customers using large engines, emphasizing fuel efficiency, reliability, durability, alternate fuel capability and electronics. The system also features electronic products offering extensive engine controls, monitoring systems, PC-based service tools and user-friendly business reports — all designed with offering lowest operating cost solutions.

For more information on Cummins
Circle 87 on Reader Service Card

For more information on Wärtsilä
Circle 88 on Reader Service Card



Introducing The Largest Keyless Hydraulic Shaft Coupling Made in the USA



660 mm (26") Straight Hydraulic Shaft Coupling

- Improve shafting reliability by removing keyways.
- Couplings are interchangeable between shafts.
- Install and remove coupling hydraulically.
- Straight and flanged coupling designs are available.

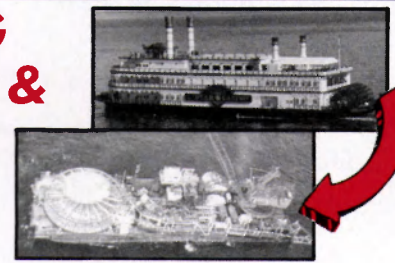
MAPECO PRODUCTS

A Division of Walz & Krenzer Inc.

90 Forest Avenue P.O. Box 382
Locust Valley, NY 11560
Tel: 516-759-1802 Fax: 516-759-9405

Circle 228 on Reader Service Card

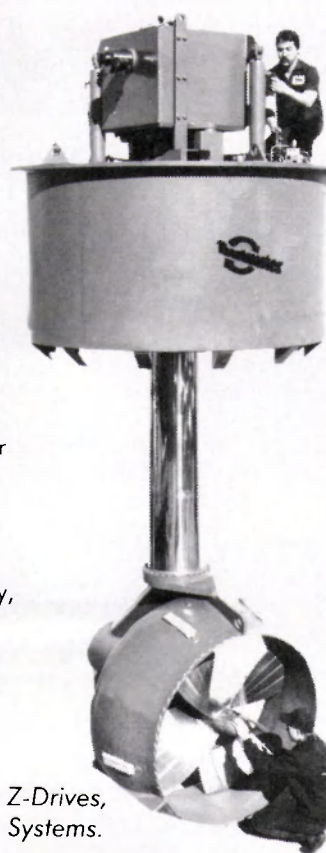
FROM GAMING BOATS TO PIPE & CABLE LAYING BARGES . . .



All Types of Vessel Owners and Operators are Discovering the Advantages of Thrustmaster's Rugged Hydraulic Z-Drives.

ADVANTAGES LIKE:

- 360° steering and propeller speed control without changing engine speed.
- Design flexibility because main drive can be located remotely from Z-Drive.
- Precise docking and slow maneuvering at less cost and greater reliability than controllable pitch propellers.
- Fixed or retractable units, each tailored for your specific application.
- A wide range of horsepower available.
- Unparalleled performance with little, if any, maintenance problems.
- Manufactured in U.S.A. and backed by experienced service personnel, with spare parts readily available.



Check out the Advantages of Thrustmaster Z-Drives, Tunnel Thrusters and Outboard Propulsion Systems.



713-937-6295
Fax: 713-937-7962

Thrustmaster of Texas, Inc.
P.O. Box 840189
Houston, Texas 77284-0189

Circle 294 on Reader Service Card

Sperry Marine - Keeping You On A Safe and Profitable Course



Proven Advanced Navigation Features:

- Optimized Navigation and Control
- Integrated Weather Routing and Heavy Weather Damage Avoidance
- DNV W-1 Certified Automatic Navigation and Track Keeping System
- Windows Based Voyage Management System (VMS)

Turnkey Bridge System Design and Integration:

- CAD Design Services
- Family of bridge console modules
- System engineered turnkey integrated bridge including navigation, communication, propulsion control
- Supervision of installation, commissioning and worldwide support by SPERRY MARINE

For further information on all Sperry Marine products and service, contact:

Sperry Marine Ltd.
Molly Millars Lane
Wokingham, Berkshire
RG11 2SH England
Phone: (0734) 789-444

Sperry Marine B.V.
P.O. Box 274
3130 AG Vlaardingen
The Netherlands
Phone: (010) 445-1600

Sperry Marine S.p.A.
Piazzale J.F. Kennedy
169129 Genoa
Italy
Phone: (010) 566-351

Sperry Marine A/S
Højnaesvej 46
DK-2610 Roedovre
Denmark
Phone: (36) 722-077

Sperry Marine Asia Inc.
KUGA Bldg.
11-6 Kuramae 4-Chome
Taito-ku Tokyo 111
Phone: (03) 3863-7401

Sperry Marine Pte Ltd.
213 Henderson Industrial Park
Singapore 0315
Phone: 274-3332



Sperry Marine Inc.
1070 Seminole Trail
Charlottesville, VA 22901-2891 USA
Phone: (804) 974-2000
FAX: (804) 974-2259

Circle 282 on Reader Service Card

Mill Log Offers Twin Disc Power Commander To N.W.

Mill Log Marine Inc., based in Kent, Wash., is now distributing the new Twin Disc Power Commander EC-100. The Commander EC-100 is a total command unit which replaces cables and hydraulics with an electronic control system for quick command of both gas and diesel powered vessels. The

unit features three to six command stations, single lever control, engine sync for twin engines and tolling valve control.

For more information
Circle 131 on Reader Service Card

Kop-Flex Teams With Maag

To provide turbo machinery users outside of N. America with a single

source for gearboxes and couplings, Kop-Flex of Baltimore signed an agreement with Maag Gear of Zurich. Maag, a leading supplier of specialty gear products internationally, will market Kop-Flex high-speed dry couplings in select markets outside of the U.S. and Canada.

Kop-Flex has built high-performance dry couplings for more than 20 years. Maag gearboxes are in service all over the world, and backed by a strong sales and support net-

work.

"This agreement helps us reach customers worldwide without changing our focus," said Bill Kuchler, vice president, Kop-Flex. "With Kop-Flex couplings and Maag gearboxes and engineering, the overseas customer gets an unbeatable deal."

For more information on Kop-Flex
Circle 134 on Reader Service Card

The Seaward Marine Fender Protecting Vessels and Port Facilities Worldwide For Over 15 Years

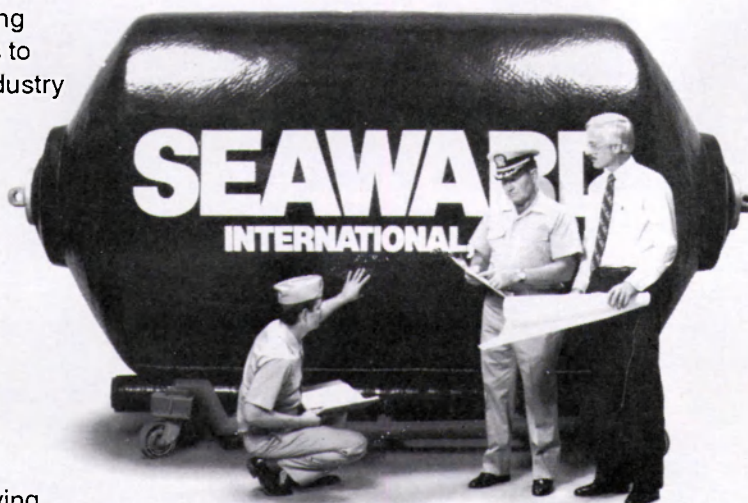
Seaward International is the world's largest manufacturer of foam filled marine fenders and flotation products. Our reputation for delivering the highest quality, best performing products to serve the military and commercial marine industry is unequalled.

Seaward Products and Services include:

- Dock Fenders
- Ship Fenders
- Lightering Fenders
- "Donut" Pile Fenders
- Foam Filled Marine Buoys
- Flotation Products
- Urethane Marine Coatings
- Specialty Elastomeric Materials

As an elastomer technology corporation solving the problems of fendering, flotation, energy absorption, abrasion and corrosion, Seaward International has the experience and resources needed to solve your problems.

For information contact Seaward International, P.O. Box 98, Clearbrook, Virginia 22624. Telephone: (703) 667-5191, Fax: (703) 667-7987.



Circle 234 on Reader Service Card

Viking Inflatable Liferafts
in sizes 6 to 50 persons. Also - 2 units 50 person DK with "B" pack in one container.

Viking Escape Slide
evacuating 400 people in 30 minutes.

Viking Inflatable Buoyant Apparatus
in sizes 6, 12, 20, 45 and 50 persons. Also - 2 units 50 person IBA in one container.

The Viking Inflatable Liferaft is U.S.C.G. approved according to SOLAS '83 Amendment III Regulations. Delivery from stock in Miami through our 42 distributors in the U.S.A. Write for free literature. See Us At Booth No. 235 PVA Show

VIKING LIFE-SAVING EQUIPMENT (AMERICA), INC.
1625 N. Miami Ave. • FL 33136 • Tel: (305) 374-5115 • Fax: (305) 374-1535

Circle 243 on Reader Service Card

Gasser Provides Range Of Seating Products

Gasser Chair Co. manufactures a full-range of seating products designed for long term use. The company, in business for 48 years, is a leader in providing creative, comfortable and durable seating for cruise ships, gaming vessels and many non-maritime industry segments.

For more information on Gasser
Circle 154 on Reader Service Card

DID Offers Special Pricing To PVA Members

Directions In Design Inc. (DID) specializes in all aspects of marine and land-based hospitality and commercial interior design. DID's staff selects all interior finishes, materials, lighting, signage and furnishing. Its sister company, Procurement Services Inc., recently announced the opportunity for all Passenger Vessels Association members to purchase materials and furnishings at competitive pricing. DID will exhibit at the upcoming PVA show in booth number 214.

For more information on DID
Circle 155 on Reader Service Card

Trinity Ends Year Strong

The Trinity Marine Group (TMG) was busy at the end of 1995 announcing orders and delivering vessels. Trinity's Halter Marine won an \$11 million contract to build two Special Operations Command boats. TMG also delivered the *Flamingo* Casino to Hilton. TMG will exhibit at the upcoming PVA show in booth number 105.

For more information on Trinity
Circle 172 on Reader Service Card

Lo-Rez System Used On Many Passenger Vessels

The Lo-Rez "soft mount" engine mounting system is featured on many of the passenger vessels featured in this month's Passenger Vessel Review (starting on page 32), including the *Empress II*, the *Shreveport Rose*, the *Queen of New Orleans* and the *Boomtoun Belle*. The Lo-Rez soft mount system is designed to provide quiet, vibration-free operation and improved service life in passenger, commercial and naval vessels.

For more information on Lo-Rez
Circle 156 on Reader Service Card

Passenger Vessel Review

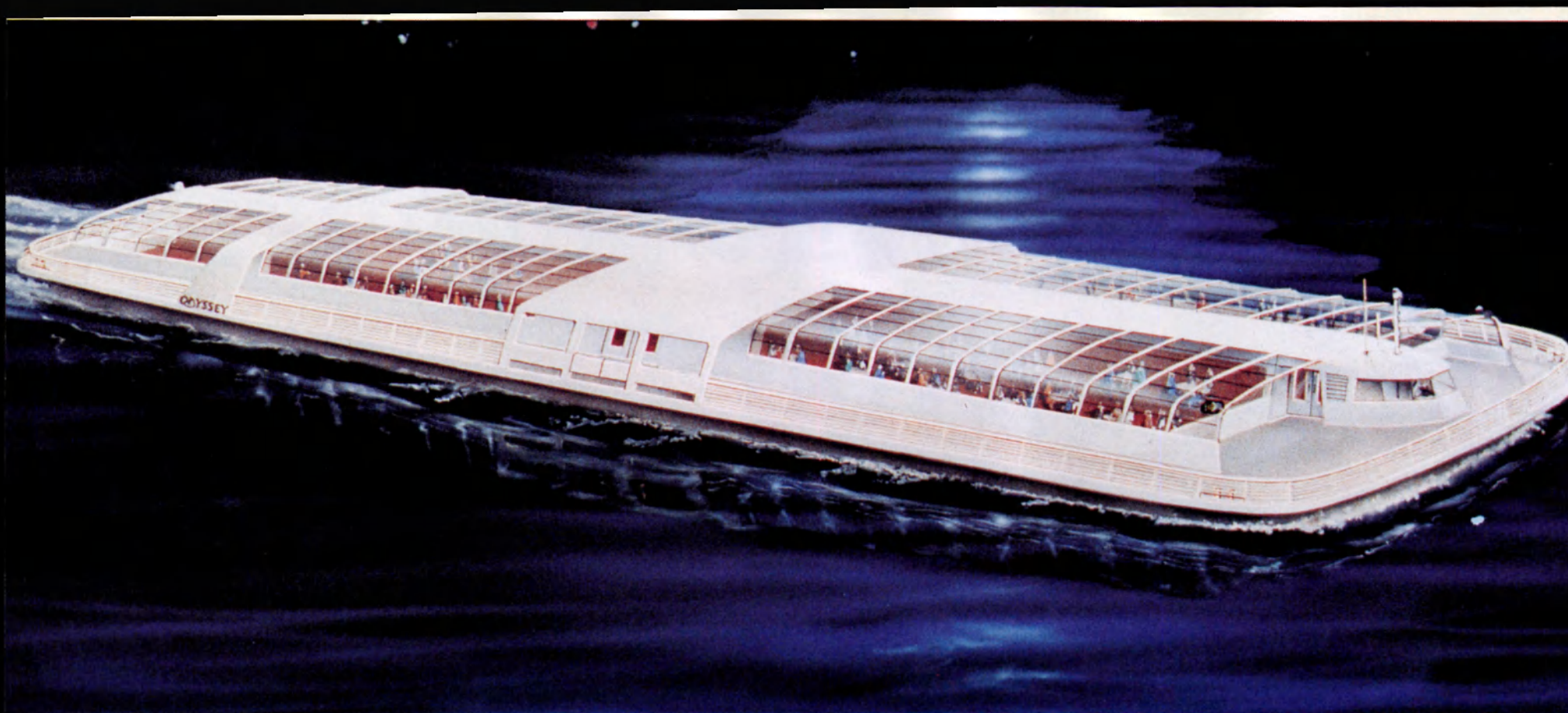
THE FUTURE...



...IS NOW!



**MARITIME
REPORTER**
AND
ENGINEERING NEWS



PASSENGER VESSEL ASSOCIATION

1995 Convention & Trade Show

The Passenger Vessel Association's (PVA) 1995 Convention and Trade Show, scheduled for January 14-18, 1995 at the Fairmont Hotel in San Francisco, is dubbed "Excellence Afloat: Meeting Tomorrow's Challenges" and will feature its usual mixture of educational seminars and exhibitions.

The Conference

The PVA Education program will feature several plenary sessions which should be of interest to many groups. The following is a brief on select sessions, including date and description.

Saturday, Jan. 14:
"Achieving Excellence in the Travel & Tourism Industry." **John A. Marks**, president of the San Francisco Convention & Visitor's Bureau,

will address winning ways in today's competitive tourism industry.

Sunday, Jan. 15
"Safety and Passenger Vessels: Perspective from the U.S. Coast Guard Watch Dog." The Honorable **Jim Hall**, acting chairman, National Transportation Safety Board (NTSB), and **Marjorie Murtaugh**, division chief, marine transportation, NTSB, will discuss the NTSB, which through its role in investigating serious incidents and working the U.S. Coast Guard and other regulatory agencies, serves as a critical link in the U.S. Safety Net.

Apart from the education sessions, the PVA's conference segment will feature roundtable workshops. The following is a synopsis of the sessions planned.

- **Sunday, Jan. 15**
"Service, Service, Service: How the simple basics apply to all areas of the industry"
"Family Business & Tax Planning Issues"
"How To Develop an Effective Public Relations Program"
"Electronics in the Vessel: How much technology is viable?"
- **Monday, Jan. 16**
"Legal Issues for Passenger Vessel Owners"
"Trends in Food and Beverage"
"Proposed T&K Regulations & How They Affect Your Company"
"Marketing on the Cheap: Tips for success"
"Theft & Loss: Strategies to reduce your food and beverage costs"
"Wooden Boat Inspections: Age-old technology - today's experience"
"New Vessel Technology"
"PVA Insurance Program Update"
"How to Write A Marketing Plan"
- **Tuesday, Jan. 17**
"Financial Opportunities Available to the Industry"
"The Anatomy of an Accident"
"New Ways to Find Target Markets"
"How to Design and Implement

Pictured above is an artist rendering of a new dinner/cruise vessel under construction by Service Marine Industries for Premier Yachts, Inc. of Chicago. The 240-ft. (73-m) by 59-ft. (18-m), 600-passenger boat will serve the Washington D.C. area and is scheduled for delivery in May 1995. The single-deck, glass-enclosed vessel is representative of the Seine River type used throughout Europe.

For information on Service Marine
Circle 39 on Reader Service Card

a Safety Program"
"Introducing the PVA Drug Testing Program"

The Exhibition

The exhibition portion of the PVA show expands both in number of exhibitors and importance each year. The convention planning committee has incorporated a number of changes into the trade show schedule based on suggestions by Associate Members who have exhibited previously.

This year, an emphasis will remain on food and social functions in the exhibit hall. The show offers vessels operators a hands-on opportunity to discover and examine new products and services. As always, the exhibitor hall will be filled with representatives from top industry suppliers and builders, including: Atlantic Marine, Avondale, DeJong & Lebet Inc., Directions in Design, Hamilton Jet, Interior Design Intl., Jeffboat, Rodney E. Lay & Assoc., Leevac, Nichols Bros., Peterson Builders, Service Marine, SkipperLiner, Trinity Marine Group, Twin Disc, Westport Shipyard, and more.

For additional information on the 1995 edition of the PVA show or to register, contact PVA at: 1600 Wilson Blvd., Suite 1000-A, Arlington, Va. 22209; tel: (703) 807-0100; fax: (703) 807-0103.

On the "cover": Pictured on the lead-in cover to MR/EN's Passenger Vessel coverage is an artist's impression (top) and the finished Gladding-Hearn Shipbuilding-built high-speed whale watch vessel Friendship IV. The boat was built for Bar Harbor Whale Watch Co., and specifics are provided on page 32 of this issue.

Passenger Vessel Suppliers Guide

The following is a directory of companies which build, as well as offer services and supplies to the passenger vessel market. (All entries with booth numbers are exhibitors at this month's Passenger Vessel Association show.) For additional information on any of the companies, circle the corresponding number on the Reader Service Card in this issue.

Alaska Diesel Electric Booth 128

Circle 67 on Reader Service Card
Lugger diesels and Northern Lights generators, both manufactured by Alaska Diesel Electric in Seattle, continue to experience dynamic growth in the passenger vessel market. In the past year, Lugger-powered passenger catamarans were launched, including *Pride of Key West*, *Sea Bird Watcher* and *The Edge*. Northern Lights generators continue to be specified for passenger vessels, and were included on the Palau Aggressor and the *Catalina Express*.

Atlantic Marine Booth 322

Circle 100 on Reader Service Card
Atlantic Marine is a trusted name in the shipyard business. Since 1964, the shipyard has built 228 hulls, ranging from ferries, dinner boats, casino vessels, tugs, barges, fishing and research vessels for the American and International markets.

Avondale Boat Division Booth 134

Circle 101 on Reader Service Card
Building commercial and military vessels (steel and aluminum) to 1,100 ft.; paddlewheel or yacht style gaming and/or excursion boats, barges, ferries and fast ferries.

Bender Shipbuilding & Repair Booth 213

Circle 68 on Reader Service Card
Bender has technical information and designs for passenger vessels and ferry boats.

Bill Brown Ent. Inc. Booth 210

Circle 102 on Reader Service Card
Bill Brown Enterprises designs HVAC systems designed to match required air changes based on occupancy, helping to reduce operating expenses. Bill Brown Enterprises' approach to plumbing reportedly reduces maintenance, inconvenience and other related problems.

Chicago Metallic Booth 103

Circle 103 on Reader Service Card
Chicago Metallic has been producing quality products for more than 100 years. The international company specializes in commercial grid, drywall and all-metal ceiling systems. Its decorative metal ceiling systems set the industry standard for quality commercial ship interiors. The company offers a full-line of metal ceiling systems in a wide variety of colors, finishes and other options.

Claracom Inc. Booth 121

Circle 69 on Reader Service Card
Claracom specializes in providing public cellular payphone service for commuter passenger vessels, dining yachts and riverboat casinos.

Cummins Marine Booth 212

Circle 104 on Reader Service Card
Cummins Marine manufactures marine diesel pro-

pulsion engines from 64 to 1,385 hp. This range of engines offers marine customers a variety of proven and dependable designs to fit demanding customer requirements. Cummins Marine has just introduced the new 350 HP C-Series, upgraded KTA19M3 at 700 hp and KTA38 1050, 1,200 and 1,320 hp.

Custom Ship Interiors, Inc. Booth 306

Circle 105 on Reader Service Card
CSI provides, to the customer's location, a marine interior construction team for installing, refurbishing and/or repairing the interior of a vessel. CSI's on-site staff also serves as construction managers and design consultants.

Dejong & Lebet Booth 206

Circle 106 on Reader Service Card
Vessel design and engineering services: stability, tonnage, structural fire protection, weights, piping, structures, electrical, HVAC, yacht certification, etc. During the past year the naval architecture firm has worked on, among others, the *Presi-*

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.



PAR-A-DICE - 240' x 66' triple deck casino vessel built for Par-A-Dice Gaming Corp., East Peoria, Illinois. This ultra modern catamaran style vessel has a capacity for 1,600 persons and 33,000 sq. ft. of casino space.



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.



DIAMOND LADY - 201' x 46' Sternwheel Casino Vessel built for Steamboat River Cruise Lines, Bettendorf, Iowa.



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.



Atlantic Marine, Inc.

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

Circle 201 on Reader Service Card

Passenger Vessel Suppliers Guide

dent IV, Peconic River Queen, Superstar, Lady Dean, Key Largo Casino, Sir Winston and Miss Marquette.

10 to 770 hp and MTU high-performance, heavy duty diesels from 50 to 10,000 hp.

Detroit Diesel Corp.
Booth 110

Circle 81 on Reader Service Card
Detroit Diesel Corporation is engaged in the design, sale and service of heavy duty diesel engines from five to 2,500 hp. In North America, Detroit Diesel distributes Volvo Penta marine diesels from

Elliott Bay Design Group, Ltd.
Booth 203

Circle 107 on Reader Service Card
The company will exhibit some of its recent projects in passenger vessel design, including a 54-car ferry and a 149-passenger excursion boat. The Elliott Bay Design staff will be available to share its knowledge of new regulations and industry trends.

Executone Information Systems
Booth 315

Circle 108 on Reader Service Card
Executone Information Systems designs, manufactures, markets and supports voice processing and healthier communications systems. Executone Information Services also provides video conferencing services and long distance telephone service. Products are sold under the Executone, Infostar, IDS, Lifesaver and Infostar/ILS brand names.

Formglas Interiors Inc.
Booth 744-746

Circle 109 on Reader Service Card
Formglas, a manufacturer of Glassfiber Reinforced Architectural component shapes, plans to unveil new finishes and products at the PVA show. On display will be samples and photograph portfolios of product installations, as well as case examples of successful marine applications.

Gage Corporation
Booth 234

Circle 110 on Reader Service Card
The Gage Corporation developed a collection of architectural metal ceilings and wall surfacing. Proprietary finishing capabilities and manufacturing technology provide extensive design options. Collaborative custom designs are encouraged.

Gladding-Hearn Shipbuilding
Booth 310

Circle 111 on Reader Service Card
Exhibiting information on fast ferries and whale watch vessels of steel construction and fiberglass monohulls. Incat Catamaran designs with speeds to 40 knots. Introducing an economical 149-passenger Incat Catamaran built with fiberglass hulls fitted with aluminum superstructure. Speeds up to 35 knots with waterjets, and 30 knots with propellers.

Hamilton Jet Inc.
Booth 331

Circle 112 on Reader Service Card
On display will be examples of passenger ferries up to 140 ft. (42.7 m) in service or under construction powered by Hamilton Jet's range of waterjet propulsion units. Hamilton Jet's product range up to 4,000 hp includes complete control and maneuvering systems.

Interior Design International
Booth 322

Circle 113 on Reader Service Card
IDI is a premier design firm in the hospitality and marine industry. Its clients and work includes cruise ship casino boats, casinos, hotels, ferries, SWATH vessels and dinner and excursion vessels. IDI provides clients with total interior design, technical and product specifications, and marine documentation.

Jeffboat
Booth 324

Circle 114 on Reader Service Card
Builder of the *Mississippi Queen*, the *General Jackson*, the *Nantucket* and *Newport Clippers*. Jeffboat will continue the tradition that James Howard started in 1834 by building cruise vessels. The *City of Caruthersville* and *The City of Evansville* follow in the tradition of quality built boats.

Marinette Marine Corporation
Booth 211

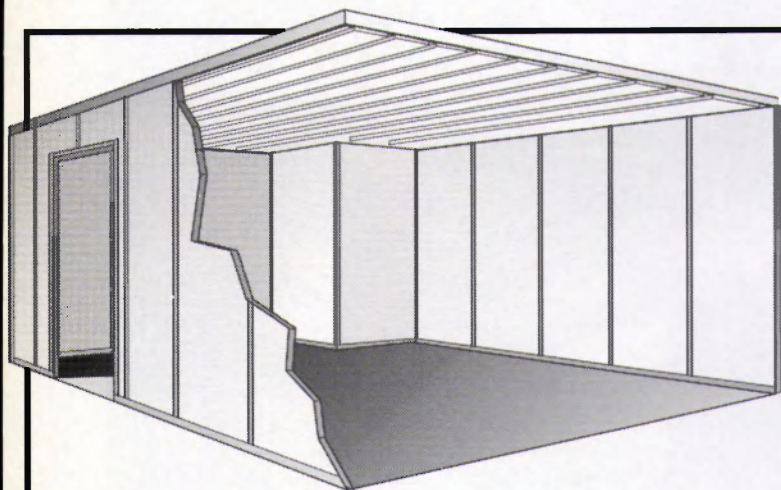
Circle 115 on Reader Service Card
Marinette Marine is exhibiting its latest ferry design; a 98.4 ft. (30 m), gas turbine powered 420-passenger catamaran. The design effects the T/K standards to satisfy the U.S. Coast Guard, and it takes the owner's maintenance requirements into account.

Marine Filtration Services, Inc.
Circle 82 on Reader Service Card

Fleetguard manufactures premium MPL Filtration products including: air, fuel, lube, hydraulic and coolant filters. Marine Filtration Services, Inc. is Fleetguard's East Coast MPL distributor. U.S. Coast Guard-licensed marine performance specialists provide passenger vessel owners with cost effective filtration technical support programs not available from any other filter supplier.

Maritime Services Corp.
Booth 320

Circle 83 on Reader Service Card
Maritime Services Corp. provides the marine in-



The Newest System of Marine Comfort



A Division of Overhead Door

TODCO is now the only American made soft core interior system for use in the marine industry. This Coast Guard approved system provides bulkheads, doors, and ceilings that are lightweight, thermal and acoustically insulated with fire ratings required by the industry. Our bulkhead panels are approved to meet B-15 requirements, and as a component of A-60 bulkhead construction.

Doors - Joiner doors constructed to customer specifications. Weather tight, acoustic or standard features are available.

Ceilings - Pre-painted steel plank type is offered in both perforated and non-perforated with or without insulation.

Bulkheads - We offer 25mm, 50mm and 75mm thick soft core panels with an assortment of finishes available.



7167 Rt. 353 • Cattaraugus, NY 14719-9537
Ph. 716-257-3475 • FAX 716-257-9114

or contact:

Jack Starbird - Ship Planners Inc.
811 First Ave. Suite 453 - Seattle, WA 98104
Ph. 206-628-3038 - FAX 206-624-8633

Circle 266 on Reader Service Card

World's premier designer, builder and operator of small ships

Innovative design features which make Blount small ships unique:

- Bow Ramp
- Retractable Superstructure
- Shallow Draft with Good Sea-keeping Quality
- Stern Swimming/Docking Platform
- Ductless Air-conditioning
- Glass-bottom Boat

Blount's 40-year know-how can give you low prices and fast delivery!

BLOUNT INDUSTRIES, INC.
461 Water Street, Warren, Rhode Island 02885-0368, USA
PHONE: (401) 245-8300 ↓ FAX: (401) 245-8303

Circle 205 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 5/8" - New and Used Stud Link - Cast Steel - Grades 2 and 3 - Oil Rig Quality for Moorings, Towing, Barge Handling, Ship's Replacement
- **WINCHES** - WINDLASSES - CAPSTANS - Vertical or Horizontal Hand, Electric, Diesel, Hydraulic or Repowered to your specs
- **HATCHES** - WATERTIGHT DOORS - MANHOLE COVERS - SCUTLES - PORTHOLES - All Sizes - New or Reconditioned
- **PANAMA CHOCKS** - DOUBLE BITTS - SINGLE BITTS - CAST STEEL CLEATS - AND KEVELS - All Sizes Available - New & Used
- **FENDERS PNEUMATIC** - For Rent or Sale - All Sizes - New & Used

GIGANTIC INVENTORY NEW & USED

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

Call 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 245 on Reader Service Card

Passenger Vessel Suppliers Guide

dustry with planning, design, engineering, construction supervision, materials and project execution relating to the new building and refurbishment of cruise ships, ferries, work boats and gaming boats. Fast turn around, on-time project completions and mobile work crews are the strengths which MSC touts.

MOPS Marine License Insurance Booth 314

Circle 116 on Reader Service Card
Since 1935, MOPS Marine License Insurance has been providing U.S. Coast Guard-licensed maritime officers with license defense attorneys, civil lawsuit defense, civil penalty legal defense, and, if requested, full or partial income protection in the event of license suspension or revocation of up to 12 months.

Peterson Builders Inc. Booth 215-217

Circle 117 on Reader Service Card
Peterson Builders provides high speed ferry design and construction including 147.6 ft. (45 m), 45-knot tri-cat turbine powered version and diesel version. Other proven designs are also available.

Rodney E. Lay & Associates Booth 219

Circle 118 on Reader Service Card
Rodney E. Lay & Associates will display riverboat casinos, including casino cat and traditional styles, and will introduce oceangoing casino cats and SWATH vessels for the "cruise to nowhere" market. Other recent REL&A passenger vessel designs include the Woods Hole ferry *Martha's Vineyard* and the State of Maine's Gov. Curtis class ferries. REL&A's professional team provides full-service ship designs including stability analysis, regulatory submittal and liaison.

Service Marine Industries Booth 106

Circle 119 on Reader Service Card
Service Marine is a designer and builder of floating casinos of all types, dockside and self-propelled riverboat casinos.

SkipperLiner Industries, Inc. Booth 218

Circle 120 on Reader Service Card
SkipperLiner Industries will feature its line of motor yachts, poddlewheelers, European canal boats and water taxis. SkipperLiner will also feature the new SLC 1500 GC, an authentic sternwheeler custom-built for Genesee County, Mich.

Tadco Inc. Booth 311

Circle 121 on Reader Service Card
Tadco manufactures soft core interior systems for use in the marine industry. The U.S. Coast Guard-approved system provides bulkheads, doors and ceilings that are lightweight and thermally and acoustically insulated with fire ratings required by the industry.

Trans Bay Images Booth 224 & 325

Circle 84 on Reader Service Card
Trans Bay Images specializes in designing and operating photographic concessions for the passenger vessel industry. Emphasis is placed on the customer service, product, quality and smooth logistical integration.

Viking Life-Saving Equipment Booth 235

Circle 122 on Reader Service Card
Inflatable liferafts, throw-overboard type 4-100 persons, davit-launchable type 12-35 persons, IBA's 6-100 persons, marine escape LSIDe/chute systems. Inflatable and foam-filled lifejackets, water-activated lights, survival and firesuits, emergency rations, marine pyrotechnics, and other marine safety products.

ZF Industries Booth 108

Circle 123 on Reader Service Card
ZF manufactures marine transmissions up to 8,000 hp.

Envirovac

Circle 124 on Reader Service Card
Envirovac engineers and manufactures the EVAC

vacuum toilet and waste water collection systems for marine vessels of all sizes. The three pint flush vacuum toilet helps reduce water consumption, helping to save weight and space, save on piping and allowing for pipe layouts and installation independent of pitch. Envirovac also makes the ORCA marine sanitation device in seven models, ranging from 12 to 1,000 person capacities.

Walter Machine Co.

Circle 125 on Reader Service Card
Walter Machine Co. manufactures the Walter keel coolers, cooling systems for propulsion and auxiliary engines in casino boats, Z-drive lugs, fishing boats and crew boats. The company has participated on many passenger vessels projects during the past year, including the *Seaspan Hawk* and *Seaspan Falcon*, and the *Star Casino*.

When someone asks to use the phone, here's your answer.

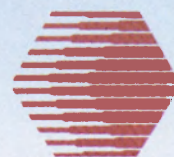
CallAboard® provides public cellular telephone service for ferries, cruise ships, gambling vessels, dining yachts, work barges, island locations and other remote environments where conventional wired telephone service is not available.



- Free public cellular telephones
- Monthly commissions*
- No long-term financial obligations
- Immediate hook-up
- No phone bills to handle
- No administrative burden
- Callers may charge phone calls directly to their major credit cards, phone company calling card, or call collect
- Billing information can be entered through the keypad, card reader, or given to live operators

CallAboard® provides the best way for passengers, customers, and employees to stay in telephone contact without costing most companies any money. We deliver state-of-the-art public cellular telephone equipment, installation, service and bill processing FREE of charge to qualified organizations.**

CallAboard® eliminates any need to time calls, oversee billing, perform service or attempt collection. **CallAboard®** will handle all of your public cellular communication needs and allow everyone to keep in touch!



CallAboard®

A Service of CELLNET Corporation

Call 1-800-CallAboard (1-800-225-5226-273)

400 Main Street, Suite 800, Stamford, CT 06901-3004 Fax (203) 359-6826 • Call (203) 359-6333, Ext. 304 or 307

* Commission schedule will commence when phone usage exceeds monthly minimum.
** Based upon applicant's qualifications and specific application.

Circle 210 on Reader Service Card

Passenger Vessel Review

Innovative passenger vessel designs and deliveries — both in the U.S. and internationally — were numerous in 1994. While there are many different types and sizes of passenger vessels profiled in the ensuing pages, there is a predominant characteristic among many of the boats detailed — speed. If the age of the fast ferry has not officially arrived, it most certainly is close. Of the vessels presented in this annual forum, more than half are designed to move passengers (and in some cases cars and cargo) rapidly from the proverbial "point A to point B." Many factors play a role in this need for speed — emerging technological capability, to name a few. The flash of these fast carriers, however, should not detract attention from the many other worthy types of passenger craft delivered during the year. Riverboat casino vessels have changed the riverscape in many U.S. cities, and prospects are good for that niche market's continued growth (see related story page 42 of this issue). Designed to carry passengers safely while packing the design punch of a Las Vegas casino, these boats — whether of the paddlewheel or modern yacht design — are true technological accomplishments also, and stand as a tribute to the companies which design (both the structure & interiors), build and supply them.



Yard Nichols Brothers
Type Passenger ferry
Name .. Bay Breeze

Nichols Brothers Inc. delivered the \$3.2-million *Bay Breeze* to the Alameda/Oakland Ferry service in late May. The 250-passenger fast catamaran's propulsion package includes equipment from KaMeWa and Detroit Diesel, enabling the boat to achieve 25-knot speeds, reportedly making it the fastest vessel of its type on the San Francisco Bay. The boat measures 97 ft. (29.5 m) long with a 29-ft. (9-m) beam and a 4-ft. (1.2-m) draft. It is based on a design from International Catamarans Pty. Ltd. The vessel, which is jointly owned by the City of Alameda and the Port of Oakland, was paid for with funds from the California Transportation Commission. The ferry service began after the 1989 earthquake.

Bay Breeze Equipment

Designer	Intl. Catamarans Pty. Ltd.
Engines	Detroit
Gear	Detroit
Auxiliary engine	Isuzu
Generator	Lima
Thruster	KaMeWa
Paint	Hempel
Seating	Turnbull

Yard Sovereign Submarines
Type Passenger submarine
Name .. Voyager II

The second of the 48-passenger submarines that Sovereign Submarines built for SeaPath, Inc. was launched in late November at Sovereign's yards on the Duwamish Waterway in Seattle.

The first of the 72.6-ft. (22-m), free swimming submarines, which was launched in March of 1994, went into service off Waikiki Beach.

Submarines Hawaii, Inc. takes tourists on 80 to 150-ft. dives to view underwater gardens at Kewalo Reef, a structure formed by lava flows and coral banks. The submarines are based at Kewalo basin, near Waikiki. A crew of three operates the sub, using electronic controls and monitors installed by Industrial Integrators, Inc., and an electrohydraulic drive powered by a bank of batteries. Ships service power is provided by a pair of 248-V, Hoppecke battery packs. Two Reli-

ance/Siemens 45-kW, 95-hp electric motors drive hydraulic pumps. This system, in turn, powers a five-blade, five-in. propeller.

The submarine will undergo service and maintenance each night while the batteries are recharged, using a service module equipped by Sovereign and shipped with each submarine. The SeaPath/Sovereign submarines displace 99 tons. The 64 x 8.4-ft. (19.5 m x 2.5 m) pressure hull features a one-in. thick skin that will allow the submarine to dive to 328 ft. (100 m), although certified operating depth is 150 ft. (45.7 m). The submarine was designed and built in accordance with the American Bureau of Shipping: "Rules for Building and Classing Underwater Systems and Vehicles." The pressure vessel was built by Union Tank Works of Seattle to standards of the American Society of Mechanical Engineers. Sovereign Submarine and Industrial Integrators are part of a complex of companies that builds yachts, workboats, and prototype projects.

Yard Gladding Hearn
Type Whale watch
Name .. Friendship IV

Gladding-Hearn Shipbuilding, licensee for Australia-based International Catamaran Designs (Incat), delivered the *Friendship IV* whale watch vessel to Bar Harbor Whale Watch Co. The 92-ft. (28-m), 149-passenger catamaran is powered by twin 815-hp Detroit Diesel DDEC engines, and the

builder claims the boat is the fastest of its type in North America, with a top speed of more than 28 knots. Using that speed for profit, owner **Marc Brent** said the vessel's speed will allow his company to make three daily whale watch trips instead of two. The all-aluminum vessel incorporates Incat's Z-Bow configuration.

Friendship IV Equipment List

Main engines	Detroit Diesel
--------------------	----------------



32

For more information...

on the yards reviewed in this story, please circle the corresponding number on the Reader Service Card bound in this issue.

A. Fai Engineers	30	Kvichak	24
Atlantic Marine	16	Leroux & Lotz	28
Austal Ships	29	Nichols Brothers	20
Avondale	22	Navatek Ships	23
Bellcraft	21	Service Marine	18
Bender Shipbuilding	25	SkipperLiner	78
Etoh Marine	31	Sovereign Submarines	42
Gladding-Hearn	33	Trinity Marine	19
Gold Coast Yachts	17	USA Catamarans	15
Hitachi Zosen	32	WaveMaster	26
Kvaerner Fjellstrand	27		

Maritime Reporter/Engineering News



135 Foot Crew Utility Boat



241 Foot Tow Boat



82 Foot Extra Fast Patrol Boat



220 Foot Supply Boat



200 Foot, 10,000 BBL Tank Barge



467 Foot Double Hull Tank Barge/127 Foot Tug



208 Foot Oil Recovery Ship

Need A Vessel?



140 Foot Tug



97 Foot Motoryacht



189 Foot Casino/Excursion Boat



273 Foot Oceanographic Ship

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 242 on Reader Service Card



Yard Bellcraft
Type River taxi

Bellcraft Industries Corp. designed a pair of river taxis for Gaylord Entertainment to be used in Opryland U.S.A. The high-speed ferries are convertible from ferries to dinner cruisers. The vessels are powered by twin Daytona-Merlin ME-9 V8 diesels at 860 hp each. The generators are twin Deere Power diesels, rated at 35 kW each. The ZF gears are connected to Michigan, four-blade propellers.

River Taxi Equipment

Main engines	Daytona-Merlin
Generators	Deere Power
Gears	ZF
Propeller	Michigan

Yard Kvichak
Type Passenger
Name .. Sylvan Spirit



The *Sylvan Spirit* is a 58-ft. (17.5-m) passenger vessel designed and built by Kvichak Maine Industries for Decatur Northwest. The *Sylvan Spirit* is of all aluminum construction and designed for regular service between Decatur Island (in the San Juan Islands of northern Puget Sound) and Anacortes, Wash. The boat is owned and operated by a community association of island residents, providing a year-round link to the mainland. The vessel is U.S. Coast Guard-certified for 49 passengers in protected waters.

The boat — which has an 18-ft. (5-m) beam and a 4-ft. (1.1-m) draft is powered by twin 300-hp Luggier marine diesels, which provide a service speed of approximately 13 knots. The boat also features ZF marine gears, MMC engine controls and Hynautic steering.

Yard Gold Coast Yachts
Type Wave-piercing catamaran
Name .. Edge



Gold Coast Yachts of St. Croix built the 59-ft. (18-m) *Edge*, a catamaran powered by twin Luggier 425-hp diesels and Hamilton 362 waterjets, which tops out at 30 knots.

The vessel is used on Pelican Watersport's daily ferry runs to Saba and St. Barth's. *Edge* is the largest wave piercer built by Gold Coast Yachts, and is based on the success of an earlier 39-ft. (11.9-m) prototype.

Edge Equipment

Main engines	Luggier
Waterjets	Hamilton

Yard Atlantic Marine
Type Casino
Name .. Empress II



A top player in the casino vessel market, Atlantic Marine delivered the *Empress II* (pictured) in late 1993 and completed work on the larger *Empress III* in late November of 1994. Both boats are for Empress River Casino Corp.

The 238-ft. (72.5-m) by 66-ft. (20-m) *Empress II* has 26,000-sq.-ft. of gaming area in three casino levels, plus an observation deck. Designed by Rodney E. Lay & Assoc., the boat can carry 1,500 passengers and features 1,200 gaming positions. The *Empress III* is an oceangoing vessel, measuring 288 ft. (87 m) x 76 ft. (23 m).

The Rodney E. Lay & Assoc.-designed vessel is scheduled to operate on Lake Michigan out of Hammond, Ind., and is certified with a Great Lakes load line and partially protected certificate up to 20 miles offshore. Additional design work was performed by Flume Systems of Orange, N.J. for the incorporation of a roll stabilization system. Outfitting of the vessel includes: main propulsion from twin Caterpillar 3512TA marine engines producing 1,210 hp at 1,300 rpm; shipboard electrical service via a pair of Caterpillar 3512TA 845kW @ 1,200 rpm gensets; and interior design by Interior Design International, Inc. of Seattle. The vessel is also outfitted with bow and sternthrusters, each 600 hp, and an Anschutz one man bridge system.

Empress II Equipment

Designer	Rodney E. Lay
Main engines	Caterpillar
Interior	IDI
Gears	Twin Disc

Join the fleets that are "ENVIRONMENTALLY CORRECT"!



Prop Mounted Design to fit any size ship.

By eliminating shaft seal damage and resulting OIL POLLUTION.

- No Wear! No Maintenance!
- Cuts lines and nets before propeller entanglement.
- A.B.S. Approved. All size vessels.

Install Spurs Line and Net Cutters at your next drydocking!!

Call for a FREE quote and Brochure with complete installation drawings.

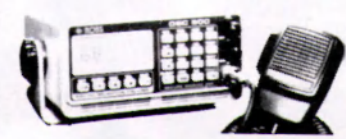
Toll Free: 1-800-824-5372

SPURS LINE AND NET CUTTER

201 S.W. 33rd Street • Ft. Lauderdale • FL 33315 • Phone: 305-463-2707

Circle 238 on Reader Service Card

"Is That All??"
QMDSS



DATA, DISTRESS, ENCRYPTION & TRACKING

The ROSS DSC500 radio should cover one's wish list for this year. Fully GMDSS approved and capable of Laptop PC interface for the transmission and reception of data without a modem directly via the radio, so you can run your favorite DOS software to include vessel information reporting, tracking, and strategic operations coordination. The automatic distress function can send & receive full distress packets (DSC ID, location & situation). The DSC has secure voice/data capability with over 10¹⁰ scramble codes that change every half second. These radios can send and receive positions either manually, through keypad, or automatically with vessel tracking software. All of these functions can occur between selected individuals, groups or sub-groups.

Make the choice like your life depends on it... It Does!!!

ROSS DSC500

For more information see your dealer or contact:

Ross Engineering, 12505 E. Starkey Rd., Largo, FL 34643, Phone: (813) 536-1226 • Fax: (813) 535-4248

Circle 25 on Reader Service Card

Yard Service Marine
Type Casino riverboat
Name .. Shreveport Rose

The Service Marine Industries (SMI)-built *Shreveport Rose* is a paddlewheel-style vessel designed by Dejong & Lebet, measuring 210 ft. (64 m) by 68 ft. (21 m). Representing the third gaming vessel built by SMI, the Harrah's-owned *Shreveport Rose* cost in excess of \$11 million. The boat features an array of the latest equipment, including: Lips bow and sternthrusters; Caterpillar generator engines; Skipper Hydraulic steering controls and Carrier Transicold air conditioning/HVAC system.

The boat, which can carry 1,200 passengers and offers 700 gaming positions, was built, outfitted and delivered in less than 10 months.

The gaming boat was the first of its type delivered to the Shreveport market and the first authentic paddlewheel vessel of any size to navigate the Red River in Shreveport since 1911.

Shreveport Rose Equipment

Thrusters	Lips
Generator	Caterpillar
Steering control	Skipper Hydraulics
Coatings	International Paint
VHF	Frank L. Beier
Radar	Funaro
AC	Carrier



Yard Trinity Marine Group
Type Casino riverboat
Name .. Queen of New Orleans

The Hilton *Queen of New Orleans* riverboat casino was — from contract to delivery — built in 234 days. The 245-ft. (74.7-m) boat has a capacity for 1,500 passengers, 300 crew, 700 slot machines and an array of other gaming tables and ma-

chines. It is powered by a pair of Cummins KTA-38M diesel engines, and electrical power is handled by three Onan generators powered by a Cummins engine. The paddlewheel-style vessel is driven by two 200-hp electrical motors, and maneuverability is enhanced by a 400-hp Schottel bowthruster. The *Queen* was designed by Rodney E. Lay & Associates.

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 sternwheelers, the M.S. Divo 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.

(For 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

Vessel Consulting
 Passenger Vessel
 1981, 1990, 1991, 1992, 1993, 1994
 Harrah's Register

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



Circle 231 on Reader Service Card

Yard Bender Shipbuilding
Type Casino
Name .. Grand Victoria

Watch City Shipyard, Inc., a subsidiary of Bender Shipbuilding & Repair of Mobile, Ala., delivered one of the nation's largest riverboat casinos in the Guido Perla-designed *MV Grand Victoria*. The boat is owned by Elgin Riverboat Resort, a joint venture between Hyatt Development Corp. and Nevada Landing Hotel & Casino, and Bender completed the 400-ft. by 114-ft. (122-m by 34.7-m) vessel under budget and ahead of schedule.

The vessel has 80,000 sq. ft. of total area (50,000 sq. ft. of casino space) and is styled to replicate a 19th Century Illinois sidewheel riverboat, the vessel was built at Watch City Shipyard, a yard opened by Bender for the express purpose of building the *Grand Victoria*.

The boat is double-ended with two pilothouses. Six Z-drives, three at each end, provide propulsion and steering. Each Z-drive is connected to a 600-Volt, direct current motor capable of developing 400 hp. Electrical power is supplied by four Caterpillar engine generator sets, rated for 1,440 kW at 1,800 rpm.



Yard USA Catamarans
Type Planing fast ferry
Name .. Harbor Bay Express II Alameda

USA Catamarans introduced its line of high-performance planing aluminum catamarans, all of which

Yard Avondale
Type Casino
Name .. Boomtown Belle

Avondale's Boat Division is another beneficiary of the riverboat gaming vessel boom, and the yard has taken full advantage — delivering a quality vessel in the *Boomtown Belle*. The 19th Century-style paddlewheel boat measures 250 ft. (76 m) by 72 ft. (22 m) and offers a spacious 30,000-sq.-ft. of public area on casino decks. It has 1,211 gaming positions, including 84 slots and 362 table games. The boat was designed by Avondale's in-house engineering staff; the interiors of the boat were designed by St. Louis-based Directions In Design (DID).

The boat features a combination of propellers and paddlewheel for propulsion, and features Caterpillar engines, Michigan Wheel propellers, Reintjes gears and Schottel thrusters.

Boomtown Belle Equipment

Main engines	Caterpillar
Props	Michigan Wheel
Gears	Reintjes
Thrusters	Schottel



Yard SkipperLiner
Type Cruise Vessel
Name .. M.S. Dixie II

The *M.S. Dixie II* is a 600-passenger cruise excursion vessel designed as an authentic replica of a turn-of-the-century sternwheeler, and delivered to Travel Systems Ltd., a Zephyr Cove, Nev. company which owns and operates three vessels on Lake Mead and is headed by former NAPVO president Robert Kimball.

The outboard appearance, however, is the vessel's only claim to the Mark Twain era. The design and onboard systems are state of the art. The vessel actually has two complete types of propulsion: one a functional hydraulic sternwheel and the second a twin screw systems. In essence, it has two types of propulsion but three totally separate sources of propulsion: a safety feature for the owner. Under the dual system, the vessel will achieve 14 knots.

Since the boat was built for operation on Lake Tahoe, Nev., a water delivery was not possible — so SkipperLiner built the vessel in a



manner that it could be transported overland to the lake. The process used was successful in the building of the *M/V Desert Princess*, a vessel built for Travel Systems in 1991 for operation on Lake Mead. The *M.S. Dixie II* was shipped to Lake Tahoe in a total of six transports.

M.S. Dixie II Equipment List

Naval Architect ..	Timothy Graul Marine Design
Sternwheel propulsion	Caterpillar
Generator	Caterpillar
Bow thruster	Westerbeke Engine
Gear	Twin Disc
Engine Mounts	Lo-Rez
Propeller Shaft Coupler	Lo-Rez
Steering	Skipper Hydraulics
Shifting (propulsion)	Mathers
Horn	Kahlenberg
VHF/FM	Icom
Depth sounder	Datamarine
Radar	Furuno

are foil-assisted with the foils reportedly carrying in excess of 50 percent of the total weight. The first vessel built was the 65-ft. (19.8-m) *Harbor Bay Express II Alameda*. The boat was delivered to the City of Alameda, Calif., and is designed to shuttle passengers the seven miles

between Alameda and San Francisco. The Andromeda class catamaran design boat is powered by MAN engines driving France Helices four-blade propellers through ZF gears. The pilothouse features a full electronics package including: Raytheon radar, GPS and VHF ra-

dio; and Robertson autopilot.

Harbor Bay Express II Alameda Equipment

Main engines	MAN
Gears	ZF
Prop	France Helices
Radar	Raytheon
Autopilot	Robertson



Yard WaveMaster
Type Fast ferry
Name .. Nansha No. 28

WaveMaster Intl., an Australian fast ferry builder, delivered the *Nansha No. 28*, a high-speed vessel reportedly offering extraordinary passenger comfort.

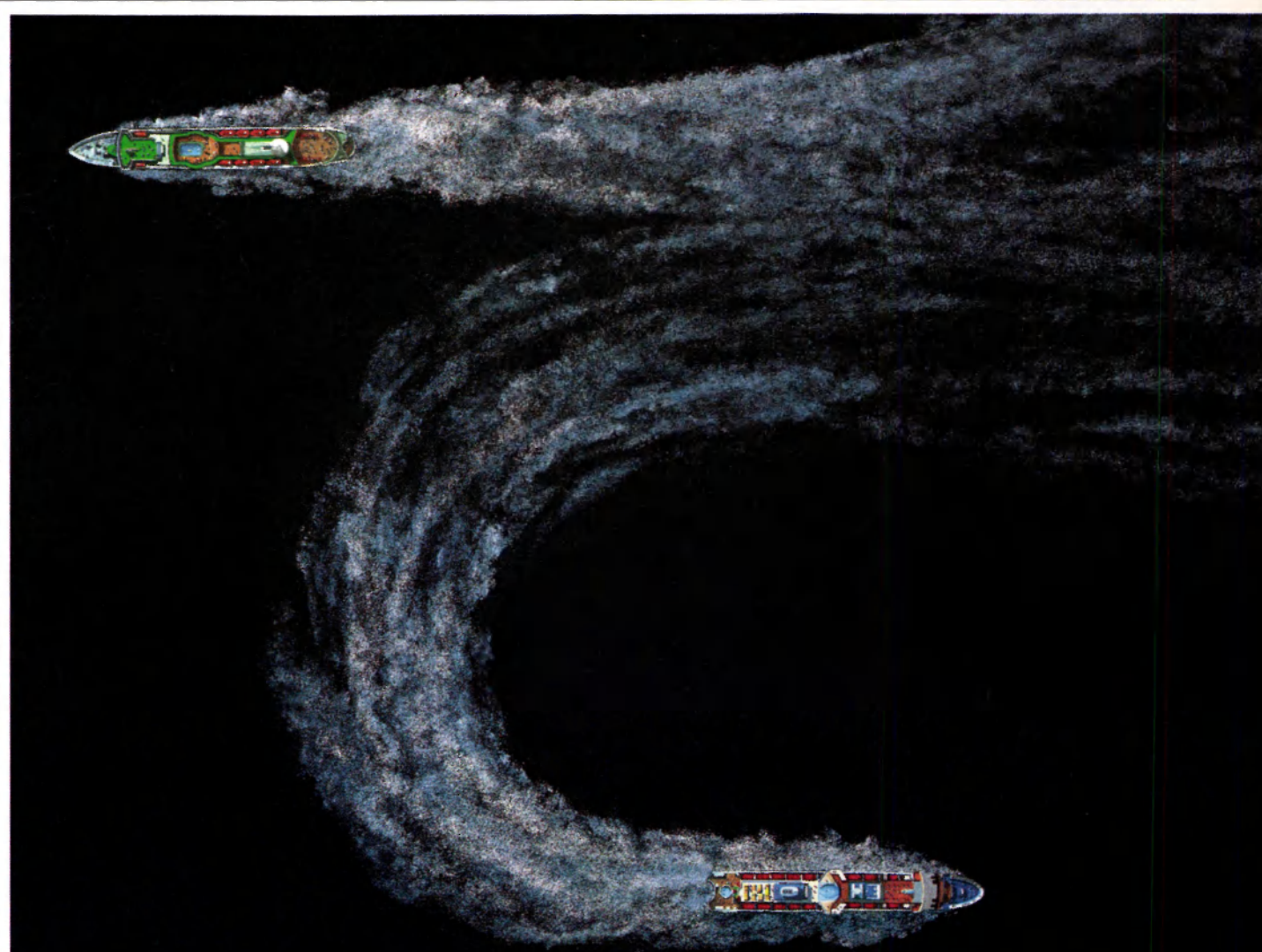
The 137.8-ft. (42-m) boat is capable of carrying 385 passengers at 43.7 knots, and was built for Panyu Nansha Port Passenger Transport Co. Ltd. for the superfast Hong Kong to Nansha City route.

The ferry is powered by four MTU diesels tandem-mounted in each hull. The engines drive four KaMeWa waterjets through special offset Reintjes gearboxes, used to allow straight drivelines.

To enhance passenger comfort at these high speeds, WaveMaster went to great lengths to reduce sound and residual vibration by: fitting a floating floor to the after half of the main deck; mounting the inner floor on a rubber grid interposed between it and the structural deck; and installing acoustic material in the rest of the deck, plus trunkways and other sound conductors.

Nansha No. 28 Equipment

Engines	MTU
Gears	Reintjes
Waterjets	KaMeWa



Yard Navatek Ships
Type Passenger catamaran
Name .. Navatek II

Navatek II is the second twin strut SWATH vessel designed and built under the banner of Navatek Ships, Ltd., one of the subsidiaries of Pacific Marine, Honolulu. The vessel is a 149-passenger, 86-ft. (26.2-m) all-aluminum vessel, which features a unique fixed stabilizer with split rudder system.

Navatek II's propulsion package includes twin MTU 12V183 TE02 engines with ZF 255, 3.5:1 reverse/reduction gears.

The shafts are Aquamet 17, and the wheels are from Bird-Johnson. The hull form was designed and tank-tested by Pacific Marine Engineering Science Co. and Navatek Ships. Computer lofting was provided by Specialty Marine of Scappoose, Ore., and vessel internals and shell plating were plasma cut and formed by Sovereign Yachts of Seattle.

The vessel, approved for full ocean service, has its seakeeping characteristics augmented by a ballast system which is computer-controlled to automatically compensate for the movement of passengers, as well as such influences to heel and trim as wind.

The sensory and computer system was developed by Lockheed's Marine Group in Sunnyvale, Calif. Control of active canard fins, by Koopnautic, is also integrated through the outboard computer.

WHICH CRUISE SHIP HAS CARRIER AIR CONDITIONING?



Yes, the cruise ship at the top has dependable Carrier Transicold air conditioning. The other, unfortunately, doesn't. And the passengers are steaming.

Carrier centrifugal, screw, and reciprocating chiller packages have earned a reputation for reliability and efficiency, backed by millions of operating hours on merchant, naval, and cruise ships, worldwide.

Our systems set the standard for smooth-running, quiet operation. Compact, spacesaving design speeds installation and service. What's more, our systems can be delivered in sections, then assembled belowdecks. This greatly simplifies retrofit, saving time and cost.

To meet international standards, our chiller and condensing systems feature advanced-design compressors and environmentally responsive refrigerants R-134a and R-22.

It's all backed by the most extensive service-and-parts network on earth. So insist on Carrier Transicold. And steer clear of an unexpected turn of events.



TRANSICOLD

FOR COMPANIES THAT ARE GOING PLACES.

For more information about consistently reliable Carrier Transicold marine products, contact Knud Hansen in Europe (Carrier Transicold Ltd., Rotterdam, The Netherlands), 31-10-446-6500, Fax 31-10-437-7369, or Dave Kelly in the USA (Carrier Transicold Division, Syracuse, New York), 315-432-7540, Fax 315-432-6218.



Circle 209 on Reader Service Card

January, 1995

Funny, I just had
the feeling the world
got smaller!





**Station 12 goes west.
Extending mobile
satellite communications
to all of the Americas.**

North and south, from New York to Santiago, you can rely on the crisp, clear connections and customer support of Station 12®. That's because we've extended our Inmarsat coverage from the Indian Ocean and Atlantic Ocean-East Regions to all of the Americas in the Atlantic Ocean-West Region by January 1st, 1995.

Simply choose 12, and whether you're deep in the Amazon or in the middle of Lake Superior, we'll give you a reliable connection to the world's telecom network with charges that are always reasonable.

To find out more, call us at +31 2550 62 355 or fax +31 2550 62 424, and discover Station 12 for yourself.

**Station 12. Always reliable.
Never expensive.**



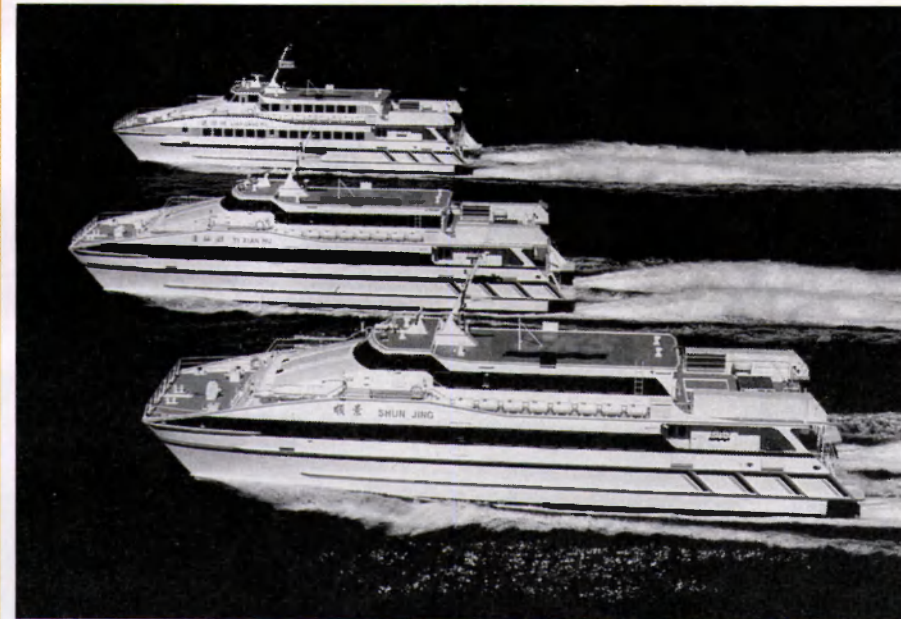
Circle 260 on Reader Service Card

Yard Hitachi Zosen
Type Fast ferry
Name .. Shoko

Hitachi Zosen delivered the *Shoko*, a 103-ft. (31.5-m) foil-assisted catamaran, to Ishizaki Steamship Co. Ltd. The vessel is the fifth of seven of the SuperJet-30 type ordered from Hitachi Zosen by various owners, and the second specifically for Ishizaki Steamship Co. The *Shoko* is equipped with a

computerized rolling control device in its hydrofoils.

The *Shoko* is a hybrid-type vessel, with twin hulls equipped with submerged hydrofoils fore and aft. The vessel's weight is supported both by the buoyancy of the two hulls and the lift of the two hydrofoils. The vessel is driven by two diesel engines and two waterjet drives from Niigata Engineering, which drive the vessel to a maximum speed of about 38 knots.



Yard Austal
Type Fast ferry

Austal Ships delivered three of the fastest ferries ever built in Aus-

tralia for owners in the People's Republic of China.

Each of the vessels was built at a capital value of approximately \$7.15 million.

The West Australian aluminum shipbuilder incorporated gas turbines into all three, and the catamarans represent the fastest the yard has delivered, each with a speed of 39.5 knots when fully loaded and carrying 355 passengers.

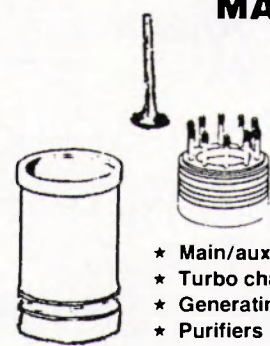
The identical 131.2-ft. (40-m) ferries *Shun Jing*, *Lian Gang Hu* and *Yi Xian Hu* were built respectively for the Shun Gang Passenger Transportation Corp., the Panyu (Hong Kong) Passenger Cargo Transportation Jointly Owned Co. Ltd., and the Zhong Shan-Hong Kong Passenger Shipping Co-op Co. Ltd. They operate on regular services from Hong Kong to the mainland China ports of Rong Qi, Guang Zhou and Zhong Shan.

The vessels are all powered by Textron Lycoming TF40 gas turbines.

MARINE PROFESSIONALS ASSOCIATED

French spare parts & material service centre

Supply of new and second hand equipment



- * Main/auxiliary engines and parts
- * Turbo chargers
- * Generating sets
- * Purifiers * Pumps

Reconditioned spare parts service
 class certificate on request

- * engines and deck equipment



Technical Assistance

- * Anchors and chains
- * Life-boats/life-rafts/gangways
- * Safety equipment
- * Navigation and deck equipment

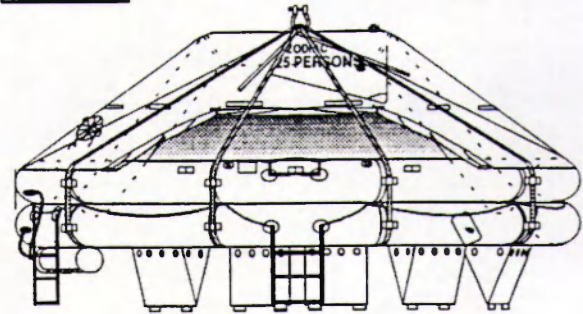
20 bis Bd. de LAUNAY, 44100 NANTES France Phone: (33) 40.73.61.76 Fax: (33) 40.69.68.73 Tlx: 710307

Circle 272 on Reader Service Card

ZODIAC LIFERAFTS



HIGHEST QUALITY
 AT THE BEST PRICE



(25 person davit launched model)

ZODIAC... THE U.S. COAST GUARD
 APPROVED LIFERAFT TO CHOOSE

Available in size configurations to suit your needs
 ZODIAC liferafts bring you technology for a safer future.



For the name of your nearest dealer, please contact
ZODIAC OF NORTH AMERICA, INC.
 P.O. Box 400 Stevensville, MD 21666
 410-643-4141 Ext. 3009 & 3010
 FAX: 410-643-7269

Circle 248 on Reader Service Card



JOHNSTON
 BROTHERS
 ENTERPRISES, INC.

**CUSTOM MARINE
 HVAC SYSTEMS
 AND INDOOR AIR
 QUALITY SPECIALIST**

CUSTOM PRODUCT LINE

- LOUVERS AND DAMPERS
- METAL BUILDINGS
- GENERATOR ENCLOSURES
- SPECIALTY TANKS
- CHEMICAL FILTRATION UNITS
- EXPLOSION PROOF HVAC SYSTEMS
- PRESSURIZATION UNITS
- CONTROL PANELS AND ENCLOSURES
- SHEETMETAL FABRICATION
- METAL SHIP LETTERS
 (PLASMA CUT)
- ENGRAVING
 (PLASTIC & LIGHT GAGE METAL)
- MODIFICATION OF HVAC EQUIPMENT
 (FOR NEMA CLASSIFIED HAZARDOUS LOCATIONS)

HWY 90, PATTERSON, LA
(504)395-4505

Circle 257 on Reader Service Card

Yard A. Fai Engineers
Type Ferry
Name .. Wuzhou

Designed by Advanced Multi-Hull Designs, the *Wuzhou* was built by Hong Kong yard A. Fai Engineers and Shiprepairers.

The 79-ft. (24-m) vessel was delivered to the Wuzhou Guangxi Navigation Co. for service in China. It is the second high-speed vessel to be ordered by the company, is built of marine grade aluminum and designed to DNV High Speed and Light Craft rules.

The vessel is driven by a pair of Isotta Fraschini ID 36SS 12V high-speed diesel engines driving five-blade, fixed-pitch propellers through ZF BW 460 reduction gearboxes.

Wuzhou Equipment

Designer: Advanced Multi-Hull Designs
 Engines: Isotta Fraschini
 Gears: ZF

Yard Leroux & Lotz
Type Fast ferry
Name .. Emerald

Nantes, France-based Leroux & Lotz built the Emerald, a Corsaire 6000-series fast ferry which was made of aluminum alloy and built to operate in rough seas with its deep-V monohull concept. Built for Emerald Lines, the ferry is powered by three KaMeWa waterjets, two of which are lateral and the other one central and non-steerable, for use as a booster. Backed by the fast ferry's Deutz MWM main engine, the propulsion package gives

the boat a speed of 34 knots at 100 percent power. The lateral waterjets are each driven by an MWM 604 BV16 engine of 3,050 mhp maximum power. Without the central jet, the boat can still achieve 22 knots.

Emerald Equipment	
Engines	Deutz MWM
Waterjets	KaMeWa
Bowthruster	Jimecal



Yard Kvaerner Fjellstrand
Type Fast ferry
Name .. Vargøy

The Vargøy "Flying Cat" type of catamaran was built by Kvaerner Fjellstrand for Finnmark Fylkesrederi. The 131.2-ft. (40-m) boat operates between Hammerfest and Honingsvåg in the far north of Norway. It was the first vessel to be fitted with Kvaerner Energy-designed and -built 680mm waterjets, each with an MCR of 2,000kW, but service rated at 1,800kW. The vessel is powered by a pair of MTU 396TE74L engines.

Vargøy Equipment	
Engines	MTU
Waterjets	Kvaerner Energy

Yard Etoh Marine
Type Monohull ferry
Name .. Fuki 8

Etoh Marine Corp. of Imari City, Japan, delivered the *Fuki 8*, a 235-passenger monohull vessel, for operation between Tomishima and Akashi, Japan.

The 110-ft. (35.5-m) ferry has a beam of 21 ft. (6.5 m) and a draft of 3 ft. (1 m). It is powered by a pair of Yanmar V-16 model 16LAK-ST1 engines, which deliver 1,600 bhp each. The engines drive conventional five-blade propellers through Niigata MGM 433 reduction gears. With this propulsion package, the boat has a top speed of more than 28 knots.

Electrical power onboard is provided by a Yanmar 40-kW generator. Electronics include Furuno GPS, radar and VHS.

Fuki 8 Equipment	
Engines	Yanmar
Gears	Niigata
Steering	Marol
GPS	Furuno
Compass	Daiko Keiki



The Finest in Gaming Seating

Gasser offers a wide variety of styles and models, plus custom designed seating for your particular needs. Our seating products are created specifically for casino use and are built by American craftsmen, using only the very finest materials. We feel your investment demands this high standard of quality.

... Only if you want the finest!



GASSER CHAIR COMPANY, INC.
 Manufacturers of Fine Quality Seating
 4136 LOGANWAY • YOUNGSTOWN, OH 44505
 216-759-2234 • 1-800-323-2234

Circle 274 on Reader Service Card

THE ESTABLISHED STANDARD IN LIFEBOAT & DAVIT SYSTEMS

	LIFEBOATS:	Totally Enclosed Partially Enclosed Freefall Open
	DAVITS:	Marine/Ship Installations Offshore Installations
	RESCUE BOATS, RIGID INFLATABLES, COMMERCIAL:	Reliance Sea Responder Zodiac Hurricane
	LAUNCH ENHANCEMENT:	Prod System

SERVICE, SALES, PARTS, INSPECTION & TRAINING, (Onsite & Factory) (3) United States Service Points:
 - FLORIDA
 - LOUISIANA
 - VIRGINIA

SALES CENTER:

167 Bell Avenue
 Oak Hill, Florida 32759
 TEL: (904) 345-3483
 FAX: (904) 345-4304



Circle 289 on Reader Service Card

SERVICE CENTER:

912 Hwy. 90 East
 New Iberia, LA 70560
 TEL: (318) 365-5451
 FAX: (318) 367-2816



Cautious Optimism On The Future Of Riverboat Casinos

Owner Discretion Is The Latest Challenge To An Enduring Industry

by Dan Maniotis, Senior Editor

Riverboat gaming has met some serious challenges lately. In Indiana, the legislative method by which riverboat gaming received its initial approval was disputed and overturned. It was eventually reinstated, but the delay in awarding riverboat licenses had some owners and builders counting the seconds. In Missouri, the constitutionality of games of chance was contested, and eventually upheld. While the outcomes of both challenges were triumphs for the industry, the realization that such challenges could threaten investments has caused many owners to proceed more cautiously than before. Nevertheless, the builders of these riverboats expect the market to be a source of considerable business for years to come.

Builders: Still A Card Up Their Sleeves?

With the legality of riverboat gaming confirmed in Indiana, builders such as Jeffboat of Jeffersonville, Ind., are well-situated to take advantage—and in fact, they are now

constructing the *City of Evansville* riverboat casino, planned for operation in Evansville, Ind. But the victories are felt more than locally.

"Obviously it was good news for the whole industry," said **Larry Hairston** of Service Marine of Morgan City, La., an active riverboat builder. He said the re-passage of riverboat gaming in Indiana has allowed Service Marine to move ahead on one of the first licenses awarded

ever, has had an effect: "The buyers have become wary," he said. "For the first time the law was challenged, and people realized the risk they were taking."

Atlantic Marine was one of the first shipyards to build gaming vessels when the state of Iowa legalized riverboat gaming in 1991. Atlantic Marine has built eight gaming vessels—three paddlewheelers and five catamaran-style vessels. Its most

for licenses would build before licenses were granted, as they have done in other states in the past.

"We feel that with all we've learned, we're in a great position to benefit from the next wave of casino boat activity," said **Gary Lipely** of the Trinity Marine Group (TMG). He said that with all Trinity's capacity in 17 shipyards, TMG was in a position to deliver a casino boat of the highest quality in the shortest time. It was cooperation between Trinity shipyards that resulted in the *Queen of New Orleans* and its replacement, the 322-ft (98-m) *Flamingo*, both of which were positioned in the New Orleans market.

However, Mr. Lipely acknowledged the greater caution among owners. "Nobody seems to be willing to build a boat on speculation that they'll get a license," he said. "It was a definite setback for the whole industry, left them very cautious, but we still feel the trend will continue for a while ... We're very close to a couple of projects and we feel we'll close them within

(Continued on page 44)

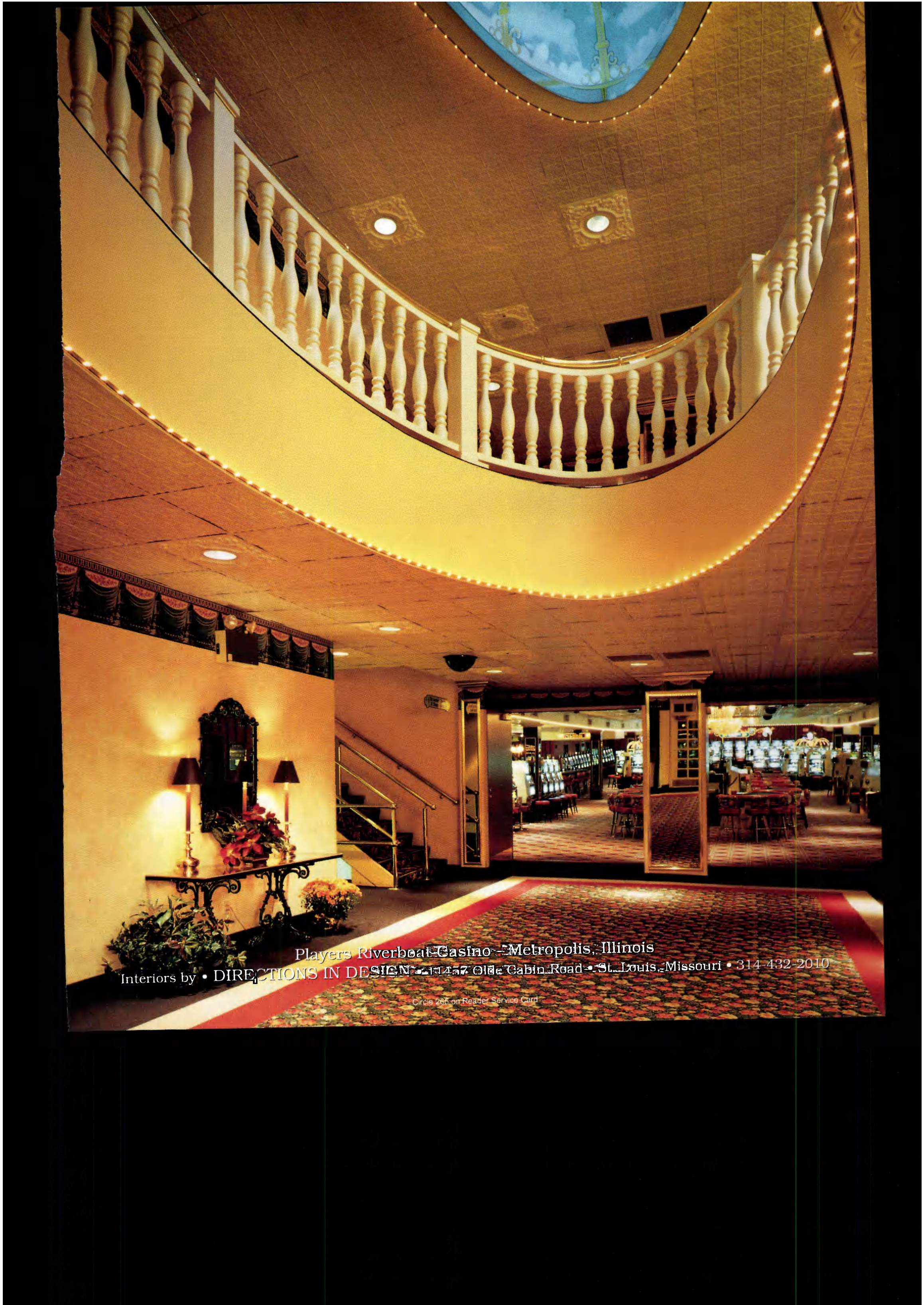
"I think there's a fair amount of growth potential, but it's going to be cautious growth" — Ronald Babin, Avondale

in Indiana, and that three vessels already constructed for the Missouri market could now be shipped to their owners.

"The law has withstood the challenge," said **Ed Doherty**, president of Atlantic Marine, Jacksonville, Fla. "For any builder of riverboats, it means prospective owners will be re-interested if they'd lost interest," he said. The challenge itself, how-

recent work includes the *Empress II*, the *Par-A-Dice*, and the *Empress III*—a Great Lakes vessel built capable of oceangoing service.

Ronald Babin of Avondale Boat Division, Westwego, La.—which was responsible for such prominent deliveries as the *Boomtown Belle*, the *Belle of Baton Rouge*, and the *Belle of Orleans*—said it would be interesting to see whether the companies vying



Players Riverboat Casino - Metropolis, Illinois
Interiors by • DIRECTIONS IN DESIGN, INC. • 1457 Old Cabin Road • St. Louis, Missouri • 314-432-2010

Circle 265 on Reader Service Card

Casino Vessel Market

the next two months or so," he said. Basically, owners don't need any more worries than they already have. "The politics of obtaining a license make a slippery road," said Mr. Doherty — plenty difficult enough without further complications from the legislative arena. But Service Marine's Mr. Hairston doesn't think the days of the pre-license riverboat contract

are over. "The larger companies involved in gaming will be willing to take the risks in terms of moving ahead before they have a license," Mr. Hairston said. "Because the costs are so high, I think you'll see some of the smaller companies fading away." But according to Mr. Hairston, even the giants would be limiting their outlay of capital until certain

assurances could be had — such as passage of riverboat gaming legislation, and a reasonably good shot at obtaining a license.

And how will the victories affect the new vessel construction situation? "I think it's kind of a wait-and-see deal," said Avondale's Mr. Babin. "We don't know if Indiana will suck up the existing vessels or whether whoever gets those licenses will want to build new. There are boats ready to go for sale, but will the licensees prefer

their own?" For example, he said there were rumors that Gary, Ind. licenses might be going to Trump and President — and that Trump will convert an existing vessel and President has an existing vessel in mind. No help there, to put it gaming terms.

Shipbuilders who had been doing their level best to break into the casino vessel construction market such as Peterson Builders, Inc. (PBI) of Sturgeon Bay, Wis. — which unveiled a Great Lakes casino vessel design in 1994 — have had to contend with the recent slowdown in the industry. That slowdown is making a breakthrough difficult, and yards such as PBI find themselves hoping the next wave of casino boat activity comes sooner rather than later.

Growth Despite All

It is perhaps a good omen that amid some of the worst trials the industry has ever had to face, it has delivered one of its largest vessels ever: the 400-ft. (122-m), Guido Perla-designed *Grand Victoria*, built by Watch City Shipyard, a subsidiary of Bender.

"I think there's a fair amount of growth potential, but it's going to be cautious growth," said Avondale's Mr. Babin.

"There are so many factors involved," said Mr. Doherty. "Four years ago, no one knew what a riverboat casino was." He said that the beginnings of legalized riverboat gaming in Iowa were extremely conservative, but then Illinois turned the concept into a raging success and inspired confidence across the nation that the time for legalized riverboat gaming had come.

In other words, the industry — young as it is — has had its share of crests and troughs. But the builders seem confident that the concept of riverboat casinos is still viable enough to pursue.

Riverboat gaming has become a great way to raise tax money and seems to work well all around, both for those involved in the industry and those in whose communities the industry set up shop — which benefit not only from frequent contributions of area development funds from the gaming industry, but also from the ancillary effects of having more consumers come to the area.

Also, riverboat casinos don't fall prey to the same troubles that land-based operations reportedly do — troubles such as crime. Many residential communities seem loath to become the next Las Vegas, but to have a Las Vegas floating on a nearby waterway seems much less of a threat.

"Riverboat gaming is still the most viable option that can be approved by voter referendum," said Service Marine's Mr. Hairston. "A riverboat casino can just sail off into the sunset if people don't like it."

"I think there are several boats for sale right now, and I think that until these boats get sold, there'll be a slight lag in the market," said Trinity's Mr. Lipely. "But overall — what with Virginia, West Virginia, Ohio and Texas hopefully coming on board this next year, we'll see a lot of activity. My guess is in the second quarter

(Continued on page 46)

AMFELS VALUE • RELIABLE SERVICE • QUALITY WORK • COST COMPETITIVENESS • AMFELS VALUE



RELIABLE SERVICE • QUALITY WORK • COST COMPETITIVENESS • AMFELS VALUE

OFFSHORE & PETROLEUM SPECIALISTS

Established in 1987, AMFELS is a combination of the proven and the new. An independent subsidiary of the world's foremost builder of mobile and floating offshore exploration and production units, Far East Levingston Shipbuilding Limited (FELS), AMFELS has the design and construction capabilities to take on the most sophisticated marine, shipbuilding and ship repair projects.

AMFELS
The Leader in
Shipbuilding and
Ship Repair

Located in the Port of Brownsville, the facility has a total land area of more than 150 acres, and is equipped with modern fabrication and deep water facilities, as well as two 150-ton floating cranes and several units of heavy lift equipment of up to 300 tons capacity. AMFELS operates an ASME and API certified facility for building process packages for onshore and offshore applications.

KMAI/AMFELS Houston Office:
Texas Commerce Bank Building
5177 Richmond Avenue, Suite 1065
Houston, Texas 77056, USA
Phone: 713/840-8811
Fax: 713/840-1198

AMFELS
U.S. Representative
Keppel Marine Agencies Inc.

Head Office:
Port of Brownsville
Highway 48
Brownsville, Texas 78523, USA
Phone: 210/831-8220
Fax: 210/831-6220

RELIABLE SERVICE • QUALITY WORK • COST COMPETITIVENESS • AMFELS VALUE



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 896 Wooster, Ohio 44691
Fax (216) 262-4151 Call Toll Free: (800) 321-4936

Circle 23 on Reader Service Card

Casino Vessel Market

of '95."

Planning for the trends is important, according to Mr. Lipely. "One of the biggest issues is dockside gaming versus cruising. Since we build barges and boats, we can satisfy either way the jurisdictions go."

"You'll see expansion in states that already have riverboat gaming," said Mr. Hairston, predicting an approximate 10 more licenses

in Illinois, three or four more for Iowa, in addition to the three already added—and between five and 10 in Louisiana. And Missouri, whose riverboats can now carry slot machines—which generate an estimated 80 percent of a riverboat's revenues—is a prime site for growth.

Other areas mentioned by shipbuilders as possible sites for development are Florida, Virginia, West

Virginia, Pennsylvania and New York.

Speaking about the recent obstacles the riverboat gaming industry has experienced, Mr. Doherty said: "We need to legalize it somehow. Land-side casinos are not the answer. States sitting on the fence will see that riverboats are a much more controllable answer, with no increase in crime."

"The industry will be kept busy through 1995," said Mr. Hairston. "I still see the market as being very viable for a few years to come."

For more information on any of the companies mentioned in this article, circle the appropriate number on the Reader Service Card bound in this issue.

Atlantic Marine	140
Avondale	141
Bender	142
Jeffboat	143
Peterson Builders	144
Service Marine	145
Trinity Marine Group	146

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

AVONDALE INDUSTRIES, INC.
BOAT DIVISION

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

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

ONE OF THE LARGEST EMPLOYEE STOCK OWNERSHIP COMPANIES

46

Circle 203 on Reader Service Card

Insulations Inc.: A Major Force On Trinity's Flamingo

Insulations, Inc., a New Orleans marine contractor, completed its work on the 325-ft. (99-m) *Flamingo* casino sternwheeler riverboat, which was built by the Trinity Marine Group.

The *Flamingo* is a joint venture between Hilton Hotels and New Orleans Paddlewheels. The vessel is docked at the New Orleans Hilton on the Mississippi River at Canal Street.

The *Flamingo* replaces the *Queen of New Orleans*, which was a 245-ft. (74.7-m) casino boat. Insulations Inc. was also a major contractor on the *Queen*.

Trinity Marine's Equitable Shipyard built the four-deck *Flamingo*. The vessel has 30,000 sq. ft. of gaming space and a passenger capacity of 2,400. Rodney E. Lay was the naval architect on the project.

Insulations, Inc. was reportedly chosen as contractor on the project due to its reputation of being able to complete work on or before schedule even when the schedule is accelerated.

Safety was another major reason Insulations Inc. was selected to work on this project. Insulations, Inc. has a safety program that has been recognized with several national awards including the prestigious National Roundtable Construction Industry Safety Excellence Award.

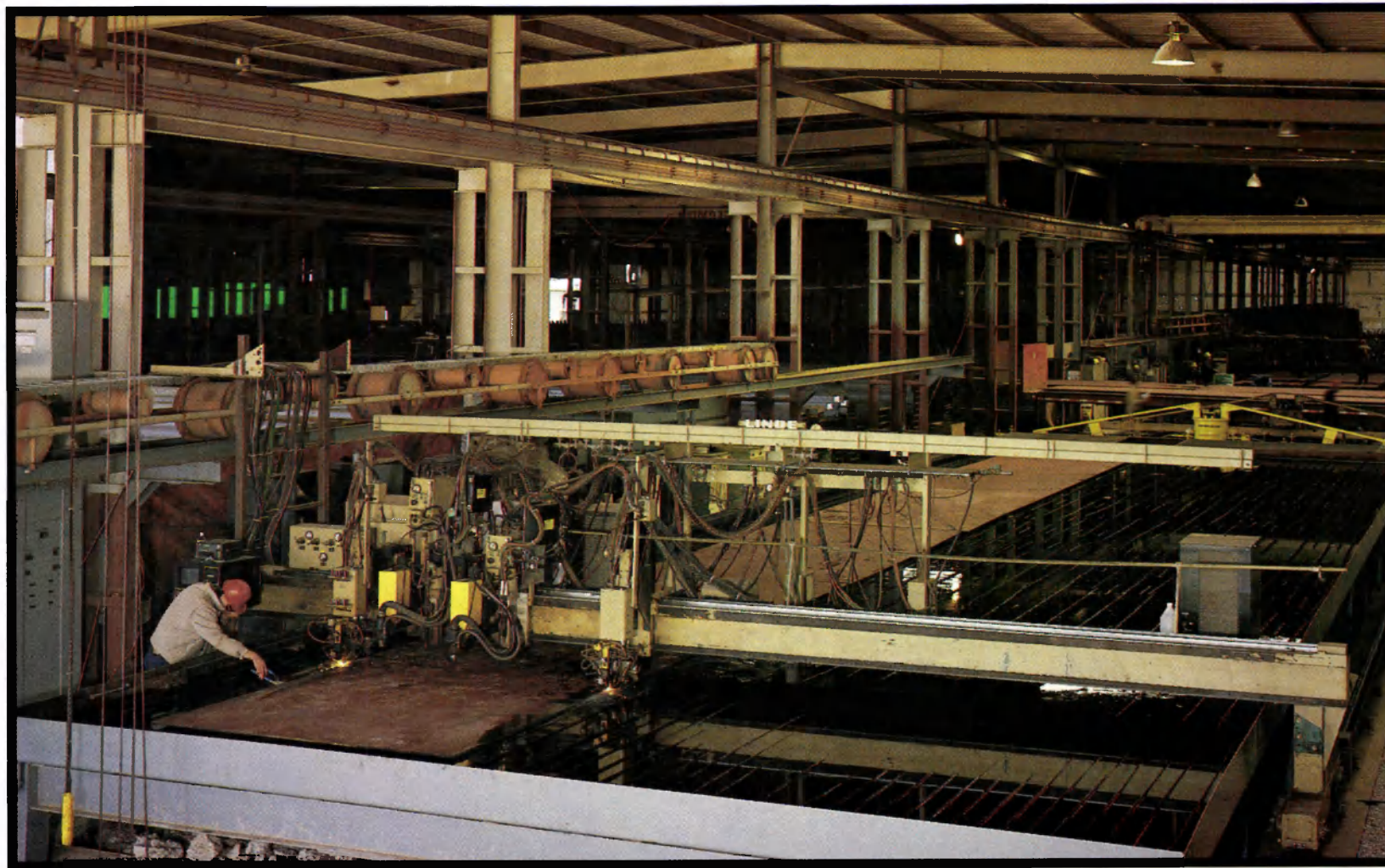
Insulations, Inc. was involved in the installation of a fire boundary, thermal, acoustical and mechanical system, engine exhaust and boiler stack insulations and interior finishes. All installations were done in accordance with U.S. Coast Guard (USCG) regulations.

The scope of the interior work performed by Insulations, Inc. included installation of the joined and sheathing for bulkheads, overheads, and all wall finishes. Also included were the architectural ceiling systems including soffits, furr downs, coffers and molding.

Of particular interest were custom architectural fabricated by Insulations Inc.'s sheet metal manufacturing operations such as a 44-ft. ceiling dome that was later painted with a mural. The work Insulations, Inc. did on the *Flamingo* is typical of work performed on over 20 other vessels in the last 30 months.

For more information
on Insulations Inc.
Circle 38 on Reader Service Card

Maritime Reporter/Engineering News



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 Jeffrey's 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, shear, 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.

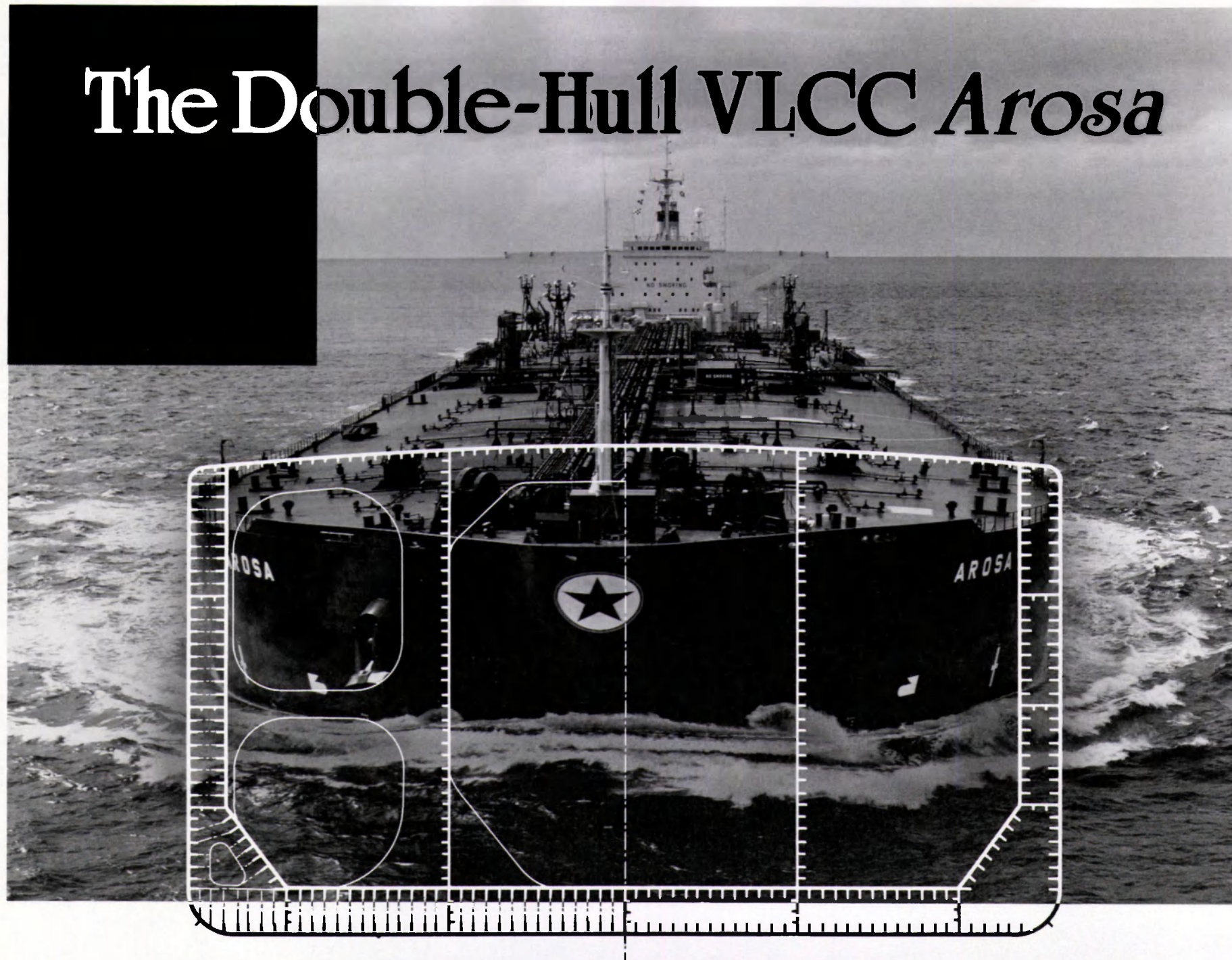
Corporate Office 205/456-1200



 Member Steel Service Center Institute

Mobile, AL • Muscle Shoals, AL • Columbus, MS • Attalla, AL • Kenner, LA • Jacksonville, FL • Ft. Lauderdale, FL • Tampa, FL
Circle 224 on Reader Service Card

The Double-Hull VLCC *Arosa*



The *Arosa*, one of the world's first double-hull VLCCs, is the pride of the fleet.

This revolutionary new vessel is double-sided and double-bottomed, and has a deadweight of 290,000 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 Dusseldorf 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 10445 Phone: 02-568-2022/2023 Fax: 02-568-2030 • Singapore (Hitachi Zosen Singapore Limited) 15, Benoi Road, Singapore 2282 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: 071-628-3891 Fax: 071-638-1309 • 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 25 on Reader Service Card

Riverboat Gaming News — State By State

Indiana

Indiana Riverboat Gaming Passes — Licensing To Continue, Boats To Come

The Indiana Supreme Court ruled that a state law authorizing riverboat gaming is constitutional, reversing a decision in May 1994 and lifting an injunction on the awarding of riverboat gaming licenses by the State of Indiana Gaming Commission.

The Porter County, Ind. Supreme Court had, in an unusual move, reversed the earlier decision in the case, which was brought by certain proponents of gaming in an Indiana County where a gaming referendum failed to receive the required countywide approval. The decision held that the distinctions made in the Indiana legislation regarding the approval process for various jurisdictions was "special legislation" in violation of the Indiana constitution, but did not hold that riverboat gaming itself was unconstitutional. During the appeal process the Supreme Court had prohibited the Indiana Gaming Commission from issuing any gaming licenses in the state of Indiana. However, the Supreme Court had allowed the Commission to continue operations such as background investigations and hearings for the applicants.

Legal Issues Resolved; Licensing To Start

With the issues resolved, owners can now concentrate on site development and boat ordering — and many refocused their attention immediately.

President Riverboat Casinos Inc.'s joint venture with Barden Communications Inc. filed a Phase I application with the State of Indiana Gaming Commission on December 15, 1993 to operate a riverboat gaming facility in Gary, Ind.

The joint venture was subsequently recommended by the City of Gary to receive one of two riverboat licenses allocated to the city, and is one of four companies with applications currently being considered by the State of Indiana Gaming Commission. President first announced its intention to establish, develop and operate the riverboat gaming operation on Lake Michigan on a four-deck, 300-ft. (91.4-m) vessel in September 1993.

\$110 Million Project To Proceed

The decision of the Indiana Supreme Court upholding the state law legalizing riverboat gaming is a favorable one for Aztar Corp.'s proposal to operate the only riverboat gaming facility planned to be operated in the Evansville market, according to Aztar. The decision, announced in Indianapolis, allows the Indiana Gaming Commission to proceed with licensing riverboat casinos.

Aztar was selected in June as Evansville's choice to operate its casino riverboat development. The city and Aztar have signed a development agreement for the \$110 million project. Under the agreement, the city is recommending to the Indiana Gaming Commission that Aztar be licensed to operate the Evansville riverboat casino. The city's recommendation is not binding on the Commission.

Aztar's application for an Indiana gaming license is pending. The Indiana Gaming Commission had originally announced a schedule targeting a license for Evansville in the fall of 1994, and has announced that Evansville will be the second market to be licensed in Indiana, after it issues licenses for Gary.

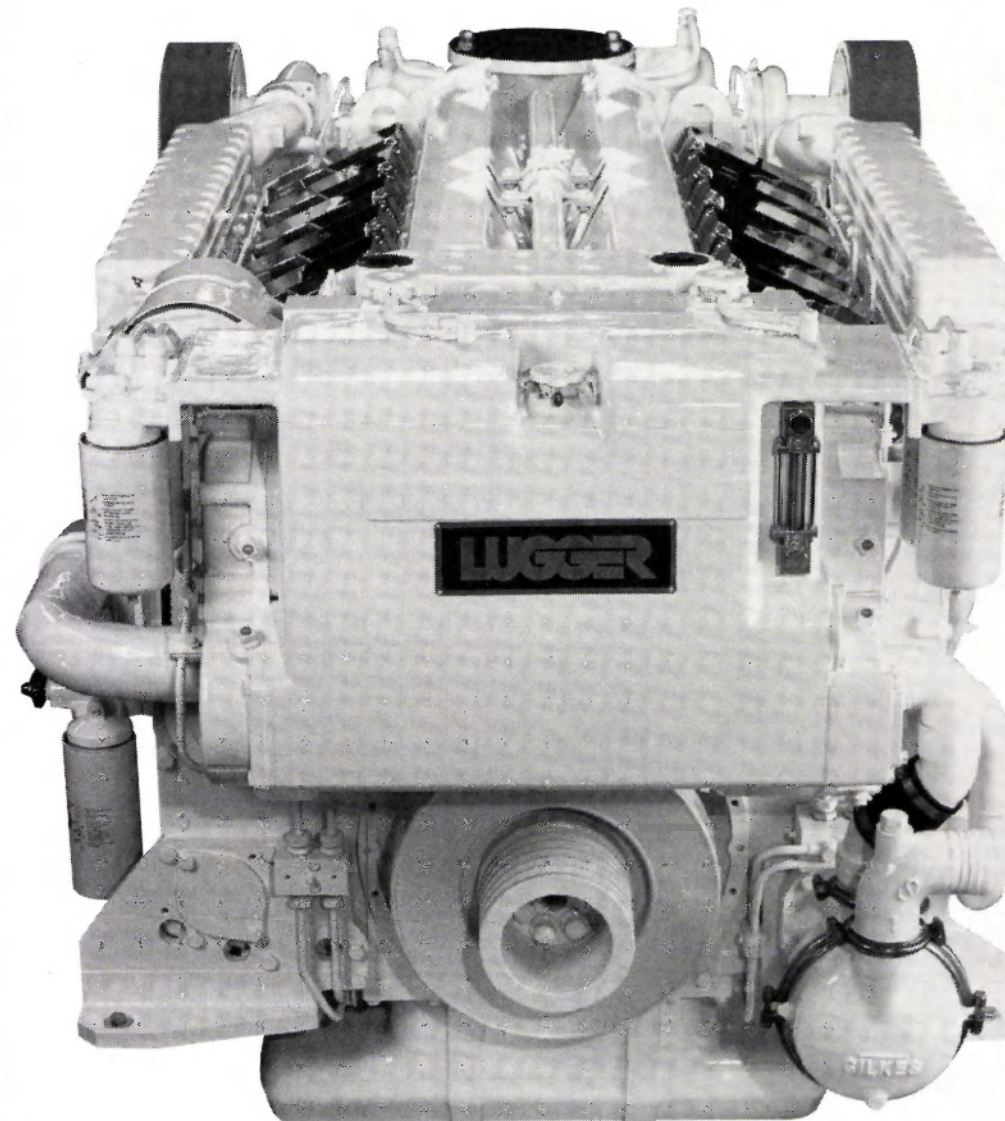
Evansville is on the Ohio River in Vanderburgh County in southwestern Indiana, a market of 650,000 people in a 50 mile radius and 2.5 million within 100 miles, including

the Louisville, Ky. area.

The Evansville casino will have a projected 2.3 million visitors annually until additional competition, if any, emerges for the Louisville market.

Aztar's proposed project, to be called the Evansville Landing, will be situated in downtown Evansville. The main elements of the Evansville Landing are:

- *The City of Evansville*, a replica of the historic *Robert E. Lee* racing sidewheel steamboat, already un-



THERE IS A NEW BULL GATOR ON THE BAYOU

Lugger 12V-140A
950 to 1300 HP
V-12, 1860 cid, 30.5
liters. Shown with heat
exchanger cooling and
shallow oil sump.

There's a new beast roaming the rivers, waterways and harbors.

America's workboat operators are putting Lugger diesels to work pushing barges and hauling people. They find Lugger's low fuel and lube oil consumption rates are taking a king size bite out of their fleet operating costs.

Vessel engineers like the common sense design which cuts maintenance time and the dry, clean operation that keeps their engine rooms clean. While crews and passengers enjoy the smooth, quiet, four-cycle operation.

Tough as alligator hide, these Luggers are built to last: Individ-

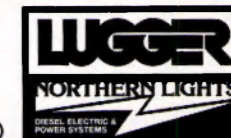
ual four valve cylinder heads (known to go 10,000 hours and still not need a valve grind). Wet cylinder liners. Liquid cooled turbos. Freshwater aftercoolers. Nodular-iron pistons.... the list of long life features goes on and on.

And every Lugger is built to customers' specifications with factory installed optional equipment from air starters to front power take offs. You get an engine built your way to fit your boat.

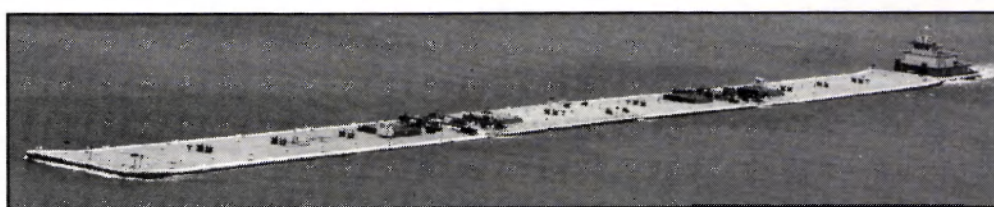
Visit your Lugger dealer. One of the largest is **Southern Power & Lights** of Houma LA. Call them at

504-851-1242 about the Luggers and Northern Lights sets they have installed in new vessels and as repowers. They'll show you why Luggers replace all others but no one replaces a Lugger.

For information on Luggers 67-1300 HP and Northern Lights gensets 5-708 kW call toll free 1-800-762-0165 Or (206) 789-3880 Fax (206) 782-5455 or write to: Box 70543, Seattle WA 98107



Jean Pierre Cenac
100 x 30 pushboat
has 3 L12V140A's
(950 hp/1800 rpm)
and 3 Northern
Lights sets. After
1000 hours total
vessel fuel burn
averages 75 gph!





**There Are More Than A Few Good Reasons
Why Experience Counts...**



Count On Us For:

- ★ Site evaluation
- ★ Regulative bodies coordination
- ★ Financing support
- ★ Gaming arrangements
- ★ Design and Engineering
- ★ Construction
- ★ Testing
- ★ Licensing support
- ★ Interior design and outfitting
- ★ Fast delivery
- ★ Post delivery support services

Service Marine Industries, Inc., was one of the first Gulf Coast shipyards to design and build casino riverboats and convert existing barges to dock-side casinos. Count on a leader.

Service Marine Industries, Inc.
PO Box 3606
Morgan City, LA 70381
(504) 631-0511 FAX (504) 631-0046



Circle 236 on Reader Service Card

Riverboat Gaming News — State By State

der construction by Jeffboat of Jeffersonville, Ind., for delivery by April 1995. The boat will be 310 ft. (94.5-m) long and 70 ft. (21.3-m) wide, with a capacity of 2,500 passengers and a crew of 300.

- A casino with 1,150 slot machines and 70 table games on the boat.
- A 250-room hotel.
- The Riverfront Pavilion, an entertainment complex for pre-boarding facilities, restaurants, lounge and retail shops.

Argosy's \$138M Lawrenceburg Awaits OK
The company (through a wholly-owned subsidiary) and its joint venture partners, including an affiliate of Conesco Inc., entered into an agreement of Limited Partnership on April 12, 1994 for the purpose of developing a riverboat casino in Lawrenceburg, Ind.

Under the terms of the partnership agreement, the company's subsidiary (which is a 60 percent owner and the sole general partner and manager of the project) would receive a management fee of 9.375 percent of operating profits for the first five years and 12.5 percent for the next 15 years.

The partnership filed its formal application with the Indiana Gaming Commission on April 13, 1994, along with 10 other organizations competing for a gaming license in Lawrenceburg, Ind. (in the Cincinnati, Ohio area) on the Ohio River. The joint venture submitted a proposal to the city of Lawrenceburg to develop a \$138 million casino entertainment complex to include a 100,000-sq.-ft. casino providing approximately 1,900 slot machines, 80 table games and accommodating approximately 3,000 passengers, a 250-room hotel, 160,000-sq.-ft. pavilion, parking garage and marina. As part of the proposal the partnership would also provide approximately \$21 million for infrastructure improvements, a new sewage treatment plant and roadway improvements.

On June 8, 1994 the partnership was one of three potential casino operators that were endorsed by the City Council of Lawrenceburg to operate a riverboat casino in their community. The city submitted its endorsements to the Indiana Gaming Commission which is solely responsible for the issuance of a gaming license. The Commission is expected (but not required) to consider the endorsements as one of the many factors in determining who will ultimately receive a gaming license in Indiana.

Dearborn County, where Lawrenceburg is located, approved a countrywide proposition on November 2, 1993 to authorize riverboat gaming. The Commission has not announced, following the issuance of the Supreme Court ruling, when it expects to consider applicants for Dearborn County and surrounding areas. The company does not anticipate that such applicants for Lawrenceburg will be reviewed by the Indiana Gaming Commission before early 1995. It is not guaranteed that a license will be issued for Lawrenceburg or

Dearborn County at all, let alone to the partnership.

Argosy Gaming Company owns and operates the *Alton Belle Casino II*, the first riverboat gaming casino in Illinois and in metropolitan St. Louis; the *Argosy Riverside Casino*, the first riverboat gaming casino to operate in the Kansas City River market; and the *Belle of Baton Rouge Casino*, the first riverboat gaming casino to operate

in the Baton Rouge, La. market. Argosy also manages and operates the *Belle of Sioux City*, the only riverboat casino to operate in the Western Iowa market.

Illinois

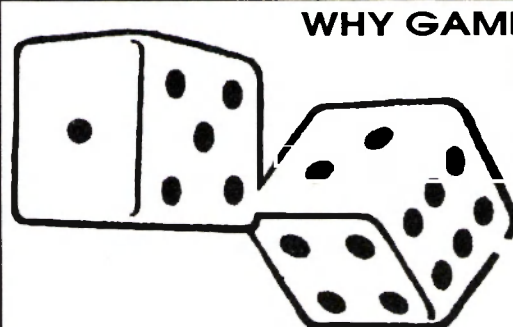
Argosy To Acquire Jazz

Argosy Gaming Company has

agreed with Jazz Enterprises and its affiliates — Argosy's limited partner in the *Belle of Baton Rouge Casino* and the developer of the adjacent real estate project known as Catfish Town — to acquire 100 percent of Jazz's stock.

The transaction will result in Argosy acquiring Jazz's 10 percent limited partnership interest in the casino.

Under the terms of the agree-



WHY GAMBLE WITH DEPENDABILITY...

FERNSTRUM

GRIDCOOLER.

Is a 'SURE THING'



Dubuque Casino Belle

Built by
Patti Shipyard
Keel Cooled by
R. W. Fernstrum & Company

For over 40 years, we've been making cooling systems for all types of marine engines... and that's all we make. Our product is so durable, efficient and easy to install that the U. S. Navy wrote their keel cooling specifications around our Gridcoolers. Why take chances when it comes to your engines' dependability? Do it right the first time... get Fernstrum Gridcoolers.

CHECK THESE UNIQUE QUALITIES ONLY FOUND IN THE GRIDCOOLER:

Completely assembled and factory tested to assure reliability. No complicated, time consuming assembly before installation.
Silver brazed and welded joints form a rugged keel cooler, no slip joints or "O" rings to leak.

Heavy gauge 90/10 copper-nickel or 5000 series aluminum rectangular tube, structurally stronger with more cooling surface, and twice the wall thickness of other package kit type keel coolers with round tube.

Custom designed to meet owner's operating conditions and the engine manufacturer's exact cooling requirements.
The most compact form of keel cooling, can be recessed for a flush with hull installation.

R. W. Fernstrum & Company

1716 11th Avenue • P. O. Box 97
Menominee, MI 49858 Phone: (906) 863-5553
Fax: (906) 863-5634

Circle 216 on Reader Service Card

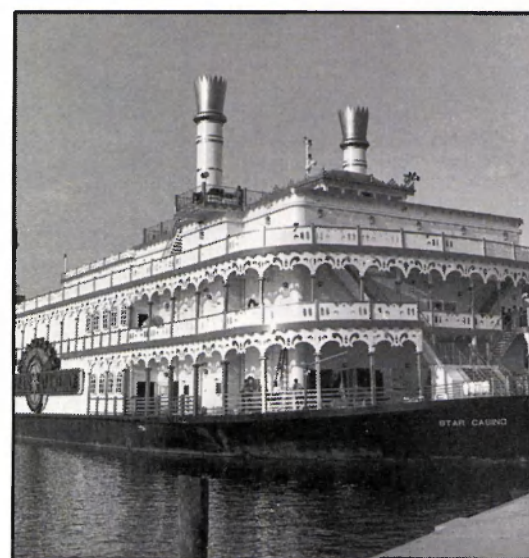
Designed by the people who know the business.

The naval architecture firm of Guido Perla & Associates is a full-service engineering firm serving the marine industry since 1979.

From the design of large factory trawlers; casino and riverboats, ships and ferries to minor modifications, expertise based on extensive marine construction experience has been the key to success of every GPA project.

Guido Perla & Associates offers a wide variety of services including:

- Computer-aided design
- Production engineering
- Computer lofting
- Technical consulting for all types of vessels
- Regulatory agency liaison
- Preventive maintenance programs
- Mechanical, electrical and structural analysis
- Stability analysis



LOUISIANA'S Ist CASINO BOAT



GUIDO PERLA & ASSOCIATES

4039 21st Avenue West, Suite 300, Seattle, Washington U.S.A. 98199-1252 Telephone 206-285-3232 Telefax 206-285-4225

Circle 220 on Reader Service Card

Riverboat Gaming News — State By State

ment, Argosy is appointed construction manager and general manager of the Catfish Town project for Jazz, and has complete control of construction and completion of the Catfish Town project.

Argosy will make initial payments to Jazz totaling \$8.5 million, and \$1.35 million per year for the next 10 years, followed by payments of

\$1.5 million for the following 10 years, all made quarterly.

Argosy will assume debts of the project, and pay about \$2 million on construction contracts. Construction has reportedly resumed at the Catfish Town project. The company said it would try to renew its occupancy permit for the site, which expired Dec. 28, 1994.

Louisiana

More Than 14,000 Flock To New Flamingo Casino

More than 14,000 guests flocked to the new *Flamingo* Casino New Orleans for grand opening day, Nov. 19,

1994, setting a new daily attendance record for the casino venture.

A christening ceremony was held, which featured remarks by city and state dignitaries and casino officials, including Hilton Hotels Corporation's **Barron Hilton**, chairman and CEO, and **Raymond Avansino**, president and COO; and **Warren L. Reuther Jr.**, president of New Orleans Paddlewheels, Inc.

The joint venture of Hilton Hotels Corp. and New Orleans Paddlewheels, Inc., opened the *Queen of New Orleans* as Louisiana's first casino on the Mississippi River on February 10, 1994, in an effort to bring gaming to downtown New Orleans as soon as possible.

The 322-ft. (98.1-m) *Flamingo* was constructed at Trinity Marine's Equitable-Halter shipyard in New Orleans East.

The *Flamingo* has over more than 1,300 slots, video poker and specialty games, and 75 table games including black jack, craps and Pai Gow Poker.

The *Flamingo* was originally intended to be named the *Queen of New Orleans*, to carry on that name when it replaced the original *Queen*— but its new name was reportedly decided upon because it was believed to have more of a Las Vegas style.

For more information on Trinity Circle 91 on Reader Service Card

STABLE INVESTMENTS WITH MANY RETURNS.

FERRIES FROM PBI ARE INVESTMENTS IN PROVEN ASSETS.

-  QUALITY
-  INTEGRITY
-  EXPERIENCE
-  PROVEN DESIGNS
-  TIMELY DELIVERY
-  CUSTOMER SATISFACTION

PBI
Peterson Builders, Inc.
P.O. Box 650 Sturgeon Bay, Wisconsin 54235-0650
(414) 743-5574 Fax: (414) 743-4784



120 PASSENGER - FAST CATAMARAN HARBOR COMMUTER FERRY



260 PASSENGER / 26 CAR - EXCURSION FERRY



62 PASSENGER - LOW WASH CATAMARAN RIVER COMMUTER FERRY



360 PASSENGER - FAST CATAMARAN COASTAL PASSENGER FERRY

Circle 264 on Reader Service Card

Innovative Gaming Gets Riverboat OK For Video Machines

Innovative Gaming Corporation of America received its manufacturer and gaming supplier permit from the Louisiana State Police Gaming Division effective Nov. 30, 1994.

The company's technical game approvals for its Live Video Blackjack and Live Video Craps have also been received and the company expects to pursue sales opportunities soon.

Innovative Gaming had previously received approval to sell its games to Louisiana Indian Casinos in June of 1994.

With the receipt of its riverboat approval, the company now has the opportunity to market its products to seven riverboat casinos currently operating in the state of Louisiana.

Innovative Gaming Corporation of America develops, manufactures and distributes group participation video gaming machines.

The company has applied for manufacturer/distributor licenses or is in the process of seeking technical game approvals in Colorado, Illinois, Iowa, Missouri, Nevada, S. Dakota and Wisconsin.

For more information Circle 90 on Reader Service Card

Mississippi

Cruising Vs. Dockside: A New Twist

When Belle Casinos' Tunica casino facility was constructed, the company reportedly raised \$75 million selling first mortgage notes obtained by issuing liens on the casino and its barges, which were considered vessels.

Now that the company is in Chapter 11 proceedings, it reportedly claims that the facilities aren't vessels after all — and as their argument goes, this invalidates the liens.

Belle Casinos' Tunica facility is constructed in four barges welded together and floats on a 10-ft. (3.05-m) deep manmade pond that's 1.25 miles away from the Mississippi River.

The casino built on those barges is a 70-ft (21.3-m) high, three-story facsimile of a grand, antebellum Southern mansion. The Tunica casino and the company's Biloxi, Miss. casino shouldn't be deemed vessels "because they are permanently moored, dockside gambling establishments and are not, and never have been, capable of navigation," according to the company. A number of Mississippi casinos were built this way because state gaming licenses only require the casino to float, and not to move. Investors don't see it that way, and are expected to fight Belle's position all the way. A court ruling is reportedly expected in early 1995.

Full House To Acquire Dockside Biloxi Casino

Full House Resorts, Inc. signed a letter of intent with Maritime Group, Ltd., a wholly-owned subsidiary of Palace Casinos, Inc., to acquire a 78,000-sq.-ft. dockside gaming casino in the Point Cadet Area of Biloxi, Miss. for an undisclosed amount in cash.

Maritime and Palace will attempt to obtain the support of bondholders and other creditors for the sale to Full House. It is currently thought that the sale may be effected through a Chapter 11 filing by Palace and Full House.

Missouri

Grand Casinos Withdraws Letter Of Intent For Casino

Grand Casinos Inc. has completed its due diligence and has terminated its letter of intent for a proposed casino site north of downtown St. Louis. Grand Casinos announced in early November that it had entered into the letter of intent that gave Grand Casinos the right to conduct due diligence for the proposed site. After looking at many factors, including but not limited to uncovering obstacles relative to the regulatory environment, determining the length of time required before knowing whether a dockside casino would be allowed, and unraveling certain project ownership ambiguities, Grand Casinos decided that this site was not in the best interest of the company or its shareholders. According to Grand Casinos, the due diligence process was completed quickly and efficiently and did not result in any significant expense.

Station Casinos Moves Ahead With St. Charles Riverboats

Station Casinos Inc. announced the arrival of its second casino riverboat in St. Charles, Mo.

January, 1995

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 207 on Reader Service Card

DECK HATCH'S ... BY BAYWOOD, INC.

- TRY THE EASIEST OPERATING HATCH'S IN THE MARINE INDUSTRY
- ALL MARINE GRADE ALUMINUM CONSTRUCTION EXCEEDS U.S. COAST GUARD STANDARDS
- NOW BEING USED BY U.S.C.G., U.S.N., & U.S. CORPS OF ENGINEERS
- AVAILABLE WITH A VARIETY OF INSTALLATION
- APPLICATIONS (STEEL RINGS, STAINLESS STEEL, GALV. RINGS & ALUMINUM)



CALL FOR CATALOGUE ON HATCH'S AND OTHER QUALITY PRODUCTS MANUFACTURED BY BAYWOOD, INC.

BAYWOOD, INC. ANNOUNCES NEW DISTRIBUTOR

NORTHEAST INDUSTRIAL & MARINE EQUIPMENT SUPPLY • 661 ROUTE 9, ERMA, NJ 08204
CALL FOR PRICING: PHONE: 1-800-884-3152 • FAX: 1-609-984-3170
VISA AND MASTERCARD ACCEPTED

Circle 281 on Reader Service Card

RIVERTRONICS, INC.

2624 East Broadway
Alton, IL 62002
(618) 463-1440, St. Louis (314) 741-2201
Fax: (618) 463-1450

MARINE ELECTRONICS



THE PERFORMANCE LEADER
RT - 1000
Omni - Directional
UHF - VHF - FM TV Antenna



RT 500AC III
SWINGMASTER
RATE OF TURN INDICATOR

(Please feel free to call for more information, prices and a list of our satisfied customers.)

Circle 256 on Reader Service Card


HILLER SYSTEMS, INC.

**FOR PROMPT & PROFESSIONAL REPAIR & MAINTENANCE
OF MARINE FIRE PROTECTION SYSTEMS, DECKING,
INERT GAS SYSTEMS, OILY WATER SEPARATORS & MSD UNITS**

NEW CONSTRUCTION INSTALLATIONS • ROUTINE MAINTENANCE OR EMERGENCY SERVICE
24 HOURS A DAY, SEVEN DAYS A WEEK

75 YEARS SERVICE TO THE MARINE INDUSTRY

HYDRO TESTING/RECERTIFICATION
CO₂ - HALON - FOAM
SPRINKLER SYSTEMS
PHONE: 205-661-1275
FAX: 205-666-3062



DETECTION/ALARM SYSTEMS
MARINE INSULATION
MARINE DECKING
3710 LAKESIDE COURT
MOBILE, AL 36693

Circle 222 on Reader Service Card

Riverboat Gaming News — State By State

The 2,000-passenger vessel sailed to St. Charles from the Houma Industries Inc., shipyards in Harvey, La.

The riverboat will be equipped with roulette, mini-baccarat, blackjack, craps, slot machines, video poker and video blackjack.

"All work is proceeding to have slot machines available to the public as soon as possible. Our second riverboat is arriving ... so we can begin outfitting it to be one of the first in Missouri to offer slot machines," said **Glenn C. Christenson**, executive vice president and chief financial officer of Station Casinos.

The second riverboat will have 25,000 sq. ft. of casino space on three decks and a 12,000-sq.-ft. outdoor observation deck. When completed, it will offer 1,444 gaming positions.

The gaming mix will be approximately 80

percent slot machines and 20 percent video games as well as roulette and table games. The riverboat will be moored adjacent to the *Casino St. Charles* while it is outfitted.

Aztar Won't Acquire Capitol Queen Assets In Jefferson City

Aztar Corp. has decided not to proceed with its proposed acquisition of certain assets and assumption of certain liabilities of Capitol Queen and Casino Inc., a Becker Gaming Inc. subsidiary formed to develop a casino riverboat operation in Jefferson City, Mo.

Aztar is a publicly traded company that operates the TropWorld Casino and Entertainment

Resort in Atlantic City, N.J., Tropicana Resort and Casino in Las Vegas, and Ramada Express Hotel and Casino in Laughlin, Nev.

Century Applies For Portage des Sioux Riverboat License

Century Casinos, Inc. has filed a license application with the Missouri Gaming Commission to operate a riverboat gaming development in the City of Portage des Sioux, Mo., located 25 miles north of St. Louis.

The planned riverboat will provide 700 to 800 gaming positions, with total costs estimated at approximately \$25 million.

In February 1994, Century signed an exclusive agreement with the City of Portage des Sioux to develop a riverboat gaming facility. In April 1994, the local referendum allowing a riverboat casino in

Smit Makes Heidrun TLP Deliveries

Smit Transport barges completed the delivery of four heavy modules for Conoco's Heidrun Tension Leg Platform (TLP), which is under construction near Stavanger, Norway.

The large modules, with weights of up to 11,500 tons, were transported by the 24,000-dwt barges *Giant 2*, *Giant 3* and *Giant 4*, together with the 14,000-dwt *Smitbarge 1*. The modules were loaded at construction facilities in the U.K. and Norway.

Smit Transport Manager **Dammis van Dijk** says: "The transport operation went very smoothly. The modules were mated with the TLP in September and the last of the barges was redelivered this month."

During the barges' call at Stavanger, the Smit sheerlegs crane Taklift 7 — equipped with a special 575-ft. (175-m) boom — carried out the high lift of the Heidrun TLP's flare and derrick towers. This contract was carried out by Smit Maritime Contractors, on behalf of Norwegian Contractors.

For more information on Smit Transport
Circle 86 on Reader Service Card

The *Giant 2* was one of four Smit barges employed to transport modules for the Heidrun field's Tension Leg Platform (TLP).



We've Got the Solution to Your Shipboard Level Problems

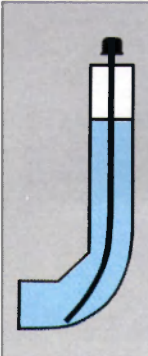
Aboard Tankers, Containerships, LNG Carriers and Bulkers

When it comes to demanding marine gauging requirements, you can rely on Metritape's 30 years' experience to do the job right. We are best known for gauging cargo but our level sensors perform just as well in draft, ballast, fuel and service tanks.

Other level gauging suppliers reserve high performance sensors for cargo, offering lower performance level sensors for other tanks. Only Metritape provides the same high performance sen-

sors for all tanks, and at competitive prices. Our flexible sensors are ideal for difficult "J" shaped tanks and are easily installed from tank top.

Using our sensors throughout your vessel simplifies system integration, training and spares requirements while insuring the reliability you expect. Call us today for details.



Metritape
Littleton, Massachusetts, USA
508-486-9800 fax 508-486-0170

"Visit us at The London Seatrade Tanker Convention, Stand # 146"

50D

Circle 276 on Reader Service Card

Passenger friendly.



Rugged and reliable as a work boat, but comfortable enough to please passengers day in and day out — that's the 57-foot SYLVAN SPIRIT, designed and built for Decatur Northwest. If you've got people to move, give us a call — we promise a friendly response.

Kvichak Marine
INDUSTRIES

615 North 34th Street • Seattle, WA 98103 USA
Phone (206) 545-8485 • FAX (206) 545-3504

Circle 288 on Reader Service Card

Riverboat Gaming News

the local referendum allowing a riverboat in Portage passed with a 68 percent vote.

With the recent passage of a statewide referendum allowing slot machines on riverboat casinos, Century and the City of Portage des Sioux believe that the proposed development should have a positive impact for the economic development of the city and the surrounding area.

Five licenses have already been issued by the State of Missouri, and another 17 companies have filed applications for riverboat casinos for various locations throughout Missouri.

Players Will Proceed With Maryland Heights Plans

Players International, Inc. said that based on recent election results it would proceed with plans to develop a riverboat casino in Maryland Heights, Mo. In those elections, Missouri voters approved an amendment to the state's constitution to legalize games of chance. In January 1994, Players received approval from the City of Maryland Heights to develop a riverboat casino complex and applied to the Missouri Gaming Commission for a license to own and operate a riverboat casino. **Ed Fishman**, Players chairman and CEO, said, "We are moving ahead with our analysis and planning, and expect to announce a revised plan for a project in the next several weeks."

Sensormatic Protects Grand Victoria With Monitoring Technology

Sensormatic Electronics Corporation is helping to protect the *Grand Victoria*.

The *Grand Victoria* has more than 200 cameras monitoring activities on the riverboat, its dockside terminal and parking garage. The riverboat and dockside terminal each utilize a combination of fixed and SpeedDome™ cameras. The SpeedDome is a micro-sized domed PTZ camera that utilizes advanced chip technologies and can acquire a subject in less than one second, fully zoomed and focused.

The cameras will be controlled by two AD2050 matrix switcher/control systems that can manage video input from more than 1,000 cameras and display the information on more than 125 monitors.

For more information on Sensormatic
Circle 92 on Reader Service Card

Wooster's Flex-Tred Can Reduce Accident Liability

Wooster Products Inc. offers Flex-Tred, an instant, self-adhesive anti-slip safety surface which can be used to renovate interior or exterior stairways, decks and more to help reduce accident and potential liability risk, as well as meet OSHA requirements. Available in a variety of sizes and shapes and even custom die-cuts to fit the customer's application and a variety of color schemes, Wooster says Flex-Tred outlasts rubber up to 15 times or more.

For more information on Wooster Products
Circle 94 on Reader Service Card

MSC Completes Three Gaming Vessel Contracts

Maritime Services Corporation (MSC) recently completed work on the gaming vessels *Par-A-Dice* and *Horseshoe*.

MSC handled all custom glasswork, decoration and millwork for *Par-A-Dice* with an elaborate, modernistic interior design utilizing many nonstandard ship interior materials.

The company worked on *Par-A-Dice* with primary contractor Atlantic Marine of Jacksonville, Fla., and designer **Darren Wright** of Ultimate Interiors. *Par-A-Dice* is now operating out of East Peoria, Ill. MSC crews worked for two weeks aboard the *Horseshoe* casino riverboat as it moved upriver from Mobile, Ala. to the owner's pavilion in Bossier City, La.

For more information on MSC
Circle 93 on Reader Service Card

Texas Instruments, Hughes Aircraft Team To Create Nightsight™

Texas Instruments and Hughes Aircraft Co. developed a new infrared video camera for use in situations with little or no light. The Nightsight™ Thermal Vision System works by detecting slight temperature differences between the various objects and people in its field of view. The system uses this information to create a real-time "thermal landscape" of an area on a video display. By detecting heat instead of light, it can be used to effectively monitor completely dark areas. The initial production unit is in a fixed-mount configuration for use on vehicles, marine craft and in stationary security applications.

For more information on the Nightsight™
Circle 150 on Reader Service Card

Ginsberg Starts Consulting Firm

Harold Ginsberg founded Aero-Marine Engineering, a technical consulting firm for the aerospace and marine industry. The company will perform project management, design, development and engineering support of advanced marine vehicles. It will specialize in advanced marine vehicles. Mr. **Ginsberg** was a project engineer at the U.S. Army's Belvoir RD&E Center's Marine Div., where he designed, developed and provided engineering support to the U.S. Army's hovercraft programs.

For more information on Aero-Marine Engineering
Circle 152 on Reader Service Card

Multicom Supplies Electronic Systems

Multicom supplies a variety of electronic systems to the riverboat casino and marine industry. Multicom designs theatrical tours, special effects for amusement parks, movie studios and television networks—so they can offer creativity and dependability in the implementation of electronics for the owner's needs.

Those electronic systems include sound, video and telecommunications systems, including U.S. Coast Guard-approved emergency sound and voice evacuation systems; entertainment sound, lights and video; computer control and monitoring; music systems; paging systems; distributed

video systems; telephone and cellular systems; and complete pre-wiring.

For more information on Multicom
Circle 173 on Reader Service Card

Johnston Bros. Riding Passenger Vessel Wave

Johnston Brothers Enterprises, a major HVAC system supplier to the boat and shipbuilding market, has enjoyed great success in providing systems for gaming and dinner/excursion boats.

The company was contracted to design, engineer, fabricate and/or install the heating, ventilation and air conditioning (HVAC) systems for several vessels, including the *Isle of Capri*, *Boomtown Belle*, *Southern Star*, *Shreveport Rose*, and the *Odyssey*, to name just a few.

For more information on Johnston Bros.
Circle 153 on Reader Service Card

Newage Intl. Offers Free Information On Stamford AC Generators

Technical details accompanied by four-color pictures and cross sections on Newage International's Stamford range of brushless AC generators is offered in a new booklet from the company. Available from five to 2,500 kVA, Stamford generators are designed for all generator set configurations to meet a range of applications.

For more information on Newage Intl.
Circle 132 on Reader Service Card

Landfall Navigation Offers New Catalog

The Landfall Navigation catalog is now available, and includes more than 225 pages of a diverse array of safety equipment, navigation instruments, electronics, electronic charts, nautical books and guides, marine videos, and nautical charts.

For information on ordering a catalog
Circle 136 on Reader Service Card

New Fire Safety Device Help "Lead The Way Out"

HMS Marine Hardware now offers quick-release, stow-in-place, smoke containment curtains with self-contained and activated guide-lights, which in essence provides an illuminated beacon at escape door locations. The new design curtain assembly is mounted overhead at door locations, awaiting deployment in the event of an emergency. In this product, the battery-powered, low-voltage electroluminescent lights are automatically activated upon curtain deployment.

For more information from HMS Marine
Circle 138 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
Pollhornbogen 8
21107 Hamburg GERMANY
TEL 49-40-751457 • FAX 49-40-755805

Circle 215 on Reader Service Card

Drewry Reports: Freight Rate Surge In Handymax Sector, LPG Market Recovery Predicted

HANDY BULK CARRIERS: Trading Environment and Prospects for Profitability to 2000

The second half of the 1990s looks set to see a tightening supply/demand balance in the Handy (20 - 50,000 dwt) sector of the dry bulk carrier fleet, leading to a marked increase in freight rates, according to a new report from Drewry Shipping Consultants, London entitled *HANDY BULK CARRIERS: Trading Environment and Prospects for Profitability to 2000*. If proved correct, this would mean that the stabilization of rates seen through much of 1994 would be a market pause rather than a market peak. The Handy sector's recent strength, though driven by a number of factors, owed a lot to a major upsurge in Chinese import demand. The market impact of a construction-led economic boom, soaring imports (especially for steel products) and congested, restricted access ports helped push daily hire rates for the larger

Handy types into the realms being attained by larger bulk carriers. Through 2000, it is anticipated (under a base case position) that the supply of Handy bulk carriers will increase from a level of around 90 million dwt to a little over 95 million dwt. Projected demand is likely to rise at a broadly similar rate.

While such an outlook is promising, demand may not be distributed evenly across all Handy bulk carrier operations. The report sees fortunes differing between smaller Handysize types and the larger Handymax elements of the fleet.

For Handysize (20 - 34,999 dwt) ships, average earning over the 1994 - 2000 period will not match those of the last seven years; net revenues are predicted to fall until 1998. Thereafter, significant improvements are possible. In direct contrast, average earnings for Handymax (35 - 49,999 dwt) types are expected to outperform the levels over the last seven years.

These assertions rely on assessments of the fleet's profile and potential costs. For the older elements, mainly focused in the smaller Handysize sector, a combination of increased maintenance — and probably insurance — outgoings coupled with increasing charterer resistance to accept "overage" tonnage could prove crucial to the cost-revenue equation. Owners whose fleets have a relatively youthful age profile could find themselves in a favorable position.

In fact, ageism could soon become the main issue all across the Handy bulk carrier range. Around 185 of the ships currently making up the Handysize/Handymax fleet already are 20 years of age or over; more importantly, 31 percent of the current fleet (about 28 million dwt) is between 13 and 19 years of age. This could conceivably see 49 percent of the fleet being 20-plus years vintage by the end of the century.

The popularity of the Handy bulk carrier sector remains its trading versatility. Most ships are geared and capable of loading or discharging independently of shoreside equipment, offering considerable potential to work relatively restricted berths or ports as well as newly emerging and niche market trades. Grain trade employment continues to be of particular importance to Handy bulk carrier employment despite steady erosion of this traffic by larger Panamax types. The other major bulk trades feature in Handy bulk carrier utilization to varying degrees — though scale economies have dictated the move to larger carriers for most iron ore and coal traffic. As a result, the Handy sector is taking on an ever-increasing minor bulk traffic orientation, together with a strong focus on key neo-bulk sectors such as steel and forest products.

Forecast: Handy Bulk Carriers (20 - 50,000 dwt) Ton-Mile Demand: 1994 - 2000

	1994	1996	1998	2000
Major Bulks	1,096	1,046	1,033	1,013
Minor and Neo Bulks	1,638	1,713	1,747	1,917
Total	2,734	2,759	2,780	2,930

(Source: Drewry Shipping Consultants)

LPG Carriers — Market Prospects to 2000

Trading conditions in the LPG shipping market in the last few years have been fairly poor. Freight rates have generally been at low levels in response to the massive increase in shipping capacity (the size of the LPG fleet grew by 37 percent between 1990 - 4), which in turn has led to a severe reduction in the trading profitability of the world's leading independent LPG operators.

The year 1994 has, however, produced the first signs that this barren period may be over, and Drewry's report entitled *LPG Carriers — Market Prospects to 2000* suggests that the improvements seen this year — fuller employment and higher freight rates — will be maintained to 1995 and beyond.

The belief that the LPG market will stage a strong recovery in the next couple of years is based on an assessment of the outlook for the key fundamentals of vessel demand and supply. On the demand front the report notes that seaborne trade in the LPG and the main chemical gases (ammonia, ethylene, butadiene, propylene and vinyl chloride monomer) has increased every year since 1990 equivalent to an annual growth rate of 6.7 percent. Figures contained in the study suggest that seaborne movements of LPG and associated products have increased at a faster rate than global trends in consumption, due in part to strong demand for imported gas in countries with domestic supply deficits.

For more information on
Drewry Shipping Consultants
Circle 41 on Reader Service Card

Maritime Reporter/Engineering News

Engine productivity starts with Marine Performance Line Filtration Products



You expect your hard-working engines to deliver. Now, you can rely on Marine Performance Line (MPL) Filtration Products and Services to make sure you get where you're going.

MPL is designed to *maximize* performance and *minimize* engine wear. MPL is available for all major marine diesel engines applications (EMD, Detroit Diesel, Deere, CAT, Cummins, Luger, Volvo Penta).

To find out more about MPL brand filters, write to:

Fleetguard Marine
402 BNA Drive, Suite 500
Nashville, TN 37217
Attn: Marine Market Manager



Circle 271 on Reader Service Card

Marine Interior Specialists

JOINER CONTRACTOR

CRUISE SHIPS • DINNER BOATS • FERRY BOATS • CASINO VESSELS



CSI



Custom Ship Interiors, Inc.

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

410-326-9122

Circle 267 on Reader Service Card

Ex-Skaarup Oil President Forms Gray Maritime

William O. Gray announced that effective Jan. 1, 1995, he retired as president of Skaarup Oil Corporation and established Gray Maritime Company, of which he is president. Through the new company Mr. Gray's experience is offered to clients around the world. Initial clients of Gray Maritime include the International Association of Independent Tanker Owners (INTERTANKO) and shipowner Ole Skaarup.

For more information on Gray Maritime
Circle 76 on Reader Service Card

Bowthruster Catalog Available From Wesmar



Wesmar published a new catalog which includes its complete line of more than 20 bowthruster models, single and dual prop, ranging in size from six to 40 in., up to 400 hp. The manufacturer touts its double thrust counter rotating design as able to provide more power in

the same tunnel size.

For a copy of the brochure
Circle 133 on Reader Service Card

Navy Approves Simsite® Composite Pump Parts

The U.S. Navy approved the use of composite parts to replace metal parts in defined centrifugal pumps. Details of the new instruction are spelled out in NAVSEA Technical Publication 03Y3-101, released in April, 1994. Simsite® structural composite pump parts, manufactured by the Sims Pump Valve company, are reportedly the only composites to win Navy approval to date. Sims has two grades approved: Simsite grade 302 and grade 375.

For more information on
Circle 62 on Reader Service Card

AlliedSignal Fibers Offers New Technical Newsletter

AlliedSignal Fibers introduced the latest issue of *Lorraine Polyester Plant Update (LPPU)*, a newsletter which covers the current developments in the EC industrial fibers market with emphasis on AlliedSignal's new Longlaville polyester plant in Lorraine, France.

For a copy of the newsletter
Circle 149 on Reader Service Card

In-Place Machining Performs In Situ Repair

In-Place Machining Company (IPM) performs complete in-situ repair and refurbishment of crank-

shafts, including crankpin and main journals. Recently the crankshaft of a diesel generating engine aboard a bulk carrier sustained damage when the clamp that retains the crankshaft gear to the crankshaft loosened. It was found that the cylindrical mounting surface for the crankshaft gear and two adjacent tapered collars on the crankshaft were badly damaged.

Access for the repair was limited

so the crankshaft was removed to the IPM shop. The gear mounting area had overheated when the crankshaft gear key sheared and the gear spun. The crankshaft was mounted in a grinder and inspected for hardness, cracking and bending. There was surface cracking and hardness. IPM effected the following repair with complete approval of the Lloyd's surveyor: the damaged cylindrical surface and tapered surfaces on the crankshaft

were machined to remove hardness and surface cracking; these areas of the shaft were "brush" nickel plated to increase diameter; the plated areas were ground to original manufactured dimensions; since all the main and crankpin journal surfaces had minor wear marks, the journals were ground .5 mm under size.

For more information
Circle 61 on Reader Service Card

S W A T H O C E A N

Pictured above: The most recent launching by SWATH Ocean Systems.
A custom 4000 Class SWATH: 90' LOA, 45' Beam; Power: Twin Caterpillar 3516 Dsls ;
Speed in photo: 25.6 Knots; Max. range: 3000 NM;
Construction: Aluminum hull & superstructure.

Maintaining The Calm Throughout The Storm

SWATH (Small Waterplane Area Twin Hull) craft are achieving unmatched dynamic stability. They are able to maintain top cruising speeds in sea states of five to seven (10' to 14' seas and 17 to 33 knot winds) in comfort and safety. SWATH Ocean Systems design, engineering and construction facilities are committed to excellence.

SWATH OCEAN

Performance video available.
Call for a complimentary copy.

Swath Ocean Systems, Inc.
1313 W. 24th Street, National City, CA 91950 phone: 1.619.336.4615 fax: 1.619.336.4616
Circle 240 on Reader Service Card

EUROPEAN UPDATE

by Carol Fulford and Andy Smith
International Editors

Vosper Thornycroft-built FRP hovercraft launched



Builders and designers of the world's largest fiber reinforced plastic (FRP) amphibious hovercraft are now actively marketing the first production model to military operators throughout Europe, the U.S. and the Far East. The companies reveal that they are already very close to confirming their first order.

The ABS M-10, designed by ABS Hovercraft and built by Vosper Thornycroft (VT) in the U.K., reportedly offers a host of advantages over previous generations of hovercraft. Most notable are low weight and high speed, made possible by the composite build material and diesel driven propulsion system and the vessel's ability to operate anywhere in the world. Chief designer **Andrew White** explains: "The ABS M-10 has been designed at the outset to marine rules and aimed at the marine market worldwide."

Military buyers are a primary target, as the 62 ft. (18.9 m) craft offers various benefits such as year-round operation, multi-role capability, high speed, easy landing and camouflage and safer

operation in mine threatened zones. Even at night, it can operate at speed without fear of grounding or damaging stern gear; and, with a comparatively low radar signature, remain undetected while in patrol mode. Military applications can extend from landing craft to patrol boat activities. For surveillance and anti-smuggling operations, the M-10 can sit undetected on the shoreline and, with the aid of modern surveillance equipment, suspects can be intercepted at speeds of over 40 knots in shallow waters inaccessible to conventional craft. Quiet operation is also a bonus, and twin engines, combined with controllable pitch propellers, allow excellent low speed maneuverability.

The design — which aimed for light weight, high strength and maximum payload — required stringent specifications for the tensile, flexural and compressive strength of the laminates used in a GRP hull, and Kevlar reinforced sandwich superstructure. Samples of both were submitted to Lloyd's Register for inspection before con-

struction commenced.

With approved materials, VT was able to progress the build by manufacturing a unique, lightweight, non-corrosive single skin composite FRP hull which meets high standards for shock absorbency and is able to withstand considerable abrasion from rock and sand. An FRP foam sandwich superstructure was added to achieve a total weight target which is claimed by the designers to offer 40 percent more payload space for its size compared to its previous models. This naturally results in equal claims for reduced operating costs including easy maintenance and repair fees, which are reportedly even lower than for conventional military vessels.

The M-10 is also fast, capable of 40 knots in calm seas. Powered by twin Deutz air cooled BF 12L513C diesel engines developing 525 bhp (386 kW) at 2,300 rpm driving twin-bladed ducted Hoffmann controllable pitch low-noise propellers, the vessel has a range of 600 nm at 30 knots in calm water. Engines are located aft in an engine room easily accessible from within the cabin. The propeller, along with a centrifugal fan which supplies lift air to the cushion, are driven off the front end of each engine via toothed belts. A skirt shift system, two rudders in the rear of each propeller duct and a trim system comprising a ballast tank forward to port, one to starboard and another aft is fitted.

The completed vessel has a cargo hold forward which can provide seating for 77 personnel or equivalent payload. Access to the cargo hold is by wide electro-hydraulically powered bow ramp which also provides vehicular access. When at sea, inflatable craft can also be launched via the ramp. The M-10 can additionally be made available in civilian mode for passenger and aircraft recovery, hydrographic and seismographic exploration to carry stores and people near and off shore. After oil spills, for example, it is ideal for carrying heavy beach cleaning equipment and detergents to areas otherwise inaccessible from land or sea.

In a rescue application the M-10 can be used as a stationary rescue platform to enable the recovery of victims close to sea level. There is no risk of survivors being injured by propellers and the wide side decks allow excellent all round recovery access.

First FBM Tri-Cat Named The Princess Royal

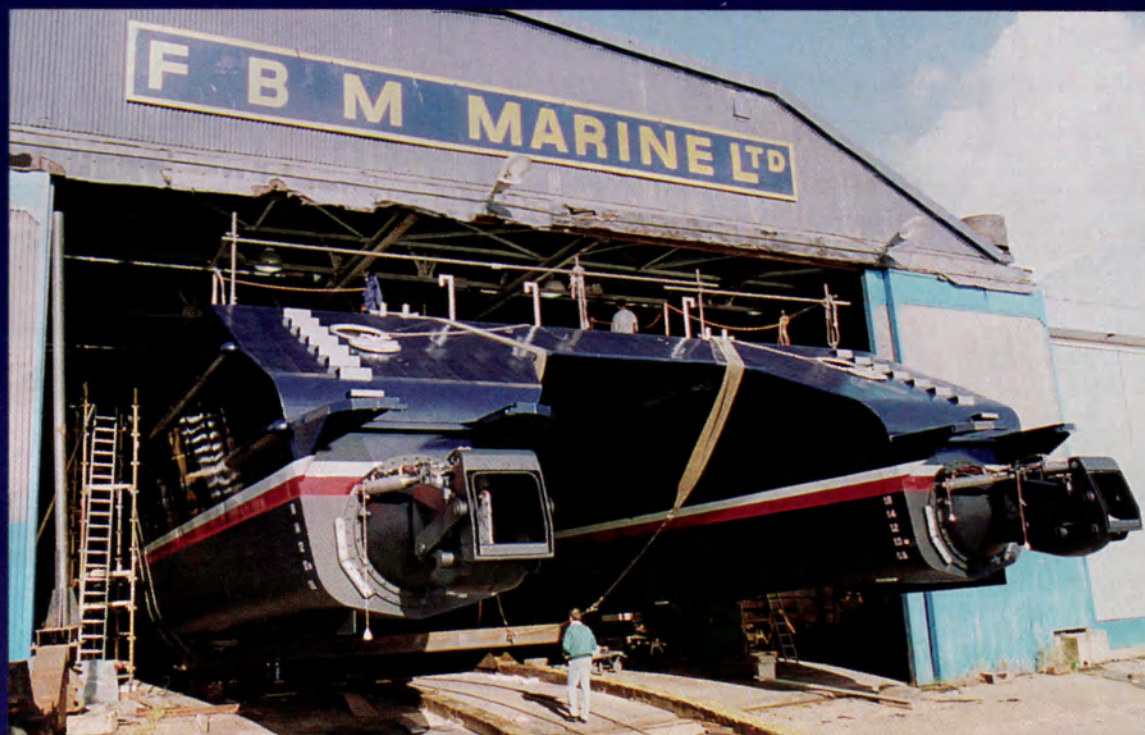
Universal Mk 2001 — the first of the seven 148 ft. (45 m) TriCat ferries U.K. yard FBM Marine is under contract to supply to Hong Kong — was named *The Princess Royal* in mid-December.

FBM's contribution to the world fast ferry market is innovative. The \$65-million order has strengthened its credibility on the international fast ferry scene, and allowed them to expand their workforce by more than 60 percent.

A development of the yard's proven Solent Class catamaran, TriCat breaks new ground with its ride-improving third bow and futuristic styling. The vessel's additional forward bow provides for a gentler ride in rough seas. Passenger comfort has been also aided by a microprocessor controlled ride system.

The craft's aerodynamic superstructure and aesthetically pleasing cabin interiors are the work of an internationally established luxury yacht designer as its operators — CTS/Parkview Ferry Services — know from experience that style attracts passengers on the competitive Hong Kong ferry routes.

Complete with gas turbines and waterjets, the hulls are launched prior to fitting of the superstructure.



The TriCat is built from a curious combination of aluminium and specially moulded FRP with the former used to create the structure itself and the latter bolted on in sandwich panels for cosmetic effect. The result is sleekness, good compensation for any added weight that the composite finery brings. Aluminium plate with longitudinal stiffeners and web frames are used for the hull, and extruded planks welded edge-to-edge, with integral T stiffeners, for the deck.

The superstructure, along with passenger cabin interiors, is meant to emulate travelling first class in a jumbo jet. Interior decor includes hand-painted murals, burr walnut inlays, leather, hand-woven carved wool carpets, co-ordinated upholstery, specially styled wall and ceiling panels and marble-lined toilet compartments. Nicholson Interiors made the initial design plans reality. Full size mock-ups were produced for the client's approval, and involved a change from traditional aluminium internal profiles to the use of phenolic resin and Nomex panels in vacuum formed sections, technology well established in the aircraft industry. **George Wong**, chairman of The Hong Kong Parkview Group, worked closely with both designers on the exterior and, most particularly, interior styling.

Passenger comfort was also part of the reason for selecting a gas turbine propulsion system. Each vessel is to be powered by a pair of 7000 hp Taurus 60M turbines supplied by Solar Turbines Inc. (part of the Caterpillar group) coupled to KaMeWa waterjet units.

The compact size and power to weight ratio of the turbines are key advantages for the TriCat as they enable it to generate increased revenue by carrying greater payloads at higher speeds than ferries of a comparable size powered by larger heavier reciprocating engines. Other major benefits to the operator include high reliability, long overhaul intervals and low maintenance requirements. Passengers will gain from a very low vibration level and easily attenuated sound signature and, equally importantly, swift travel on the Hong Kong Macau route as sea trials revealed TriCat's ability to exceed its estimated top speed of 47 knots and to attain 52 knots (60 mph).

Furthermore, the Taurus units have been equipped with Solar Turbine's computer based Turbotronic control systems to monitor and control all dynamic and static operating parameters and provision has been made for a Maritime Dynamics ride control system which will be installed on a test basis.

Capable of carrying up to 318 passengers on two decks with a first class upper cabin and special VIP lounge, Universal Mk 2001 perhaps owes its existence to a smaller 115-ft. (35 m) pre-production model — Universal Mk VI — which was the first to feature the TriCat style bow. Purchased by CTS-Parkview for service on the Hong Kong to Shenzhen Airport route, the vessel

The Universal Mk 2001 powering ahead at 52 knots on sea trials.



WE'RE YOUR CONNECTION



Meltric PF and PFQ plugs and receptacles are designed to provide the best shore power electrical connection. For over 40 years, Meltric connectors have been designed to stand out in a crowd with unique, innovative technology. All product lines utilize self-cleaning, silver-nickel pressure contacts similar to those found in most switch apparatus, providing you with the ultimate in performance and safety.

PF/PFQ PRODUCT HIGHLIGHTS INCLUDE:

- Available from 300-600 Amps, 1000 VAC/VDC max.
- UL Listings—PF at 300 and 400 Amps, PFQ at 300 Amps
- Easy to use
- Watertight design
- Corrosion Resistant
- 5 Year Limited Warranty on silver-nickel pressure contacts
- Option of either straight or 90° angled cord bodies
- Safety shutters isolate contacts when not in use

The PF and PFQ are ideal for shipyards and dock facilities, petroleum platforms and many other applications where performance under dirty, wet, and oily conditions is essential. Call Meltric today at (800) 433-7642 for our new updated catalog including the PF and PFQ as well as other Meltric product lines: DS, DSM, DN, PN, and WS.

Meltric CORPORATION

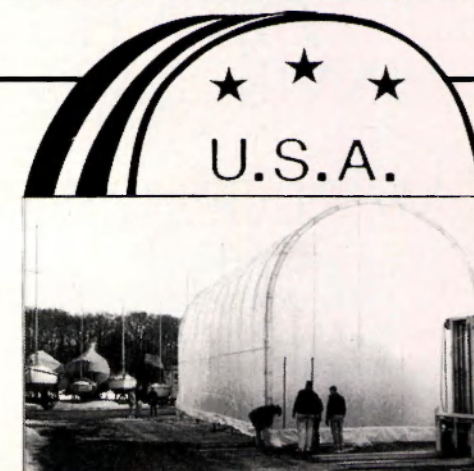
1935 Ace World Wide Lane
Cudahy, WI 53110
(800) 433-7642 Fax: (414) 764-3059

Circle 275 on Reader Service Card

FISHERMAN'S WHOLESALE MARINE SUPPLY CO., INC.

CompuNav SYSTEMS **HOBELT**
REXROTH PNEUMATICS **KODEN SITEX**
Justram Hydraulic Steering **ALDEN**
GROVE PRODUCTS COMPANY **MARINER** Suspension Seats
MARINE HORN
Stainless steel, multiply exhaust flexes and thermal blankets, 2" - 20" in stock. Vent Check Valves
Kort Nozzles and Aluminum Engine Room Blowers
Baywood Aluminum Hatches
PROPELLERS - All Sizes & Types
4540 B Downman Road • New Orleans, Louisiana 70126
504-244-8777 • Fax 504-241-5260
1-800-466-5542
WE TRY HARDER

Circle 279 on Reader Service Card



Workshop • Repair Bay • Yacht Storage
Maintenance • Boathouse • Field Office
• Heavy Equipment Storage

WIDTHS AVAILABLE: 10' TO 65'
LENGTHS IN 5' INCREMENTS

ALL WEATHER PROTECTION—FAST ASSEMBLY
APPROVED FOR GOVERNMENT CONTRACT BIDDING
1-800-297-8724

UNIVERSAL SHELTERS
U.S. Hwy. 19 South • Pelham, GA 31779
912-294-9633 • fax 912-294-7816

Circle 277 on Reader Service Card

First FBM-Built TriCat Named

demonstrated the advantages of additional forward buoyancy. Significant differences, however, lie not only in its size but also in its diesel powered propulsion system and top speed of 34 knots.

The FBM order was however won against considerable worldwide competition. Keeping weight to a minimum was of paramount importance.

Air Vehicles Ltd. designed a new energy-absorbing seat frame and developed a new deck attachment which reduces weight and is quicker to install while LEC Marine applied every initiative in providing the complete electrical installation using lightweight aluminium alloy for the casings of major electrical items.

To maintain a streamlined external appearance Seaglaze Marine was contracted to supply tinted polycarbonate windows which could be bolted and sealed directly on to the superstructure complete with concealed fixings. The wheelhouse windows presented more complex problems requiring 15mm thick curved heated laminated glass for use with special Seaglaze clamp-in frame extrusion. Another challenge faced Altair Filters International, commissioned to supply intake and exhaust systems to the gas turbines which not only had to meet stringent air filtration specifications, but also operate as quietly as possible. The solution proved to be a compact, robust and lightweight unit with a novel mounting arrangement which allows the majority of the system to be conveniently installed at deck level at any suitable

stage of vessel construction.

A combination of proven Altair vane separator and barrier filter systems, together with silencers, make up the combustion intakes, while the ventilation air system consists of vane separators, silencers, approved fire dampers, intake fans and exhaust weather louvres.

When delivered early this year, Universal Mk 2001 will not steal the show for long before being joined by two sister vessels, one from FBM and the other from Rosyth Royal Dockyard in Scotland, built under sub-contract. The superstructure of a third TriCat will soon be joined to finished hulls at FBM's Cowes facility.

The Hong Kong order has enhanced fortunes at the yard, and FBM's outlook grew even brighter with a \$19.4-million order for four (plus two options) catamarans for the commuter route across the River Tagus in Lisbon, Portugal.

It is also intriguing to learn that CTS-Parkview has signed a joint venture agreement with Aboitiz Transport System to run high speed ferry services in the Philippines. In the first foreign joint venture of its kind in the country since deregulation of the local ferry traffic, the first route planned will provide a service between Batangas and Calapan. (See related story page 26A of this issue). It is understood that one vessel will initially operate the route with additional ferries being introduced over the next two years. These will be selected either from the existing fleet or will be purpose-built for the company by FBM.



Stella Polaris, the first of Dockstavarvet's Alupilot 14000 design, on trials.

Swedish builder ready to deliver first of three

Following delivery of *Stella Polaris*, Swedish yard Dockstavarvet's brand new Alupilot 14000 design, the yard has now virtually completed the first in a further three vessel order, again placed by the Danish Pilots Authority. All will be identical in configuration with the exception of wheelhouse design, two of which will follow "British" styling on a single level.

Stella Polaris, now in operation with Great Belts Pilots at Svendborg, is based on a Murray Cormack hull that has been modified for increased speeds and includes all the proven lay-out and component details from the successful MC M15M and MC 13M boats delivered to the same customer in 1992-1993.

Measuring 46 ft. (14 m) x 16 ft. (4.75 m) beam, she has an all-round visibility raised "Scandinavian" style wheelhouse and semi-sunk saloon seating for up to eight pilots. Both types of wheelhouse available are resiliently mounted to ensure a noise level well below 70 db(A) at full speed. Power is supplied by twin mounted Scania DSI 14 diesels each developing 450 hp at 1,800 rpm driving Teignbridge propellers via ZF BW 160 gears. As such, she is capable of 23 knots and has an endurance of 285 nm. The first of the latest orders (i.e. the second to the new design) is expected to be delivered to Kalundborg immediately with the following two to Dragor and Grenaa in May and June of next year.


GET A PHD IN ENVIRONMENTALLY AWARE MARINE LUBRICATION

1-800-989-ROYAL

Our Royal Lubricants technical service representatives are extremely knowledgeable in all aspects of lubricant use and environmental requirements. That's why we've set up a lubrication hotline that offers you a PHD (Professionally Helpful Dialogue).

You will find out they know almost everything about marine applications, specifications and, of course, product data. Ranging from high performance, corrosion inhibiting, fire resistant marine lubricating oils and greases, to synthetic biodegradable hydraulic fluids. In fact, your PHD will bring you the immediate benefits of nearly fifty years' experience in synthetic and petroleum based lubricant technology.

If you prefer, you can fax us at 201-605-1818. Or drop us a note. Royal Lubricants Company, Inc., 6 Campus Drive, Parsippany, NJ 07054.

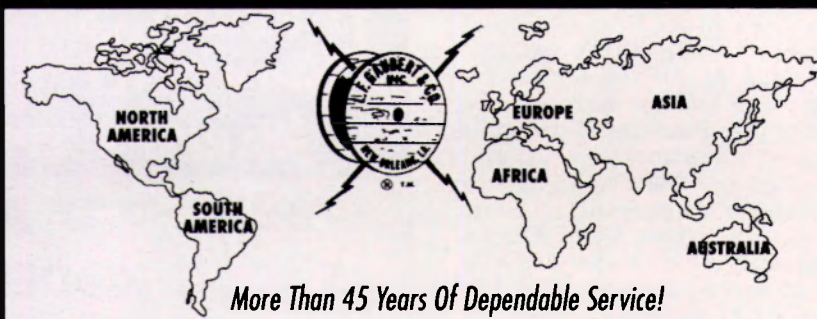

Royal Lubricants
A subsidiary of Shell Oil Company

130 9002 Registered

Circle 249 on Reader Service Card

56

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 218 on Reader Service Card

Maritime Reporter/Engineering News

IGBE '95...

DEFINING THE FUTURE OF CASINO GAMING



Riverboat gaming is evolving at a record setting pace, making it difficult to keep up-to-date and determine what lies ahead. Industry leaders unite at IGBE to discuss and plan for the future. Whether you're new to Riverboat gaming or a veteran, IGBE is for you.

ATTEND



AND...

- ◆ Take an active role in defining the future of Riverboat gaming
- ◆ Increase profits
- ◆ Learn about the latest legislative pitfalls and opportunities
- ◆ Generate new business contacts
- ◆ Locate profit-increasing products and services
- ◆ Gain a wealth of business strategies
- ◆ Learn proven methods to increase your successes from a faculty of experts.

Including:

Lawrence H. Evans Director, Domestic Marine Affairs Transportation Institute	Dennis Gallagher V.P. and General Counsel Harrah's Riverboat Casino Entertainment	Representative Frank Gigliotti House of Representatives State of Pennsylvania
---	--	---

- ◆ For immediate information on attending call (800) 243-3238, in Connecticut call (203) 852-0500, or fax (203) 857-4075, or E-mail: gaming@tradshow.com.
- ◆ For immediate information on exhibiting call Chris McCabe at (203) 852-0500, ext. 139.

No one under 21 admitted.

A CMC EVENT

© Copyright CMC 1994
CMC is a division of Full Circle Media Corporation

YES! I'm interested in Attending Exhibiting.
Please send more information.

Full Name _____
 Title _____
 Company _____
 City _____ State _____ Zip _____
 Country _____
 Phone _____ Fax _____



DEFINING THE FUTURE OF CASINO GAMING
 March 20-22, 1995
 Sands Expo & Convention Center
 Las Vegas, Nevada

A EVENT
 GMLV95B032

IGBE/CMC, 200 Connecticut Avenue, Norwalk, CT 06856-4990

Circle 254 on Reader Service Card

Tug Orders Boost Books At U.K. Yards

U.K. tug builders have had a good few weeks with two major orders placed from operators at opposite ends of the country. In the north, Shetland Towage Ltd has boosted production at Clydeside's Ferguson Shipbuilders by placing contracts to the tune of \$15 million for two high-tech 35 ton bollard pull tractor tugs.

Ordered to replace two conventional vessels, also built by the yard in the mid 80s, the newcomers will be operated by a joint venture group comprising Clyde Shipping, Cory Towage and the Shetland Islands Council.

At 126.5 ft. (38.6 m), they will be powered by twin Caterpillar 3606 diesels each rated at 2,030 kW (2750 bhp) driving twin Voith Schneider propulsion units for a free running speed of 13 knots.

Southampton's Red Funnel Group chose ITS 94 to announce its contract with Yorkshire Dry Dock of Hull for a new escort tug and option for a second. Worth around \$5.5 million, it was welcome news at the event which was attended by 220 delegates from a total of 25 different countries. Proclaimed a success, ITS will run again next year either in Southampton, Seattle or Cape Town, says organizer **Allan Brunton-Reed.**

J.C. Marine Uses Fiber Optics To Save Time, Money On Engine Inspections

J.C. Marine of Dania, Fla. reportedly saves thousands of man-hours a year by using fiber optic instruments to see inside engines, helping them see details on the cylinder walls, valves, internal casings and more. J.C. Marine has serviced and repaired diesels for nearly 14 years and works on boats all at least 40 ft. (12.2 m) long and many more than 140 ft. (42.7 m) long. Its affiliated company, Turner & Associates, surveys boats for prospective purchasers, inspecting engines, generators and mechanical transmissions.

The instrument used in J.C. Marine's case is an Olympus fiberscope, model IF6C5, which measures 6mm in diameter and five feet long. Its flexible fiber optic probe has an optical image bundle and a separate internal fiber optic light guide which transmits a cone of concentrated light from the tip. During use, the inspector manipulates the controls to articulate the tip and see into any area inside the engine. To inspect a pair of marine engines, such as the 16-cylinder Detroit diesels, they first remove the handhole covers. This exposes the liner sleeve with its series of holes around each cylinder. The fiberscope is inserted through these holes to look at the crankshaft, the bottom of the block, the oil pump and everything under the piston. Then they go up through another hole and look at the rod bearing. Then, on top of the cylinder, they remove the injector to look into the cylinder. They turn the engine and bring the piston down to the bottom of the cylinder to check the condition of the exhaust valves, looking for cracking and pitting, while evaluating the condition of the entire engine head.

For more information on Olympus Circle 80 on Reader Service Card

Inland Waterways Conference To Be In Corpus Christi, Texas

The fifth Inland Waterways Business Development Conference will be held in Corpus Christi, Texas at the Marriott Bayfront on April 23-24.

The conference, known in the industry for its business networking format, provides an opportunity for waterways customers and related businesses to make contact, learn about changes in the movement of cargoes and develop new business.

At press time the conference program was being shaped, but topics will include an overall marketplace review, and time will be taken to review the dredging crisis on the Gulf Intracoastal Waterway.

Corporate sponsorships are available, as is information on registration and exhibition space from Brohl & Co. of Clifton, N.J.

For more information, call (201) 345-7813 or fax: (201) 345-5207.

SHIPBUILDING INDUSTRY OUTLOOK

1995 EDITION

Report No. 7125 — \$875 per copy

IMA's new study examines economic forces driving and shaping demand for ship construction and ship system requirements in 17 market niches through the remainder of the decade.

The 200+ page report is an invaluable reference for firms involved in shipbuilding and ship systems.

17 Specific Market Niches Analyzed

Tankers — International & Coastal

- o product tankers
- o chemical parcel tankers
- o crude carriers
- o liquid gas carriers
- o seagoing barges

Container and Vehicle Carriers

- o containerships
- o vehicle carriers
- o sealift ships

Passenger Ships

- o cruise ships
- o ferries & small passenger vessels

Workboats

- o escort & harbor tugs
- o offshore support vessels
- o survey & research vessels

Navy Sector

- o combatants & support ships
- o foreign military sales

Floating Plants

- o power barges
- o production plants

Relevant Business Planning Issues Addressed in Each Niche

Underlying business drivers creating demand for ship construction

- o ship replacement requirements
- o changes in transport demand
- o international regulations and policy
- o government spending

Forecast of shipbuilding demand through 1999

- o number of ships to be built
- o available market revenues

Anticipated technology developments

- o electric propulsion systems
- o shipboard automation
- o cargo handling advances

Competition for future orders

- o future role of major players
- o emerging competition from China
- o potential role of U.S. yards

Strategic positioning options for maximizing market penetration

- o niches with highest value added
- o where competition is vulnerable
- o financial engineering possibilities

To order this study please contact **IMA Associates, Inc. — 600 New Hampshire Ave., NW— Suite 140 Washington, DC 20037 USA — Telephone: 202-333-8501 — Fax: 202-333-8504**

Circle 285 on Reader Service Card

COMPANY PROFILE

The American Group: Making Quality Ropes For More Than 100 Years

Self-described as the largest fiber rope manufacturer in the Americas, The American Group of Lafayette, La. designs, tests and manufactures high-quality cordage products for the heavy marine and commercial fishing industry.

Since its beginning in 1889 as American Manufacturing (AMCO), the company has focused on producing high-quality cordage products for many end uses. Today, the American Group manufactures:

- three-strand ropes up to 12 in. in circumference;
- four-strand ropes up to 10 in. in circumference;
- six-strand ropes up to 10 in. in circumference;
- eight-strand ropes up to 18 in. in circumference;
- 12-strand ropes up to 15 in. in circumference; and

- two-in-one braid ropes up to 15 in. in circumference.

With the downfall of the North American offshore oil industry, the company was forced to move more aggressively to the fishing and export markets. Driven by customers which demand a stronger, lighter, and more durable product, while simultaneously meeting the need for more cost effectiveness, the

American Group has focused specifically on quality and service. This position has led the company to expand in the heavy marine and commercial fishing markets around the world, gaining market share in a smaller market.

AMCO specialists were reportedly the first to create a blended rope, PNX. Since then, the company has introduced the SSR series

of blended ropes, and more recently, Ultraline, extruded copolymer fiber ropes. From raw material to final product, thorough testing and inspection are continuous and mandatory. All testing procedures comply to ASTM D4268, Standard Methods of Testing Fiber Ropes and to The Cordage Institute Standards.

For more information
Circle 4 on Reader Service Card

GE Teams With Nuovo Pignone On LM2500+

Under a contract from GE, a new high-speed power turbine is being designed and developed by Nuovo Pignone for the new LM2500+ aeroderivative gas turbine, GE Marine & Industrial Engines (M&IE) reported from the Power-Gen Americas '94 conference.

Nuovo Pignone is integrating the design and development of the new high-speed power turbine (HSPT) with GE's LM2500+ design program efforts. The LM2500+, debuted last June, is based upon the proven technology of the LM2500 gas turbine, and is designed to prove lower installed and life-cycle costs. LM2500+ gas turbines equipped with the HSPT will be available from GE for applications requiring output shaft speeds higher than those units with an uprated generator and mineral oil for the power turbine.

The two-shaft LM2500+ is targeting the industrial and commercial marine markets for various 50- and 60-Hz power generation applications, pipeline compression and mechanical drive, and fast ferry commercial marine trade.

Emission controls available from the introduction of the LM2500+ will include water or steam injection using a standard combustor of the LM2500 DLE combustion system. Testing of the HSPT will be conducted at Nuovo Pignone's Florence, Italy plant, immediately following the gas generator testing at GE's Evendale, Ohio facility.

For more information on GE
Circle 127 on Reader Service Card

Diesel Power

linking ports, coasts and continents by passenger ships and ferries



Passenger ships and ferries are connected with ports, coasts and continents by timetables that are accurate down to the last minute.


Worldwide Service

Under such circumstances the reliability of the propulsion plant takes on particular importance. MAN B&W four-stroke Diesel engines have been proving their reliability either as straightforward Diesel propulsion or Diesel-electric propulsion plant on board famous cruise liners and ferries.

With its comprehensive engine programme and the lowest heavy fuel consumption rate ever reached, MAN B&W is able to supply the ideal propulsion concept for every ship.



MAN B&W Diesel, Stadtbachstr. 1, D-86153 Augsburg, Telephone (+821) 32 20
MAN B&W Diesel, Inc., 17 State Street, New York, NY 10004, Telephone (212) 2 69-09 80
Circle 255 on Reader Service Card




a. The end of the cargo run for your important new client.

b. The ideal place to spend a lazy summer day.

c. A channel you're dredging this week.

We can get you there.
For a catalog of Trimble's GPS products, call 1-800-827-2424.

Trimble



Circle 241 on Reader Service Card

Response Marine, Winninghoff Deliver Fireboat To Lake George



The fire department of Lake George, N.Y. took delivery of a Response FR-8.8 fire/rescue boat designed by Response Marine, Inc. and built of welded aluminum by Winninghoff Boats, Inc. The 19-ft. by 10-ft. (5.8-m by 3.05-m) boat is a versatile platform which can operate in as little as 18 in. of water.

Mission requirements emphasize rescue capabilities, and therefore design details focus on dive and recovery operations. Details include an open transom with dive platform and ladder, diver towing hardware and tank stowage. Diver safety is enhanced further by the jetdrive. The propulsion package, a Marine Power 454-cu.-in., fuel-injected engine driving a Hamilton Jet model 273, produces top speeds of 30 - 35 mph. Firefighting capability is provided by a removable Hale HP 400 fire pump with built-in thru-hull suction.

For more information on Response Marine
Circle 10 on Reader Service Card

Royal Schelde To Build Second RoRo Ferry For Commodore

A contract was signed between Commodore Shipping of Guernsey, England and Royal Schelde in The Netherlands for the construction of a second 413-ft. (126-m) RoRo trailer vessel, identical to one previously ordered by the same company. The delivery of the new vessel is slated for March 1996, while the vessel presently under construction will be delivered in May 1995.

According to Royal Schelde, the order confirms the company's re-entry into merchant shipbuilding after many years of naval shipbuilding. The company will celebrate its 120th anniversary in shipbuilding in 1995 and continues to be active in merchant, naval and high-speed vessel construction.

For more information on Royal Schelde
Circle 13 on Reader Service Card

Kings Point Names Top 1994 Alumnus

John F. Ring, Jr., a senior member of McQuillan Brokerage Partners, has been named the U.S. Merchant Marine Academy's Alumnus of the Year.

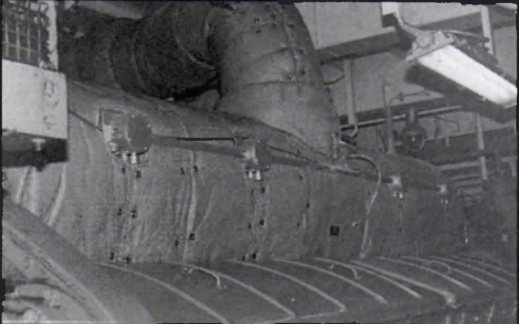
Mr. Ring, a resident of Norwalk, Conn., has long been an active Academy alumnus. He served as national president of Kings Point's Alumni Association from 1990 to 1994. Previously, he headed the USMMA Foundation and earlier was active in alumni chapters in Los Angeles/Long Beach, Portland and New York City.

A 1959 Academy graduate, Mr. Ring initially served in the U.S. Navy and sailed with Grace Lines upon discharge. He eventually came ashore to pursue chartering, brokerage, vessel operations and management.

Mr. Ring has worked with the Bunge Corp. and Evan International Trading Co. He served as president and CEO of Mercantile & Marine, Inc. and was founder and head of Century Shipping Co.

He is a past recipient of the Academy Alumni Association's Meritorious Service Award (1984) and Outstanding Professional Achievement Award (1979).

SEI
SUPERIOR ENERGIES INC.



MANUFACTURING and CONTRACTING
TEMP-SET Removal Reusable Insulation
Blankets for Turbines, Valves, Flanges,
Manifolds, Turbos Silencers,
and complete Exhaust Systems.

ACOUSTICAL INSULATION
ASBESTOS and LEAD ABATEMENT
TURN-KEY JOBS

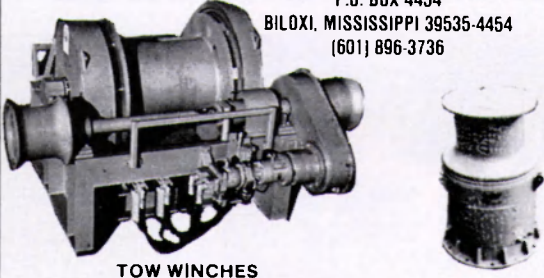
Let us take care of all your insulation and abatement needs.

Want SUPERIOR Quality • Want SUPERIOR Service • Call SUPERIOR ENERGIES INC.
1-800-BUY-SEI-1

P.O. Drawer 386 Groves, TX 77619 Telephone:
(409) 962-8549 Fax: (409) 962-4027

Circle 278 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 269 on Reader Service Card

LEE VAC
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 270 on Reader Service Card

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

Chesapeake Specialty Products, 5055 Northport Blvd., Baltimore, MD 21219
Ervin Industries, Inc., 3893 Research Park Drive, Ann Arbor, MI 48106-1668

AIR CONDITIONING AND REFRIGERATION—Repair & Installation

Marine Industries, Corp., 205 Sweet Hollow Rd., Old Bethpage, NY 11704
Adrick Marine, 141D Central Ave., Farmingdale, NY 11735
Bally Group, 2323 Randolph Ave., Avenel, NJ 07001
Bill Brown Enterprises, Inc., 4695 Ocean Pines, Berlin, MD 21811
Carrier Transicold, P.O. Box 4805, Syracuse, NY 13221
Johnston Brothers, 190 Enterprises Avenue, Patterson, LA 70262
Maritime Services Corp., 3457 Guignard Drive, Hood River, OR 97031

ALARMS, FACTORY MUTUAL-APPROVED

Midland Mfg. Corp., 7733 Gross Point Rd., Skokie IL 60076-0226

ALUMINUM BOATS

Workskill, Inc., 10824 Bothell Hwy S.E., Bothell, WA 98102-6889

ANTENNA/RATE OF TURN INDICATOR

Rivestronics 2624 Excal trailway, Alton, IL 62002

ASBESTOS ABATEMENT

Chemplex Environmental Prod., Inc., 3405 Highway 33, Neptune, NJ 07753

AUCTION

National Auction Bulletin, Inc., 4419 West tradewinds Ave., Fort Lauderdale, FL 33308-4464

AUTOMATION

Automation Products, Inc., 3030 Max Roy, Houston TX 77006

BALLAST

Chesapeake Specialty Products, 5055 Northport Blvd., Baltimore, MD 21219
Genstar Stone Products, Executive Plaza IV, Hunt Valley, MD 21031

BARGE BUILDING

Conrad Industries, P.O. Box 790, Morgan City LA 70381

BASKET STRAINERS

Beard Industries, P.O. Box 31115, Shreveport, LA 71130

BEARING—Rubber, Metallic, Non-Metallic

B.F. Goodrich, Engineered Polymer Products, 150 Division Dr., Wilmington, NC 28401
Blöhm & Voss AG, P.O. Box 100720, D-2000 Hamburg 1, GERMANY

BEARING—Simplex-Turnar Inc.

U.S.A. Repp: Simplex-Turnar Inc., P.O. Box 168, Little Neck, NY 11363p, -0168
Kahlenberg Bros. Co., P.O. Box 358, Two Rivers, WI 54241

BEARING—Simplex-Turnar Inc.

Oron Corp., 111 Cedar Creek Rd., Grafton, WI 53024
Thorndon Bearings Inc., 3225 Mainway, Burlington, Ont., CANADA L7M 1A6

BILGE OIL/FUEL ABSORBER

Northstar Marine, 84 Wall Street, Farmingdale, NY 11735

BOW THRUSTER

W. Boleman, Hollenbroekerdijk 40, 8031 ER Zwolle, The Netherlands
Innovamaster of Texas P.O. Box 840189 Houston, TX 77284-0189

BROKERS

151 Maritime Services, 34062 El Encanto B, Dana Pt. CA 92629
Captain Astal Company, Inc., P.O. Box 350486, Ft. Lauderdale, FL 33335

BULKHEAD SEALS

Blöhm & Voss AG, P.O. Box 100720, D-2000 Hamburg 1, GERMANY
U.S.A. Repp: Simplex-Turnar Inc., P.O. Box 168, Little Neck, NY 11363p, -0168

BULKHEAD SEALS

Blöhm & Voss AG, P.O. Box 100720, D-2000 Hamburg 1, GERMANY
U.S.A. Repp: Simplex-Turnar Inc., P.O. Box 168, Little Neck, NY 11363p, -0168

CABINENTRY

Maritime Services Corp., 3457 Guignard Drive, Hood River, OR 97031

CABLE ASSEMBLIES

Times Microwave Systems, P.O. Box 5039, Wallingford, CT 06492

CABLE CLAMPS—STAINLESS STEEL

Band-I, P.O. Box 16307 Denver, CO 80237

CABLE PROTECTION

AT & T Cable Protection, 340 Mt. Kemble Ave., Morristown, N.J. 07960

Ceilings, Decorative Metal

The Gage Corp., P.O. Box 538, Black River St., Sparta, WI 54656

CELLULAR TELEPHONE SERVICE

Callnet Corp., 400 Main St., Ste. 800, Stamford, CT 06901-3004

CHAINS

Crandal Dry Dock Engineers Inc./Mart Chain, 21 Pottery Lane, Dedham MA 02026
Washington Chain & Supply Inc., Box 3645, Seattle, WA 98124

CHAIRS

Gasser Chair Co., 4136 Loganway, Youngstown, OH 44505
Shelby Williams Industries, Inc., 150 Shelby Williams Dr., Morristown, TN 37813

CHEMICALS

Drew Ameroid Marine, One Drew Plaza, Boonton, NJ 07005
Linton Ship Service Inc., 275 West Esther Street, Long Beach, CA 90813

CLAMPING—Pipe, Tubes, Hose

Band-I, P.O. Box 16307 Denver, CO 80237
ZSI, 12740 Richfield Ct., Livonia, MI 48150

CLASSIFICATION SOCIETY

American Bureau of Shipping, 2 World Trade Center, 106th Fl, New York, NY 10048

COATING WELDER

Bus-O-Systems 3003 W. Carson St., Pittsburgh, PA 15204

COAXIAL CABLES

Times Microwave Systems, P.O. Box 5039, Wallingford, CT 06492

COMPOUNDS

ITW Philadelphia Resins, 130 Commerce Dr, Montgomeryville, PA 18936

COMPUTER LOFTING

Barataria Lofting Co., Inc., 1616 Barataria Blvd., Ste. 4, Marrero, LA 70072

COMPUTERIZED INFORMATION SYSTEMS

All Alpha Intl., Inc., P.O. Box 486885, Cincinnati, OH 45249
Autoshop Systems Corp., #403, 611 Alexander St., Vancouver, BC, Canada V6A1E

CREATIVE SYSTEMS, INC.

Creative Systems, Inc., P.O. Box 1910, Port Townsend, WA 98368
Intergraph Corporation, 2051 Mercator Drive, Reston, VA 22091-3413

KOKKUMS COMPUTER SYSTEMS AB

Kokkums Computer Systems AB, P.O. Box 50555, s-202 15 Malmö, SWEDEN
Kokkum Sonics, Inc., 819 Veterans Blvd., Suite 201, Kenner, LA 70068

SCIENTIFIC MARINE SERVICES, INC.

Scientific Marine Services, Inc., 101 State Pl., Suite F, Escondido, CA 92029
TIMSCO, P.O. Box 91360, Mobile AL 36691

CONDENSERS/SEPARATORS

Beard Industries Inc., P.O. Box 31115, Shreveport LA 71130

CONTROL SYSTEM—Monitoring

Aurionica Marine A/S, Drammensveien 126, N-0277 Oslo 2, NORWAY
Electronic Design Inc., 3020 20th St., Metairie, LA 70002

ENGINE MONITOR, INC.

Engine Monitor, Inc., 179 Hickory Ave., Harahan, LA 70123
Kobert Mfg. Co., 11720 Horseshoe Way, Richmond, BC, CANADA V7A 4V5

IMC INDUSTRIES, GERMS SENSORS DIVISION, ONE COWLES RD., PLAINVILLE CT 06062

IMC International, 60 Inp Dr., Inwood NY 11696
Marine Electric RPD, Inc., 50 Carol St., P.O. Box 1135, Clifton, NJ 07014-1135

ROBERTSON MARINE SYSTEMS, 3000 KINGMAN ST., SUITE 207, METAIRIE, LA 70006

Scientific Marine Services, Inc., 101 State Pl., Suite F, Escondido, CA 92029
Teletex Naval Technologies, 205 Church Rd., North Wales, PA 19454

CONTROL SYSTEM—Steering

Engine monitor, Inc., 179 Hickory Avenue Harahan, LA 70123
KGW Schweriner, Wisniansche Strasse 380, 19055 Schwerin, GERMANY

KOKKUM SONICS, INC., 819 VETERANS BLVD., SUITE 201, KENNER, LA 70068

CONVERSIONS & REPAIRS

Gulf Coast Fabrication, Inc., P.O. Box 539, Lakeshore, MS 38568
Vancouver Shipyards, 53 Pemberton Ave., N. Vancouver, B.C. CANADA V7P 2R2

CONVERTOR BELT REPAIR

Kleima Rubber Engineering, GERMANY
U.S. Rep: Simplex-Turnar Inc., P.O. Box 168, Little Neck, NY 11363-0168

COUPLINGS

American Vulkan, P.O. Drawer 673, Winter Haven, FL 33882
Hösel Engineering, 1320 Kemper Meadow Drive, Cincinnati, OH 45240

LI-FLOZ VIBRATION CONTROL LTD., 156 WEST 8TH AVENUE, VANCOUVER, BC CANADA V5Y1N2

Mapeco Products, 90 Forest Avenue, P.O. Box 382, Locust Valley, NY 11580
Ovako Steel Inc., 1447 New Litchfield St., Torrington, CT 06790

CRANE—HOIST—DERRIK—WHIRLIES

AmClyde, 240 E. Plato Blvd., Saint Paul, MN 551071609
Besso Marine Co., P.O. Box 4113, New Orleans, LA 70178

DEL GAVO MARINE HYDRAULICS INC., 619 INDUSTRIAL RD., CARLSTADT, NJ 07072

Labbeier-Werk Nenzing GES.mbn, P.O. Box 10, A-6710 Nenzing, AUSTRIA
Macgregor USA 20 Chippard Rd., Rose, WA 98278, Seattle, WA 98124-0798

McELOY MACHINE & MFG. CO., INC., P.O. BOX 4454, BLOOMINGDALE, MS 39535-4454

D. Neuhaus Hebeschneiders AG, P.O. Box 293, Hubbard, OR 97032
Marine Travelift, Inc., 49 E. Yew St., Shurgeon Bay, WI 54235

McELOY MACHINE & MFG. CO., INC., P.O. BOX 4454, BLOOMINGDALE, MS 39535-4454

D. Neuhaus Hebeschneiders AG, P.O. Box 293, Hubbard, OR 97032
New England Trawler Equipment Co., 291 Eastern Avenue, Chelsea, MA 02150

CRANES

AmClyde, 240 E. Plato Blvd., Saint Paul, MN 551071609
Lakeshore, Inc., P.O. Box 809, Iron Mountain, MI 49801

MORGAN MARINE, 1300 NORMANDY PLACE, SANTA ANA, CA 92705

Pullinger, Inc., 8040 Dorchester Rd., Niagara Falls, Ontario, CANADA L2E 6V8
Tech Crane Int'l., Inc., 61130 Timberland Dr., Lacombe, LA 70445

CRANKSHAFT REPAIR

Life Industries, Corp., 1929 North Buflum Street, Milwaukee, WI 53212-3793

DECK CAULKING/REPAIR

Life Industries, Corp., 205 Sweet Hollow Rd., Old Bethpage, NY 11804

DECK MACHINERY—Cargo Handling Equipment

Hawboldt Ind., Hwy 3, P.O. Box 80, Chester, Nova Scotia, CANADA BOJ 1J0
Lakeshore, Inc., P.O. Box 809, Iron Mountain, MI 49801

MacGregor-Navyne Group, 34 Bedford Rd., Clapham North, London, SW4 7HH

Markley Machinery Co., Inc., P.O. Box 24788, Seattle, WA 98124-0798
McEloy Machine & Mfg. Co., Inc., P.O. Box 4454, Bloom MS 39535-4454

McELOY MACHINE & MFG. CO., INC., P.O. BOX 4454, BLOOMINGDALE, MS 39535-4454

New England Trawler Equipment Co., 291 Eastern Avenue, Chelsea, MA 02150
Stokkum/Rope Master, P.O. Box 280, Hubbard, OR 97032

SMITH BERGER MARINE INC., 516 SOUTH CHICAGO STREET, SEATTLE, WA 98108

Willam Pol b.v., P.O. Box 29102, 3001 GC Rotterdam, The Netherlands

DECK MACHINERY

All Alpha Intl., Inc., P.O. Box 48885, Cincinnati, OH 45249
AmClyde, 240 E. Plato Blvd., Saint Paul, MN 551071609

AMERICAN BLOCK CO., 6311 BREEN RD., HOUSTON, TX 77036

Hawboldt Ind., Hwy 3, P.O. Box 80, Chester, Nova Scotia, CANADA BOJ 1J0
Lakeshore, Inc., P.O. Box 809, Iron Mountain, MI 49801

McELOY MACHINE & MFG. CO., INC., P.O. BOX 4454, BLOOMINGDALE, MS 39535-4454

NEI Clarke Chapman Canada, 1075 N. Mountain Rd. W., Unit 4, Oakville, Ontario, CANADA L6M 2G2

New England Trawler Equipment Co., 291 Eastern Avenue, Chelsea, MA 02150

Pusnes, PO Box 102, N-4818, Faerik, NORWAY
Stokkum/Rope Master, P.O. Box 280, Hubbard, OR 97032

SMITH BERGER MARINE INC., 516 SOUTH CHICAGO STREET, SEATTLE, WA 98108

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

DECK STRUCTURES/CONTROL CABS

Coccolat PO Box 63037, Portland, OR 97283

DEGREASERS

Durathex Industries, 1371-3 Church St., Bohemia, NY 11716

DESALINATION—Reverse Osmosis

Rochem Separation Systems, Inc., 3904 Del Amo Blvd., Ste. 801, Torrance, CA 90503

Rochem Separation Systems, P.O. Box 156, 54 Rue Agasse, 1211 Geneva 17, SWITZERLAND

DIESEL ACCESSORIES

Genes Thermodynamics Corp., 210 South Meadow Rd., P.O. Box 1105, Plymouth, MA 02360

Halch & Kirk Inc., 601 McFarland Rd., Houston, TX 77011

Kene Diesel Accessories, 325 S. Fairbank St., P.O. Box 386, Addison, IL 60101
Caterpillar, Inc., Engine Div., P.O. Box 610, Mossville, IL 61552-0610

CUMMINS ENGINE CO., 4500 LEADS AVE., SLE 301, CHARLESTON, SC 29405-8521

Cummins Mid-South, Inc., 110 E. Airline Highway, Kenner, LA 70062
John Deere, John Deere Rd., Moline, IL 61205

DIESEL ENGINE & PARTS CO., 8123 HILLSBORO AVE., HOUSTON, TX 77029

Giro Engineering Ltd., Talsman, Duncan Road, Park Gate, South Hampton, S03 7BX ENGLAND

GOLTSER WORLDWIDE, 160 VAN BRUNT ST., BROOKLYN, NY 11231

Halch & Kirk Inc., 601 McFarland Rd., Houston, TX 77011
Kene Diesel Accessories, 325 S. Fairbank St., P.O. Box 386, Addison, IL 60101

DIESEL ENGINE—Spare Parts & Repair

ABB Industry Oy, 100 Madison Corp. Park Rte 6, Brewster, NY 10609
Atsuka Diesel, 4201 14th Ave. NW, Seattle, WA 98107

CATERPILLAR, INC., ENGINE DIV., P.O. BOX 610, MOSSVILLE, IL 61552-0610

Cummins Engine Co., 4500 Leads Ave., Sle 301, Charleston, SC 29405-8521
Cummins Mid-South, Inc., 110 E. Airline Highway, Kenner, LA 70062

JOHN DEERE, JOHN DEERE RD., MOLINE, IL 61205

Diesel Engine & Parts Co., 8123 Hillsboro Ave., Houston, TX 77029
Giro Engineering Ltd., Talsman, Duncan Road, Park Gate, South Hampton, S03 7BX ENGLAND

GOLTSER WORLDWIDE, 160 VAN BRUNT ST., BROOKLYN, NY 11231

Halch & Kirk Inc., 601 McFarland Rd., Houston, TX 77011
Kene Diesel Accessories, 325 S. Fairbank St., P.O. Box 386, Addison, IL 60101

IN-PLACE MACHINING, INC., 1929 NORTH BUFLUM STREET, MILWAUKEE, WI 53212-3793

MAN B&W Diesel AG, Stadtbachstrasse 1, D-86153 Augsburg 1, GERMANY
MAN B&W Diesel A/S, Jaghjallinggade 41, DK-2450 Copenhagen SV, DENMARK

MAN B&W DIESEL, 17 STATE ST., NEW YORK, NY 10004

MTU of North America, 10450 Corporate Dr., Houston, TX 77478
Markisches Werk GmbH, P.O. Box 1442, D-5884 Halver 1, GERMANY

NEW SUTAR DIESEL, INC., 200 PARK AVE., NEW YORK, NY 10166

Ocean Power 571 Central Avenue, New Providence, NJ 07974
Paxman Diesels, P.O. Box 8, Paxman Works, Colchester, Essex, CO1 2HW, ENGLAND

Paxman Diesels USA, (A Div. of Ruston Gas Turbines, Inc.), 15950 Park Row, Houston, TX 77084

Ustein Bergen AS, PO Box 924, NS022 Bergen, NORWAY
Wartsila Diesel, 201 Defense Highway, Annapolis, MD 21401

DIVING & SALVAGE

Besso Marine Co., P.O. Box 4113, New Orleans, LA 70178
H.J. Merrhuw, P.O. Box 29123, New Orleans, LA 70183

MURDOON MARINE SERVICES, INC., P.O. BOX 3221, TERMINAL ISLAND, CA 90731

Insulators, Inc., 1101 Edwards Ave., Harahan, LA 70123

DOORS—MARINE & INDUSTRIAL

Mapeco Walz & Krenzer, Inc., 90 Forest Ave., Locust Valley, NY 11560
Maritime Services Corp., 3457 Guignard Drive, Hood River OR 97031

DRILLING & BLASTING

Marine Drilling & Blasting, PO Box 10455, Jacksonville, FL 32247-0455

DRY DOCKS—Design

Conax Industries, 1501 Front Street, P.O. Box 790, Morgan City LA 70381
North Florida Shipyards, P.O. Box 3255, Jacksonville, FL 32206

ELECTRICAL EQUIPMENT

Jo-Kel, Inc., 1011 W. 26th St. Norfolk VA 23517
L.F. Gaubert & Co., Inc., P.O. Box 50500, New Orleans LA 70150

MMC INTERNATIONAL, 60 INP DR., INWOOD NY 11696

Melnic Corp., 1935 Ace World Wide Lane, Caduhy, WI 53110

ELECTRONIC DISPLAY

Kokkum Sonics, Inc., 819 Veterans Blvd., Suite 201, Kenner, LA 70068
Scandinavian Micro Systems, P.O. Box 155, N-1411, Kolboten, NORWAY

ELECTRONIC INFORMATION SUPPORT

Scandinavian Micro Systems, P.O. Box 155, N-1411, Kolboten, NORWAY

EMISSION CONTROLS

Haldor Topsoe Nymollevel 55, DK-2800 Lyngby, Denmark
Seaworthy Systems, Inc., P.O. Box 965, Essex, CT 06426

EMPLOYMENT

Boat Crews, 1 Seine Court, Suite 309, New Orleans, LA 70114

ENGINEERING SERVICES

FOR MORE INFORMATION ON EQUIPMENT AND SERVICES ADVERTISED IN THIS ISSUE

CIRCLE THE APPROPRIATE NUMBER ON READER SERVICE CARD OPPOSITE

ADVERTISER	EQUIPMENT /SERVICE	CIRCLE NO.	ADVERTISER	EQUIPMENT /SERVICE	CIRCLE NO.
A					
ALASKA DIESEL	LUGGER DIESEL ENGINES	284	KIDDER, PEABODY & CO.	FINANCIAL SERVICES	283
ALDEN ELECTRONICS	SATPHONE MARINE	252	KOBELT MFG. CO.	PROPULSION SYSTEM	280
ALLIEDSIGNAL INDUSTRIAL FIBERS	ROPES & FIBERS	200	KVICHAK MARINE IND.	WORKBOATS	288
AMFELS	SHIPBUILDING	259	L		
ASTILLEROS ESPANIOLES	SHIPBUILDING	258	LANG MFG.	GALLEY EQUIPMENT	226
ATLANTIC MARINE	SHIPBUILDER	201	LEEVAC SHIPYARDS	SHIPYARDS	270
AUTOSHIP SYSTEMS, CORP.	HULL DESIGN SYSTEM	202	M		
AVONDALE INDUSTRIES	SHIPYARD	203	MAN B & W DIESEL GMBH	DIESEL ENGINES	255
B					
BAYWOOD, INC.	HATCH COVERS	281	MAPECO, WALZ & KRENZER	SLIDING DOORS	228
BENDER SHIPBUILDING	SHIPBUILDING	204	MARINE PROFESSIONALS ASSOC.	ENGINE & DECK EQUIP.	272
BLOUNT MARINE	BOAT BUILDER	205	MARITIME SERVICES	INTERIORS	293
BOLLINGER	SHIPYARD	206	MARKETEC, INC.	SCREENS	229
BILL BROWN ENTERPRISES, INC.	AIR CONDITIONING	207	MCELROY MACHINE	MARINE EQUIPMENT	269
C					
CAPITOL DIESEL, INC.	ENGINES & GENERATORS	208	MELTRIC CORP.	ELECTRICAL WIRE DEVICES/SHORE POWER	275
CARRIER TRANSCOLD	REFRIGERATION	209	METRITAPE, INC.	TANK LEVEL GAUGING	276
CELLNET CORP.	CELLULAR TELEPHONE SERVICE	210	N		
CINCINNATI GEAR	MARINE GEARS	211	NAVICO, INC.	GMDSS RADAR	231
CUSTOM SHIP INTERIORS, INC.	JOINER CONTRACTORS	267	NORGES VAREMESSE	NOR-SHIPPIG '95	232
D					
DATREX, INC.	LOW LOCATION LIGHTING SYSTEMS	212	P		
DEL GAVIO MARINE	MARINE HYDRAULICS	213	PETERSON BUILDERS, INC.	SHIPBUILDING	264
DIRECTIONS IN DESIGN	INTERIOR DESIGN	265	PTT TELECOM	SATELLITE COMM.	260
E					
ELECTRONIC MARINE SYSTEM	CHARTVIEWER	214	R		
ENVIROVAC	VACUUM TOILET SYSTEM	262	RIVERTRONICS	ANTENNA/RATE OF TURN INDICATOR	256
ESGARD	COATINGS	215	ROSS ENGINEERING	NAV/COMMUNICATION	251
F					
R. W. FERNSTRUM	GRID COOLERS	216	ROYAL LUBRICANTS CO.	MARINE LUBRICANTS	249
FISHERMAN'S WHOLESALE	MARINE SUPPLIES/ACCESSORIES	279	S		
J.W. FISHERS MFG.	UNDERWATER METAL DETECTORS	217	SAFECO CREDIT CO.	MARINE FINANCING	292
FLEETGUARD	MARINE FILTRATION SYSTEMS	271	SCHAT-WATERCRAFT	SAFETY SURVIVAL EQUIPMENT	289
G					
GASSER CHAIR	CASINO CHAIRS	274	SEA, INC.	SURVIVAL EQUIPMENT	233
L.F. GAUBERT & CO.	ELECTRICAL CABLE	218	SEAWARD INT'L	FENDERS	234
GEOSOURCE	OIL SPILL RESPONSE PRODUCTS	250	KARL SENNER	PROPULSION EQUIPMENT	235
GOLTENS WORLDWIDE	SHIP REPAIR	219	SERVICE MARINE IND.	SHIPBUILDING	236
GUIDO PERLA & ASSOC.	NAVAL ARCHITECTS	220	SKIPPERLINER SHIPYARDS	SHIPYARDS	237
H					
HAMILTON JET	WATER JETS	221	SPERRY MARINE	BRIDGE INTEGRATION	282
HILLER SYSTEMS	MARINE FIRE PROTECTION	222	SPURS MARINE	LINE, WEED & NET CUTTER	238
HITACHI ZOSEN	SHIPBUILDING	268	STANDARD COMMUNICATIONS	HAND HELD VHF RADIO	239
I					
IGBE	SHOW EXHIBITION	254	SUPERIOR ENERGIES	INSULATION ABATEMENT	278
IMA ASSOCIATES	BUSINESS REPORT	285	SWATH OCEAN	BOATBUILDER	240
INNOVATIVE TECHNOLOGY	SURGE SUPPRESSION	287	T		
INSULATIONS, INC.	MARINE CONTRACTORS	253	TODCO, INC.	INTERIORS	266
INTERNATIONAL COMPACTOR	TRASH COMPACTORS	290	TRIMBLE	NAVIGATION COMM.	241
J					
JEAMAR WINCHES	WINCHES	223	TRINITY MARINE	SHIPBUILDING	242
JEFFREY'S STEEL	FULL SERVICE STEEL CO.	224	U		
JIM'S PUMP REPAIR, INC.	PUMP REPAIR	225	ULTRASONIC & MAGNETICS CORP.	ULTRASONIC TESTING	291
JOHNSTON BROTHERS	AIR CONDITIONING	257	UNIVERSAL SHELTERS	TEMP-PERMANENT SHELTERS	277
K					
KAHLENBERG BROTHERS	HORNS/WHISTLES	263	V		
L					
M					
N					
O					
P					
Q					
R					
S					
T					
U					
V					
W					
X					
Y					
Z					
AA					

The listings above are an editorial service provided for the convenience of our readers.

Jamestown Metal Marine Sales, 4710 Northwest Second Ave., Boca Raton, FL 33431
Marine Services Corp., 3457 Guignard Drive, Hood River, OR 97031
Walz & Krenzer, Inc., 90 Forest Ave., Locust Valley, NY 11560

KEEL COOLERS
R.W. Fernstrom & Co., 1716 Eleventh Ave., Menominee, MI 49858
Kahlerberg Bros. Co., P.O. Box 358, Two Rivers, WI 54241
The Walter Machine Co., Inc., 84-98 Cartridge Avenue, Jersey City, NJ 07307

LIFEBOATS/RIFTS
American Eagle Mfg. Inc., 780 Pearle Jensen Way, LaComer, WA 98257
Coley Ocean Systems, Mayor Avenue, East Kilbride, Scotland, G74 4PU
Dunlop-Beaufort Ltd., 12351 Bridgeport Rd., Richmond, B.C., CANADA V6V-1L4
Fr. Fassmer GmbH & Co., D-2876 Beme 2, Wese, GERMANY
Norsale AS, P.O. Box 115, N-4819 Faerik, Norway
Ocean Power 571 Central Avenue, New Providence, NJ 07974
Revere Survival Products, 603-607 West 29th St., New York, NY 10001
Sea, Inc., 7030 220th S.W., Mountlake Terrace, WA 98043
Willard Marine Co., Inc., 1250 N. Grove St., Anaheim, CA 92806
Zodiac of North America, P.O. Box 400, Stevensville, MD 21666

LIFESAVER EQUIPMENT
Dunlop-Beaufort Ltd., 12351 Bridgeport Rd., Richmond, B.C., CANADA V6V-1L4
Stearns Manufacturing, P.O. Box 1498, St. Cloud, MN 56302
Unitor Ship Service Inc., 2375 West Esther Street, Long Beach, CA 90813

LIGHTING EQUIPMENT—Lamps, Fixtures, Searchlights
ACR Electronics, Inc., 5757 Ravenswood Rd., P.O. Box 5247, Ft. Lauderdale, FL 33310-5247
All Alpha Int'l., Inc. P.O. Box 498985, Cincinnati, OH 45249
Giamox 44 Austin Street, P.O. Box 10322, St. John's, NF CANADA A1B 4B8
Gotten Marine, 160 Van Bunt St., Brooklyn, NY 11231
Kokum Sonics, Inc., 819 Veterans Blvd., Suite 201, Kenner, LA 70068
Julian A. McDermott, 1539 State St., Ridgefield, NJ 07078
Pauluhn Electric Mfg. Co., Inc. 1616 N. Main, P.O. Box 53, Pearland, TX 77581
Senco Searchlights/Star Supply Co., 4415 6th N.W., Seattle, WA 98107

LIQUID LEVEL GAUGES
Eugene Ernst Products Co., 116 Main St., Farmingdale, N.J. 07727

LIQUID LEVEL INDICATORS
Midland Mfg. Corp., 7733 Gross Point rd., Skokie IL 60076-0226

LIQUID OVERFILL PROTECTION SYSTEMS
E.L. Marine Products, P.O. Box 1028, New Albany, IN 47151-1026
Midland Mfg. Corp., 7733 Gross Point Rd., Skokie IL 60076-0226

LOGISTICS
Chand Corporation, 157 Hwy 654, Matthews, LA 70375
Newport News Shipbuilding, Logistics & Technical Services, 12129 Jefferson Ave., Newport News, VA 23603
OED, 4846 N. Woodloch Road, Virginia Beach, VA 23455
VL Logistics Consultants, Inc., 3420 Bienville Blvd., Ocean Springs, MS 39564

LOW-SMOKE CABLES
Tress Microwave Systems, P.O. Box 5039, Wallingford, CT 06492

LUBRICANTS
Texaco, International, 2000 Westchester Avenue, White Plains NY 10650

MACHINERY MAINTENANCE, REPAIR, OVERHAUL, AND TESTING
Del Gavio, 619 Industrial Rd., Carlstadt, NJ 07072
Gallen Marine Company, Inc., 160 Van Bunt Street, Brooklyn, NY 11231
New England Trawler Equipment Co., 291 Eastern Avenue, Chelsea, MA 02150

MACHINERY MONITOR AND CONTROL SYSTEMS
Electronic Marine Systems, 800 Fendale Pl., Mahwah, NJ 07065

MARINE ACCESSORIES
Sea-Dure Products, Inc., 6785 N.W. 17th Avenue, Ft. Lauderdale, FL 33309

MARINE ACCOMMODATIONS
Directions in Design Inc., 633 Emerson, Suite 100, St. Louis, MO 63141
Hopeman Brothers, P.O. Box 820, 435 Essex Ave., Waynesboro, VA 22980
Jamestown Metal Marine Sales, Inc., 4710 Northwest Second Ave., Boca Raton, FL 33431
Marine Services Corp., 3457 Guignard Dr., Hood River, OR 97031

MARINE CEILING
The Gage Corp., 803 S. Black River St., Sparta, WI 54656
Hydro-Aluminum, Vik Verk, N-5880 VIK I SQGN, Norway

MARINE DECKING
Setby, P.O. Box 1600, Sappula, OK 74067

MARINE ELECTRONICS
Frank L. BeerRadio, 2001 RidgeLake Drive, Metairie, LA 70001
Kokum Sonics, Inc., 819 Veterans Blvd., Suite 201, Kenner, LA 70068
Skab Marine Electronics AB, Box 13045, 402 51 Goleberg, SWEDEN
Scientific Marine Services, Inc., 101 State Pl., Suite F, Escondido, CA 92029

MARINE ELEVATORS
Nimax Elevator Co., 1100 Boston Ave., Bridgeport, CT 06601

MARINE FEEDERS
CDI Marine Co., 4040 Woodcock Dr., Suite 200, Jacksonville, FL 32207

MARINE FINANCING
Sales/Finder Co., Inc. 4909 156th Ave. NE, Redmond, WA 98052

MARINE FIRE PROTECTION
Hiller Systems, 3710 Lakeside Court, Mobile, AL 36693
Hiller Ship Service Inc., 2375 West Esther Street, Long Beach, CA 90813

MARINE FURNITURE
Directions in Design, 633 Emerson, Ste. 100, St. Louis, MO 63141
Engineered Data Products, P.O. Box 665, Woodbury, NJ 08096-7565
Jamestown Metal Marine Sales, Inc., 4710 NW Second Ave., Boca Raton, FL 33431
Marine Services Corp., 3457 Guignard Dr., Hood River, OR 97031

MARINE GEARS
Cincinnati Gear Co., 5657 Wooster Pike, Cincinnati, OH 45227
John G. Alden, 1300 SE 17th St., Fort Lauderdale, FL 33316

MARINE INTERIORS
Jamestown Metal Marine Sales, 4710 Northwest Second Ave., Boca Raton, FL 33431
Johnson Construction Specialties, Inc., 3420 Rusk P.O. Box 1360 Houston Texas 77251
Marine Services Corp., 3457 Guignard Drive, Hood River, OR 97031

MARINE LUBRICANTS
Royal Lubricants Co. 6 campus Drive, Parsippany, NJ 07054

MARINE FLUWING
Bill Brown Enterprises, Inc., 4995 Ocean Pines, Berlin, MD 21811

MARINE PUMPS
Giles Inc., P.O. Box 628, Seabrook, TX 77586

MARINE SHIP MANAGEMENT
Barbakidion, 1810 Chesel Ave. West, Cherry Hill, NJ 08002

MARINE SURPLUS SALES
Defense Reutilization & Marketing Service, 2163 Airways Blvd., Memphis, TN 38114

METAL PRODUCTS
Engineered Data Products, P.O. Box 665, Woodbury, NJ 08096-7565

MONITOR CONTROL ALARM
Engine Monitor, Inc., 179 Hickory Ave., Harahan, LA 70123
Tracor Marcon 800 Fendale Pl., Mahwah, NJ 07065

MULTI-CABLE PENETRATION DEVICE
IMP, 12427 E. 80th St., Tulsa, OK 74153

NAVAL ARCHITECTS, MARINE ENGINEERS, SURVEYORS
Advanced Marine Enterprises, Inc., 1725 Jefferson Davis Hwy., Arlington, VA 22202
CDI Marine Co., 4040 Woodcock Dr., Suite 200, Jacksonville, FL 32207
Childs Engineering Corp., Box 333, Medford, MA 02052
Crandall Dry Dock Engrs., Inc., 21 Pottery Ln., Dedham, MA 02026
Crane Consultants, 15301 First Ave. S., Seattle WA 98148
C.R. Cushing, 18 Vesey St., New York, NY 10007
Arthur D. Darden, 3200 Ridgecove Dr., Suite 402, Metairie LA 70002
DeJong & Lebet, Inc., 1734 Emerson Street, Jacksonville, FL 32207
Design Associates Inc., 14360 Chef Menteur Highway, New Orleans, LA 70129
Diversified Technologies, 915 Live Oak Dr., Chesapeake VA 23320
Eliot Bay Design Group 5301 Shishole Ave. N.W. Ste. 200, Seattle, WA 98107
Encon Mgmt & Engineering Consultant Services, P.O. Box 7780, Beaumont, TX 77706
GHM Inc. (Ind., Measurement Consultants), P.O. Box 1836, Newport News, VA 23601
Gibbs & Cox, Inc., 50 West 23rd St., New York, NY 10010
John W. Gilbert & Assoc., Inc., 68 Long Wharf, Boston, MA 02110
The Glosten Assoc., Inc., 600 Mutual Life Bldg., 605 First Ave., Seattle, WA 98104
Guido Perla & Assoc., 4039 21st Ave., Ste. 303, Seattle, WA 98199
Morris Guralnik Associates, Inc., 130 Sutter St., Ste. 400, San Francisco, CA 94104
C. Raymond Hunt Associates, 69 Long Wharf, Boston MA 02110
Hydrocomp, Inc., 45 James Farm-Lee, P.O. Box 865, Durham, NH 03824
J.H. Inc., No. 4 Executive Campus, Culbert Blvd. & Route 70, P.O. Box 5031, Cherry Hill, NJ 08034
R.D. Jacobs & Associates, 11405 Main St., Roscoe, IL 61073
James S. Kroger, 799 Brockwell Plaza Ste. 701, Miami, FL 33131
Rodney E. Lay & Associates, 13891 Atlantic Blvd., Jacksonville, FL 32225

MCA Engineers, Inc., 2960 Airway Ave., #A-103, Costa Mesa, CA 92626
Alan C. McCure Associates, Inc., 2600 South Gessner, Houston, TX 77063
McEroy Machine & Mfg. Co., Inc., P.O. Box 4454, Blox, MS 39535-4454
John J. McMullen Associates, Inc., 1 World Trade Cr. Ste 3000, N.Y. NY 10048
Fendall Marbury, P.O. Box 2321, Annapolis, MD 21401
Marine Design & Operations, Inc., 226 Chestnut St., Roselle Park, NJ 07024
Marine Management Systems Inc., 102 Hamilton Ave., Stamford CT 06902
Marine Power Associates, 1010 Turquoise St., Ste 217, San Diego, CA 92108
Maritech, Seafair Bay Road, Newmarket, NH 03857
R.J. Melick & Co., 71 Hudson St., New York, NY 10013
Nautical Designs, Inc., 2101 S. Andrews Ave., Suite 202, Ft. Lauderdale FL 33316
Ocean Motors Co., P.O. Box 130, 48 Shore Drive, Barrington, IL 02206-0130
Olsen Marine Surveyors Co., P.O. Box 263, Fort Jefferson, NJ 11771
QED Systems Inc., 4646 Witthuck Rd., Virginia Beach, VA 23455
M. Rosenblatt & Son, Inc., 350 Broadway, New York, NY 10013 and 620 Fulson St., Ste. 301, San Francisco, CA 94107
Sargent & Henkes, 225 Baunone St., Suite 1405, New Orleans LA 70112
Scientific Marine Services, Inc., 101 State Pl., Suite F, Escondido, CA 92029
Sea School, 10812 Gandy Boulevard, St. Petersburg, FL 33702
Seaworthy Systems Inc., P.O. Box 965, Essex, CT 06426-17 Battery Pl., New York, NY 10004; P.O. Box 975, Barnegat Light, NJ 08006; 2 Skyline Pl., 5203 Leesburg Pike, Suite 700, Falls Church, VA 22041
50 Vashlet Way, Orinda, CA 94553
George G. Sharp, Inc., 100 Church St., New York, NY 10007
R.A. Steam, Inc., 253 N. 1st Ave., Sturgeon Bay, WI 54235
A.K. Suda & Ass., 3004 18th St., Merline, LA 70032-4989
TIMSCO, P.O. Box 91363, Mobile, AL 36691

NAVIGATION & COMMUNICATIONS EQUIPMENT
Automatic Marine A/S, Drammensveien 125, N-0277 Oslo 2, NORWAY
Cebitex Corp., 400 Main St., Stamford, CT 06901-3004
ComNav Marine Ltd., 1420 Francis St., Vancouver, BC, CANADA V5L 1Y9
Consal Marine Services Co., P.O. Box 102, Washington DC 20024
Electronic Marine Systems, 800 Fendale Pl., Mahwah, NJ 07065
Furuno U.S.A., 271 Harbor Way, S. San Francisco, CA 94080
Hesse-McCann, 1241 W. Newport Center Dr., Deerfield Beach, FL 33442
ICS Electronics Ltd., Unit V, Rufford Industrial Estate, Ford, Andalud, West Essex, UK
Mackay Communications, 300 Columbus Circle, Edison, NJ 08837
Matrix Technologies, Inc., 342 Perryway Blvd., Washington DC 20024
Newswagon Corporation, P.O. Box 6701, Oslo, NORWAY
Pauluhn Electric Mfg. Co., Inc. 1616 N. Main, P.O. Box 53, Pearland, TX 77581
RD Instruments, 2655 Businesspark Ave., San Diego, CA 92131
Raytheon Marine Co., 676 Island Ford Rd., Manchester, NH 03109-5420
SPD Technologies, 13500 Roosevelt Blvd., Philadelphia, PA 19116
Scandinavian Micro Systems P.O. Box 65, N-1411, Kolbotn, NORWAY
SGC, Inc. P.O. Box 3526 Bellevue, WA 98009
Simrad, 19210 33rd Avenue West, Lynnwood, WA 98036
Tenneco International, 2001 Westchester Avenue, White Plains NY 10650
Sound Propeller, 1608 Fairview Ave., E. Seattle, WA 98102
Sperry Marine Inc., 1070 Semple Trail, Charlottesville VA 22901
Standard Communications, P.O. Box 92151, Los Angeles, CA 90009
Summer Equipment Ltd., 24 West 4th Ave., Vancouver V5Y 1G3, CANADA
Timber Navigation, 5800 Main Avenue, P.O. Box 3602, Surrey, BC, CANADA V4M 3A8
Waterway Communications System, Inc., 453 E. Park Pl., Jeffersonville, IN 47130

OIL COOLERS
Sea-Dure Products, Inc., 6785 N.W. 17th Avenue, Ft. Lauderdale, FL 33309

OIL—Marine—Additives
Mobil Oil Corporation, 3225 Gallows Road, Fairfax, VA 22037-0001
Texaco, International, 2000 Westchester Avenue, White Plains NY 10650

OIL SPILL CONTAINMENT
Foss Environmental, 7440 W. Marginal Way S., Seattle, WA 98108-4141

OIL SPILL RESPONSE MANAGEMENT SERVICES
Gallagher Marine Systems 1020 N. Fairfax St., Alexandria, VA 22314
Geo-Square, Inc., 1000 Square, New Orleans, LA 70139

OILWATER SEPARATORS
Alfa-Laval Separation, Inc., 955 Meane Rd., Warminster, PA 18974-0556
Bjhm & Voss AG, P.O. Box 10 07 20, D-2000 Hamburg 1, GERMANY
U.S.A. Repp-Simplex-Turner Inc., P.O. Box 168, Little Neck, NY 11363-0168
Fast Systems, 3240 North Broadway, St. Louis, MO 63147
Gald International, 60 Rue de la Paix, Paris, France
National Fluid Separators, 827 Harley Industrial Ct., St. Louis, MO 63144
Nelson Industries, Highway 51 West, Slaughter, WI 53589
Norton Power 571 Central Avenue, New Providence, NJ 07974
PAINT—COATING—CORROSION CONTROL
Corrosal, Inc., 1045 12th Ave. NW-FA, Issaquah, WA 98027
Dewco Coatings, 4000 Drexel Court, Philadelphia, PA 19124
Esgard, Inc., F.O. Drawer 2688, Lafayette, LA 70502
Jamestown Distrib., 28 Management Ave., P.O. Box 348, Jamestown, RI 02835
Herpet Coatings, Foot of Cove, Inwood, NJ 07037
Microphor, Inc., Marine Div., 452 E. Hill Rd., P.O. Box 1460, Willis, TX 75080
Nico Chemical, 2706 Belmont Ave., St. Louis, MO 63103
Signa Coatings, 8979 Market St., Houston, TX 77029, 330 Rover Rd., Harvey, LA 70059, 1100 Adams St., Hoboken, NJ 07030
Hiller Ship Service Inc., 2375 West Esther Street, Long Beach, CA 90813

PAINT REMOVAL
White Metals, Inc., 8300 Melville, Houston, TX 77087

PIPE FITTING/CONNECTING SYSTEMS
Loring Corp., 396 Hatch Drive, Cleveland, OH 44104

PLANKING
SIFCO, 5706 SCHARF RD., CLEVELAND, OH 44131-1394

POLLUTION CONTROL/PRODUCTS/MARINE SERVICES
Foss Environmental, 7440 W. Marginal Way S., Seattle, WA 98108-4141
Oil Mop, Inc., 221 Rue De Jean, Lafayette, LA 70508

POLLUTION PACKER COMPACTORS
TFC Corporation, 7745 Cahill Rd., Minneapolis, MN 55439

PROPULSION EQUIPMENT—Boat/Thrusters, Diesel Engines, Gears, Propellers, Shafts, Turbines
Avondale Industries, Harvey Quick Repair, P.O. Box 116, Harvey, LA 70058
American Air Filter, P.O. Box 35690, Louisville, KY 40432
ABB Drives Inc., P.O. Box 372, Milwaukee, WI 53201-0372, USA
ABB Industry Co., P.O. Box 165, 03081 Helsinki, FINLAND
ABB TURBOCHARGER, Inc., 1469 Livingston Avenue, N. Brunswick, NJ 08902
Aquamaster-Raum Ltd., Box 220, SF-26101, Rauma, FINLAND
Aquamaster-Raum Inc., 2215 North Woodstone Ave., Ste. 103, Metairie, LA 70001
Bird Johnson Company, P.O. Box 1528, Pascagoula, MS 39567
Brunvoll AS, P.O. Box 370, N-6401, Molde, Norway
Caterpillar, 100 NE Adams Street, Peoria, IL 61629-2320
Cincinnati Gear Co., 5657 Wooster Pike, Cincinnati, OH 45227
Fincantieri, Diesel Engines Div.—G.M.T. Baripoli della, Rondania 324, Trieste, ITALY
GE Naval & Drive Turbine Systems, 166 Boulder Dr., Fitchburg MA 01420
Gottens Marine Company, 160 Vanbrunt St., Brooklyn, NY 11231
Hoset Engineering Inc., 1320 Kemper Meadow, Ste. 500, Cincinnati, OH 45240
In-Place Machining Co., Inc. 529 North Butlum Street, Milwaukee, WI 53212-3793
Kahlerberg Bros. Co., P.O. Box 358, Two Rivers, WI 54241
Kato Mach. 7555 Darling Crescent, Mississauga, Ontario, CANADA L5N 6P9
Kobelt Manufacturing, 1720 Horseshoe Way, Richmond, BC Canada V7A 4V5
LIPS S.V., P.O. Box 5151 RP Dordrecht, The Netherlands
LIPS U.S.A., Inc., 5817 Koppers Way, Chesapeake, VA 23323
Lohmann & Stolterfoth, P.O. Box 1860, D-58408 Witten, Germany
Mapco Products Inc., 90 Forest Ave., Locust Valley, N.Y., 11560
Markisches Werk, P.O. Box 1442, D-5884 Halver GERMANY
MAN B&W Diesel, 17 State St., New York, NY 10004
MAN B&W Diesel AS, Ostevet, 2, Dk-4960 Høby, DENMARK
MAN B&W Diesel, 10000, New York, NY 10004
Friedrichshafen, DENMARK
MAN B&W Diesel GmbH, Stadtbachstrasse 1, D-86153 Augsburg 1 GERMANY
MTU of N.A., 10450 Corporate Dr., Sugar Land, TX 77478
New Sulzer Diesel, Ltd., CH-8401, Winterthur, SWITZERLAND
North American Marine, Ltd., Box 1232, Bolton, ON, CANADA
Onon corp., 111 cedar Creek Rd., Grallon, WI 53024
Rolla SP Propellers SA, Via Sillas S. P. Box 251, 6828 Baterna SWITZERLAND
Rolla SP Propellers USA, 4030 Mustang Road, Melbourne, FL 32934, USA
Karl Senner Inc., 25 W. Thruway, Kenner LA 70062
Schottel-Werke, Manzer Strasse 90, D-56322 Spayrheim, GERMANY
Scottell North America, Inc., 1505 Corbin Ave., Hammond, LA 70403
Siemens Electric Ltd., 1190 Courtrepark Rd., Mississauga, ONTARIO
Sound Propellers, 1608 Fairview Ave., E. Seattle, WA 98102
Stewart & Stevenson, 1400 Drethran, P.O. Box 8, Harvey LA 70059-0008

Thrustmaster of Texas, 12227-K FM 529, Houston, TX 77041
Ulman Bergen Diesel A/S, P.O. Box 824, N-5002, Bergen, NORWAY
J.M. Voth GmbH, Marine Division, Postfach 1940, D-7520, Hedenheim/Brenz, GERMANY U.S. Rep. Voth Schneider America Inc., 121 Susquehanna Ave., Great Neck, NY 11021
Oy Wartsila Ab, Vasa and Abo Divisions, P.O. Box 24, SF65100 Vasa, FINLAND

PUMP—LIFEBOAT (hand operated)
Beeson, P.O. Box 3336, Bridgeport, CT 06605

PUMP—Repair—Drives
Allweiler Marine Inc., USA Rep., 14812 S.E. 62nd court, Bellevue, WA 98008
Allweiler Marine Inc., Postboks 149, 1351 rudi, NORWAY
Del Gavio, 619 Industrial Rd., Carlstadt, NJ 07072
Giles, Inc., P.O. Box 628, Seabrook, TX 77586
Jim's Pump Repair, 48-55 36th St., Long Island City, NY 11101
Jerry B. Leach Co., Box 71, 647 State Rd., Cheraw, SC 29520
Kestritz Corporation, 165 Chestnut Street, Alameda, NJ 07401
Via Motuator, 566 Parker St., Newark, NJ 07104

REFRIGERATION EQUIPMENT/SERVICES
Adrick Marine, 141D, Central Ave., Farmingdale, NY 11735
Unitor Ship Service Inc., 2375 West Esther Street, Long Beach, CA 90813

REMOTE VALVE OPERATORS
American United Marine Corp., 5 Broadway, Rt. 1, Saugus, MA 01906
Elliott Manufacturing, P.O. Box 773 Bg
Toshiba, Inc., 771 First Ave., King of Prussia, PA 19406

RIGID INFLATABLE BOATS
American Eagle, 780 E. Pearle Jensen Way, LaComer, WA 98257
Willard Marine, Inc., 1250 N. Grove St., Anaheim, CA 92806
Zodiac of N. America Thompson Creek, P.O. Box 400, Stevensville, MD 21666

ROPE—Marine—Nylon—Hawes—Fibres
Allied Signal Inc., Fibers Division, 1411 Broadway, New York, NY 10018
American Mfg. Co., 200 Southpark Rd., Lafayette, LA 70508-3609

RUDDER BUSHES
Vesco Plastics, P.O. Box 40647, Cleveland 2022, South Africa

RUDDER STOCK SEALS
Bohm & Voss AG, P.O. Box 100720, D-2000 Hamburg 1, GERMANY
U.S.A. Repp-Simplex-Turnar Inc., P.O. Box 168, Little Neck, NY 11363-0168

SAFETY LIGHTING
Dames, Inc., P.O. Box 1150, Kinder, LA 70648-1150
British Telecom, Room 203, 43 Bartholomew Close, London EC1A 7HP
Eltan International Corp., 1110 Industrial Blvd., Sugarland, TX 77478
Environac Inc., 1260 Turret Dr., Rockford, IL 61111
Fast Systems, 3240 North Broadway, St. Louis, MO 63147
Microphor, Inc., 452 E. Hill Rd., P.O. Box 1460, Willis, TX 75080
Ocean Power 571 Central Avenue, New Providence, NJ 07974
Research Products Blankenship, 2639 and/or Dallas, TX 75220

SATELLITE COMMUNICATIONS
British Telecom, Room 203, 43 Bartholomew Close, London EC1A 7HP
Consal Marine Services, 22300 Consal Dr., Cantonburg, MD 20871-9475
Norwegian Telecom, Postboks 6701 St. Olavs Plass, N-0130, Oslo, Norway
PTT Telecom Netherlands, P.O. Box 30150-2500 JD The Hague, NETHERLANDS
Singapore Telecom, 15 Selegie Street, Telephone House, 2nd storey, Singapore 0617

SCALE MODELS
Markint, PO Box 225, Oconomowoc, WI 53086
Scale Reproductions, 16348 Courty Road 13, Fairhope, AL 36532
Sturgeon Bay Model Shop, 187 N. Ninth Ave., Sturgeon Bay WI 54235

SEALANTS
Boatite, Inc., Div. of Life Ind., 205 Sweet Hollow Rd., Old Bethpage, NY 11804

SELF UNLOADING SYSTEM REPAIR
Atlantic Rubber Engineering, GERMANY
U.S. Rep. Simplex-Turnar Inc., P.O. Box 168, Little Neck, NY 11363-0168

SHIP REPAIR
Atlantic Marine Company, 160 Van Bunt St., Brooklyn, NY 11231

SHIPBOARD COMMUNICATIONS
Hesse-McCann, 1241 West Newport Center, Deerfield Beach, FL 33442

SHIPBUILDING EQUIPMENT
NEI Syncoff, Inc., 6970 S.W. 87th Ct., Miami FL 33176

SHIPBUILDING—Repairs, Maintenance, Drydocking
Amels, Inc., P.O. Box 3107, Brownsville, TX 78523
Astilleros Espanoles, S.A. Ochoanduno, 14-16 28023 El Plantio SPAIN
Atlantic Marine, Inc., P.O. Box 3020, Mobile, AL 36682
Atlantic Marine, Inc., 8500 Hebecher Dr., Jacksonville, FL 32226
Avondale Industries Inc., P.O. Box 50280, New Orleans LA 70150
Hiller Shipbuilding & Repair, P.O. Box 42, Mobile AL 36601
Bisso Marine Co., P.O. Box 4113, New Orleans, LA 70178
Bollinger Lockport & Larose, P.O. Box 250, Lockport, LA 70374-0250
Dandco, P.O. Box 1147 Port of Spain, Trinidad W.I.
Chris-Marine AB, P.O. Box 9025, S-2000 39, Malmö, SWEDEN
Conrad Industries, 1501 Front Street, P.O. Box 790, Morgan City, LA 70381
Consolidated Ship Repair Italiani, Via Corno 11, 16129 Genova ITALY
G.M.D. Shipyard, PO Box 050221 Brooklyn, NY 11205
Gald Coast Yachts, Inc., Box 1980 Kingsport, TN, U.S.V.I. 00681
Gottens Marine Company, 160 Van Bunt St., Brooklyn, NY 11231
Gulf Coast Fabrication, Inc., P.O. Box 539, Lakeshore, MS 39558
Hiller Kiet Germany/USA Rep. Atlantic Marine Inc., 80 Broad St., NY, NY 10004
Hill Buck Marine, P.O. Box 35, Baton Rouge, LA 70816
Hitachi Zosen, Hitachi Shipbuilding & Engineering Co., 1-1-1 Hitotsubashi
Hiyoda-Ka, Tokyo 100 Japan
Hive Metal Products & Shipbuilding, Box 698, Wheatly, Ont., Canada N0P 2P0
IHI, Tokyo Chuo Bldg., 6-2, Chiyoda Tokyo 100 Japan
Intermarine (USA), Inc., 321 N. Lathrop Ave., Savannah, GA 31402
In-Place Machining Co., Inc. 529 North Butlum Street, Milwaukee, WI 53212-3793
Jacksonville, Shipyards, 750 E. Bay St., Jacksonville, FL 32202
Jatibout, Inc., P.O. Box 610, Jeffersonville IN 47130
Kvaerner Masa-Yards Oy, Box 132, SF-00151, Helsinki, FINLAND
Kvichak-Marine, 615 N. 34th St., Seattle, WA 98103
Leavac Shipyards, P.O. Box 1150, HWY 90 East, Jennings, LA 70546
Lindena GmbH, Skagerrakufer 10, Postfach 9093 D-2300 Kiel, Friedrichort GERMANY
Lisnave, Apartado 2138, 1103 Lisbon, Codex PORTUGAL
Marco, Inc., 2300 W. Commodore Way, Seattle, WA 98199
Motez-Service AB, Box 2115, 144 04 Roninge, SWEDEN
Munson Manufacturing, 150 West Dayton, Edmonds WA 98020
Newport News Shipbuilding, 4101 Washington Ave., Newport News, VA 23607
Peterson Brothers Boat Builders, 5400 South Cameron Rd., Fremont, WA 98249
North Florida Shipyard, Inc., P.O. Box 3255, Jacksonville, FL 32206
Northampton Builders, Inc., 101 Pennsylvania Ave., Sturgeon Bay, WI 54235-0650
PDT, 750 Middle Ground Blvd., Newport News, VA 23606-2529
Thomas Marine, 37 Bradford Street, Patuxent, NY 11772
Samsung Heavy Ind., 25, 1-ha, Bonjange-dong, Chung-u, Seoul, Korea
SeaArk, P.O. Box 210, Monticello AR 71655
SeaFab, P.O. Box 1651, 4111 Cedar St., Pascagoula, MS 39567
Service Marine Industries, P.O. Box 3006, Morgan City LA 70381
Skinner Shipyard, 621 Park Plaza Dr., Dept 21, LaCrosse WI 54601
Stoner Shipyard, Inc., P.O. Box 742, Bayou la Batre, AL 36509
Willard-Marine, Inc., 1250 N. Grove St., Anaheim, CA 92806
Trinity Marine Group, Box 3029, Gulfport, MS 39505-3029
Westport Shipyard, P.O. Box 308, Westport, WA 98595
Willard-Marine, Inc., 1250 N. Grove St., Anaheim, CA 92806
Zkeil Marine Corp., 3121 S.W. Moody Street, Portland, OR 97201
Zodiac of North America Inc., Thompson Creek Rd., P.O. Box 400, Stevensville, MD21666

SHIPYARD / CABLES
Anesable, 350 Bailey Road, El Dorado, AR
G.M.D. Shipyard, Brooklyn Navy Yard, Flushing Ave. & Cumberland St., Brooklyn, NY, 11225
Ocean Technical Services 634 Peters Road, Harvey, LA 70058
T.A.S.T. Corp. PO Box 10392, Fairfield, NJ 07004

SIGHTGLASSES
Beard Industries, 200 Williams Street, Portchester, NY 10673

SILENCERS
Beard Industries, Inc., P.O. Box 31115, Shreveport LA 71130

SPRAYMIST ELIMINATORS
Munters Corp., PO Box 6428, Fort Myers, FL33907

STAINLESS STEEL CLAMPS AND TIES
Band-H P.O. Box 16307 Denver, CO 16307

STARMASTER SAFETY TREADS
Wooster Products Inc., P.O. Box 896, Wooster, OH 44691

STERN TUBE BUSHES

Vesco Plastics, P.O. Box 40647, Cleveland 2022, South Africa
STERN TUBE SEALS
 Blom & Voss AG, P.O. Box 10 07 20, D-2000, Hamburg 1 Germany
 U.S.A. Regis, Simplex-Turner Inc., P.O. Box 168, Little Neck, NY 11363-0168
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
 Krasco Co., 299 Williams Ave., Hackensack, NJ 07601
STUFFING BOXES
 Kahlerberg Bros. Co., P.O. Box 358, Two Rivers, WI 54241
SURVIVAL EQUIPMENT
 Schal Watercraft, P.O. Box 7008, Newark, DE 19714
 Sea, Inc., 7030 220th St., Mountlake Terrace, WA 98043
 Viking Life Saving Equipment, 1625 N. Miami Ave., Miami FL 33136
TANK LEVELING INDICATORS
 American United Marine Corp., 5 Broadway, Ft. 1, Saugus, MA 01906
 Autronica Marine A/S, Drammensveien 126, N-2277 Oslo 2, NORWAY
 Bergan Tank, 3409 Gulf Breeze Pkwy, Gulf Breeze, FL 32561
 ERL Marine Products Div., P.O. Box 1026, New Albany, IN 47151-1026
 Jan-Consad Bergan, 3409 Gulf Breeze Parkway, Gulf Breeze, FL 32561
 IMO Industries, Gems Sensors Division, One Cowles Rd., Plainville CT 06062
 Kokum Sonics, Inc., 819 Veterans Blvd., Suite 201, Kenner, LA 70068
 MMC International, 60 Imp Dr., Inwood NY 11696
 Saab Marine Electronics AB, P.O. Box 13045, S-402 51 Goteborg SWEDEN
TANK LIQUID LEVEL GAUGES
 Ancon Industries, 200 Williams Street, Portchester, NY 1073
 Kokum Sonics, Inc., 819 Veterans Blvd., Suite 201, Kenner, LA 70068
 meitape, Inc., 59 Porter Rd., Littleton, MA 01460
 Midland Mfg. Corp., 7733 Gross Point Rd., Skokie, IL 60076-0226
TEMPORARY/PERMANENT SHELTERS
 Universal Shelters, U.S. Hwy. 19 S., Pelham, GA 31779
TESTING SERVICES
 Wye Laboratories, 7800 Governors Dr. S.W., Huntsville, AL 35807
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
 Aurand Mfg. 1210 Ellis St., Cincinnati, OH 45223
 Tri Tool Inc., 3826 Security Park Drive, Rancho Cordova, CA 95742-6990
TORSIONAL VIBRATION SPECIALISTS
 M.A.C.E., 5910 N.E. 15th Ave., Fort Lauderdale, FL 33331
 T.W. Spaelgens, 156 W. 8th Ave., Vancouver, BC, CANADA, V5Y 1N2
 Vibration Engineering Corp., 9300 Gambel, Houston, TX 77034
TOWING—Barges, Vessel Chartering, Lighterage, Salvage, etc.
 Jack Faulkner, 2419 Caddy Lane, Flossmoor IL 60422
TRAINING COURSES
 Fisher Maritime Counselors 71 Valley St., South Orange, NJ 07079
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
 Ultrasonics & Magnetics Corp., P.O. Box 6787, New Orleans, LA 70182
VACUUM TOILET SYSTEM
 Envirovac, Inc., 1260 Turrel Dr., Rockford, IL 61111
 Fast Systems, Inc., 3240 N. Broadway, St. Louis, MO 63147
 Jets Vacuum Sewage System, P.O. Box 14, N-6060 Hareid, NORWAY.
VALVES AND FITTINGS
 Cla-Val Co., P.O. Box 1325, Newport Beach, CA 92663
 Derbyshire Machine & Tool, 5100 Bellfield Ave., Philadelphia, PA 19144-1788
 ERL Marine Products Div., P.O. Box 1026, New Albany, IN 47151-1026
 Hydra-Search Co. Inc., 100 Log Canoe Circle Stevensville, MD 21666
 MMC International, 60 Imp Dr., Inwood NY 11696
 Midland Mfg. Corp., 7733 Gross Point Rd., Skokie, IL 60076-0226
 Steel Explorations, Inc., 3121 SW Moody Ave., Portland OR 97201
VAPOR RECOVERY CONTROLS
 E.R.L. Marine Products, P.O. Box 1026, New Albany, IN 47151-1026
 Midland Mfg. Corp., 7733 gross Point Rd., Skokie, IL 60076-0226
VIBRATION ANALYSIS
 DLI Engineering Corp., 253 Winslow Way West, Bainbridge Island, WA 98110
 T. W. Spaelgens, 156 W 8th Ave., Vancouver BC CANADA, V5Y 1N2
 Vibration Engineering Corp., 9300 Gambel, Houston, TX 77034
WASTE SERVICES
 Browning-Ferris Industry (Medical Waste Systems) 757 N. Eldridge, Houston, TX 77079
WASTE WATER TREATMENT
 Envirovac, Inc., 1260 Turrel Drive, Rockford, IL 61111
 Research Products Blankenship, 2639 Andon Dallas, TX 7522
WATER PURIFIERS
 Alfa-Laval, Desalt A/S, Slammolmen 93, DK-2650 Hvidovre, Copenhagen, DENMARK
 Alfa-Laval Separation Inc., 955 Meams Rd., Warriminer, PA 18774
 Beard Industries Inc., P.O. Box 31115, Shreveport LA 71130
 Everpure, Inc., 660 N. Blackhawk Dr., Westmont, IL 60559
 Lifesream Water Purification Equip., 16511 Gemini Lane, Huntington Beach, CA 92647
 NEI Clarke Chapman Canada, 1975 N. Service Rd. W., Unit 4, Oakville, Ontario, CANADA
 LSM 2G2
 Sea Recovery Corp., P.O. Box 2560, Gardena, CA 90247-0560
WEATHER CHART RECORDERS
 Alden Electronics, 40 Washington St., Westborough, MA 01581
WEATHER INSTRUMENTS
 Randera Instruments, Fansavein 138, 5050 Nestun, Bergen, Norway
WELDING
 Bug-O-Systems, 3003 W. Carson St., Pittsburgh, PA 15204
 Miller Electric Manufacturing, P.O. Box 1079, Appleton, WI 54912
 Welding Consultants USA, 10399 Paradise Blvd. #101, St. Petersburg, FL 33706
WELDING AND REFRIGERANT PRODUCTS
 Drew Ameroid Marine, One Drew Plaza, Bonton, NJ 07005
 Unitor Ship Service Inc., 2375 West Esther Street, Long Beach, CA 90813
WINCHES AND FAIRLEADS
 Learner Winches Ltd., 53 Maple Ave., Richmond Hill, Ontario L4C 6P3, CANADA
 MMC International, 60 Imp Dr., Inwood NY 11696
 Markey Machinery Co., 79 South Horton St., Seattle, WA 98134
 McCloy Machine & Mfg. Co., Inc., P.O. Box 4454, Biloxi MS 39535-4454
 New England Trawler Equipment Co., 291 Eastern Avenue, Chelsea, MA 02150
 Skokum/RopeMaster, P.O. Box 280, Hubbard, OH 47032
 Smith Bergner Marine Inc., 519 S. Chicago St., Seattle, WA 98108
WIND MONITORING SYSTEMS
 Amderaa Instruments, Fansaveub 138, 5051 Bergen, NORWAY
WINDOWS—Windshield Wipers
 Marketec, Inc., P.O. Box 999, Pisgah Forest, NC 28768
WIRE AND CABLE
 Seacoast Electric Company, 50 Broadway, Hawthorne, NY 10532
WORKBOATS
 American Eagle Mfg. Inc., 780 E. Pearle Jensen Way, LaConner, WA 98257
 Boston Whaler, 1140 Hingham St., Rockland, MA 02370-6611
 Workskiff, Inc., 10824 Bothell Hwy. S.E., Bothell, WA 98102-6869
 Zodiac of N.A. Inc., Thompson Creek Rd., P.O. Box 400, Stevensville, MD 21666

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



29 BROADWAY
NEW YORK, N.Y. 10006
PHONE 212-269-2515
FAX 212-809-1665
WORLD WIDE SERVICE
SINCE 1962

CAPTAIN ASTAD COMPANY INC.

• SHIPBROKERS & MARINE CONSULTANTS
• SALE & PURCHASE - ANY TYPE VESSELS
• NEW CONSTRUCTION - CONVERSIONS
• OWNERS REPRESENTATIVE

2900 Energy Centre, 1100 Poydras Street Office Private
New Orleans, LA 70183-2900 Phone: (504) 585-7317 • (504) 522-3007
Fax: (504) 585-7301 • (504) 522-6006



C. BAXTER, JR. & ASSOCIATES
NAVAL ARCHITECTS/ENGINEERS
& SURVEYORS

3113 Cottage Hill Road Tel: (334) 476-1998
Mobile, AL 36606 (800) 398-6691

Videos/Interactive Computer Training

Material Operations

(504) 532-2512
FAX (504) 532-2571
157 HWY 654
MATHEWS, LOUISIANA 70375
CHAND CORPORATION

COI marine company
Supporting The Marine Engineering Industry

JACKSONVILLE (904) 395-4550
PHILADELPHIA (610) 228-1853
PORTSMOUTH (604) 397-8000
BREMERTON (206) 479-8828
SAN DIEGO (619) 425-7230
BOSTON (617) 345-8858

CHILDS ENGINEERING CORPORATION
WATERFRONT ENGINEERING-DIVING INSPECTION
BOX 333 NEFIELD, MA 02058 (603) 358-8848

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) 894-8466

Crane consultants inc.
15301 1st Ave. So. Seattle, Washington 98148
(206) 246-7962 FAX (206) 246-1010
Crane hoist, materials handling specialists

GHS
General HydroStatics
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 98148 USA
TEL (206) 385-4212 FAX (206) 385-4213

CT MARINE
• NAVAL ARCHITECTS • MARINE ENGINEERS •
• VAPOR RECOVERY Tel: 203-831-0405 Fax: 203-831-0407
• TUGS
• TOWBOATS 56 CROOKED TRAIL, ROWAYTON CT. 06853
• BARGES

C. R. CUSHING & CO., INC.
NAVAL ARCHITECTS, MARINE ENGINEERS
& TRANSPORTATION CONSULTANTS
18 Vesey Street
NEW YORK, N.Y. 10007
TEL (212) 964-1180 CABLE CUSHINGCO
TX. 752481

PROFESSIONAL

ARTHUR D. DARDEN
INCORPORATED
NAVAL ARCHITECTS & MARINE ENGINEERS

3200 RIDGELAKE DRIVE, SUITE 403
METAIRIE, LOUISIANA 70002
(504) 832-3952 FAX (504) 832-3953

GIBBS & COX INC
NAVAL ARCHITECTS & MARINE ENGINEERS

50 West 23rd Street • New York, NY 10010
(212) 366-3900

Speed/Power Consultants
NavCad and EasyProp
Ship Propulsion Software

HYDROCOMP

BUSCH CORPORATE CENTER
202 C PACKETS COURT
WILLIAMSBURG, VA 23185 USA
804-229-1115
FAX 229-1116

DLI MARINE
ENGINEERING CORPORATION VIBRATION ANALYSIS
NOISE CONTROL

253 Winslow Way West, Bainbridge Island, WA 98110
(206) 842-7656

Measurement, recording and
analysis of mechanical,
structural and electrical
phenomena.

JOHN W. GILBERT ASSOCIATES, INC.
Naval Architects Marine Engineers

(617) 523-9370 199 STATE STREET
FAX (617) 523-2178 BOSTON, MASS 02109

IAC International Freight Forwarders
Air • Ocean • International • Domestic
Specialists in Marine Equipment Moves
IAC International
240 McClellan Highway • East Boston MA 02128
Tel: (617) 567-2600 • Fax: (617) 567-2626

Dt DIVERSIFIED technologies
NAVAL ARCHITECTURE
MARINE ENGINEERING
SALVAGE ENGINEERING

812 Live Oak Drive Chesapeake, VA 23320 (804) 420-9532 675 S. Washington Street Alexandria, VA 22314 (703) 739-8844

Seattle, Washington
Phone: 206-624-7850
Fax: 206-682-9117

THE GLOSTEN ASSOCIATES, inc.
CONSULTING ENGINEERS SERVING THE MARINE COMMUNITY

LEADERS IN MARINE DESIGN SOFTWARE

FAST SHIP from Proteus Engineering
Used by the US Navy and leading ship designers and builders for hull design, from concept to final fairing.

GENERAL HYDROSTATICS (GHS)
from Creative Systems, Inc.
Widely recognized as the most advanced and productive trim/stability/strength software.

NAVCAD from HydroComp, Inc.
NavCad offers an integrated platform to predict resistance and power, and to determine optimum propeller parameters.

SHIPCAM & NC-PYROS from Albacore Research Ltd.
ShipCAM4: Proven fairing, lofting and shell expansion for ship construction and repair. NC-Pyros: NC-code generation for burning with automatic path optimization.

MAESTRO from Proteus Engineering
MAESTRO is a structural design tool which combines finite element analysis, failure mode evaluation and multiobjective structural optimization.

INTERNATIONAL MARINE SOFTWARE ASSOCIATES
Busch Corporate Center, 202 C Packets Court, Williamsburg, VA 23185 USA
tel: (804) 229-1115 • fax: (804) 229-1116

ELLIOTT BAY DESIGN GROUP
NAVAL ARCHITECTS MARINE ENGINEERS SHIPYARD SUPPORT

Providing the best service in the marine industry
for owners, operators and shipyards

5301 Shilshole Ave. NW, Suite 200 Seattle, WA 98107 (206) 782-3082 FAX: (206) 782-3449

GRIES MARINE TECHNOLOGY INC.

• NAVAL ARCHITECTURE • MARINE ENGINEERING
• LEADING HIGHTECHNOLOGY • CONSULTING

2170 S.E. 17th Street, Suite 307 Fort Lauderdale, FL 33316 Tel: (305) 467-2940 Fax: (305) 467-2926

ENCON Management incorporated
Marine Structures • Engineering Analysis • Marine Survey
Project Management • Loss Prevention • Naval Architecture

P.O. Box 7760 • Beaumont, Texas 77726
(409) 842-9181

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/Driver
- U.S. Navy 1625C Facility Certification Reports

Telephone: (508) 429-1800 Fax: (508) 429-1811

JAFCO Marine
tug & barge sales

YOUR MARINE CONSULTANTS (708) 798-2419
P.O. Box 371, Flossmoor, Illinois 60422-0371 FAX (708) 798-1077
ESTABLISHED 1954

CompuMaint™
A Planned Maintenance System designed specifically
for the marine and offshore industries.

- ABS Approved for "Survey Based on Preventative Maintenance Techniques"
- Runs on PC, LAN, and mainframes

TEL: (713) 789-0755
FAX: (713) 789-0252

Engineering Management Consultants, Inc. a project of **emc** 2825 Wilcrest Drive Suite 361 Houston, TX 77042

- Installations and/or repair of ships monitoring and automation systems.
- Updating shipboard electrical drawings to include circuit verification and termination overhaul.

Hinton Electrical Marine, Inc.
160 N.E. 18th Street Homestead, FL 33030
Phone: (305) 245-4040

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

311 Legget 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

C. Raymond Hunt Associates, Inc.
High Speed Powerboat Design

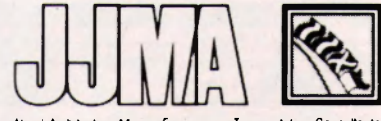
69 Long Wharf - Boston, MA 02110
Tel: (617) 742-5669/FAX: (617) 742-6354


RODNEY E. LAY & ASSOCIATES
NAVAL ARCHITECTS
NAVAL ARCHITECTS • MARINE ENGINEERS
13891 Atlantic Blvd.
Jacksonville, Florida 32225
(904) 221-7447 FAX (904) 221-1363

PROFESSIONAL

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

USCG APPROVED
RADAR: Recerts: WALK-IN
 Originals: Monthly
FLASHING LIGHT CERTIFICATION
 TEST HERE ANY DAY!!
 Prepare for ALL USCG EXAMS
 CALL 1-800-423-9267
 Ft. Lauderdale, FL

John J. McMullen Associates, Inc.

 Naval Architects • Marine Engineers • Transportation Consultants
 New York, N.Y. • Arlington, Va. • Newport News, Va. •
 Port Hueneme, Ca. • Bath, Me. • Seattle, Wa. • Pascagoula, Ms.
 World Trade Center/Suite 3000/New York, New York 10048/(212) 466-2200

Speed & Propulsion Power Policy

FENDALL MARBURY
 NAVAL ARCHITECT
 P.O. Box 2321 Phone: 410-268-2608
 Annapolis, MD 21401 Fax: 410-268-4271

151 MARITIME SERVICES
 Maritime Brokers And Consultants
 Phone (714) 661-5798 Fax: (714) 661-1854
 34062 El Encanto / B Dana Point, Ca.92629
 CAPTAIN D. SCULLY

H. J. Merrihue
DIVING
 and
MARINE SERVICES
 All Underwater Needs
 For Shipping
CRANE BARGE SERVICE
MAGNETOMETER/SONARS
 INSURED MARITIME
(504) 466-2800
 24 HOURS



MARINE DESIGN SERVICES INC.
 OPERATING IN ALL COASTAL WATERS

 • SHIP • DRYDOCK • SHORE FACILITIES •
 • UNDERWATER VIDEO INSPECTIONS •
 • DRYDOCK CERTIFICATION INSPECTION •
 • DRYDOCK TRAINING PROGRAMS •
 • COMPUTER AIDS •
 HOME OFFICE: P.O. BOX 928
 BONITA, CA 92002
 (619) 427-4219

Alan C. McClure Associates, Inc.
 NAVAL ARCHITECTS • ENGINEERS
 2600 South Oessner • Suite 504 • Houston, Texas 77063
 (713) 789-1840 • (713) 789-1347 Fax

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. Mellusi & Co., 71 Hudson Street, New York, N.Y. 10013. Tel: (212) 962-1590 Fax (212) 385-0950

MMS IS EXPANDING - Join our growing international team

MMS, Inc., a marine software company in Stamford Connecticut, needs quality people to support our international growth and expansion. MMS is experiencing tremendous demand for our FLEET MANAGER SERIES, PC-based fleet management software for inventory and maintenance management, ship/shore e-mail and fleet payroll/personnel. We are looking for highly motivated, results oriented professionals in a variety of marketing and technical positions to support our global expansion.

Sales Representatives: Looking for a unique blend of successful sales experience and strong shipboard marine knowledge. We need proactive individuals to sell MMS' proven FLEET MANAGER SERIES to major marine accounts. Must be a strong closer. Solid writing and computer skills necessary. Travel required.

Distribution Manager: Highly organized individual with the ability to coordinate a network of world-wide agents. Must be able to support and motivate current agents, while increasing our channels of distribution with new, high-quality agent representatives. Must be able to juggle many projects at once and train agents on sales techniques and product features. Scheduling and good follow-up skills required. This position offers high exposure internationally and will require significant travel.

Sales Assistant: Assist sales staff with administrative and inquiry response/follow-up duties. Must have an outgoing personality as well as good phone and excellent word processing skills. Proposal writing experience a plus. Candidates should be able to demonstrate ability to work independently. College degree preferred.

Marketing Assistant: Assist Marketing Manager with international trade shows, aggressive advertising and direct mail programs, quarterly newsletter, promotions, user group meetings and sales seminars. Will require a creative individual with strong writing and desktop publishing/graphic skills. Must be able to complete projects from inception to completion with minimal supervision and on schedule. Recent college grads welcome.

Programmers: Two to three years C programming experience and B.S. degree in computer science required. Windows programming experience a plus.

Support Representatives: Hard-working, self-starters with good communication and organizational skills. This is a multi-faceted position supporting MMS' customers worldwide. Must be computer literate. College degree preferred.

MMS offers a comprehensive benefits package. If you are interested in joining an exciting, high-growth marine company, please send resume with salary history to:

Personnel Manager
 Marine Management Systems, Inc.
 102 Hamilton Avenue
 Stamford, CT 06902
 FAX: (203) 967-2927



PROFESSIONAL

PHONES:
(201) 984-2285
1-800-762-9383

MOWBRAY'S
TUG AND BARGES SALES CORP.
35 DE HART STREET
MORRISTOWN, N.J. 07960

SPECIALISTS IN
BUYING, SELLING
AND RENTING
TUGBOATS
• BARGES
CONTRACTORS
FLOATING
EQUIPMENT

YOUR MARINE CONSULTANTS

SARGENT & HERKES, INC.
NAVAL ARCHITECTS • MARINE ENGINEERS

255 BARONNE ST., SUITE 1405
NEW ORLEANS, LA 70112
504-524-1612 • 504-523-2576 (Fax)

STURGEON BAY MODEL SHOP
SHIP MODELS SINCE 1941

Wm. L. Herbst
187 N. Ninth Ave.
Sturgeon Bay, WI 54235

phone
414/884-2859
414/743-2321
414/744-3081

MULDOON
COMMERCIAL DIVING
MARINE SERVICES, INC.

- Commercial Diving
Welding, Hull Cleaning,
Prop Polishing and Inspection
- High Capacity Pumping
(Hazwoper Certified Personnel)
- Nondestructive Testing
Underwater/Topside

310) 432-5670 • FAX (310) 432-6623
PO Box 3223 • Terminal Island, CA • 90731

sms
Scientific Marine Services, Inc.

Naval Architects, Mechanical Engineers, Instrumentation Engineers, Software Engineers

A FULL SERVICE MARINE ENGINEERING
and
OFFSHORE INSTRUMENTATION COMPANY

101 State Place, Suite F
Escondido, CA 92029
Tel: (619) 737-3505
Fax: (619) 737-0232

TIMSCO

Infrared - Thermographic Surveys
Vibration Analysis & Monitoring - Balancing Services
Inventory Control - Planned Maintenance
Technical Documentation
P.O. Box 91360
Mobile, Alabama 36691 205/666-7121

CRUISE SHIP SPECIALISTS

NAUTICAL DESIGNS INC.
NAVAL ARCHITECTS & MARINE ENGINEERS

2101 S. ANDREWS AVE. FORT LAUDERDALE, FL 33316 (305) 463-2033

GEORGE G. SHARP, INC.
SYSTEMS ANALYSIS
NAVAL ARCHITECTS - MARINE ENGINEERS

100 CHURCH STREET-NEW YORK, N.Y. 10007
(212) 732-2800 FAX (212) 732-2809

WASHINGTON, D.C. (703) 892-4000
VIRGINIA BEACH, VA. (804) 499-4125
PHILADELPHIA, PA. (609) 771-0588

**UNIVERSAL PERSONNEL
SERVICE COMPANY**

A Division of Universal
Consolidated Services, Inc.

4949 BULLARD AVE. 2710 BEACH BLVD. SUITE 60
NEW ORLEANS, LA 70128 BILOXI, MS 39531
(504) 241-1724 (601) 388-3065
FAX (504) 246-8759 FAX (601) 388-3160

12141 HOLLY KNOLL CIRCLE
GREAT FALLS, VA 22101
(703) 450-8572

- OPA90 grounded, damaged residual strength & stability
- 2700 ships, 283 barges worldwide
- 24 hr service or program for your laptop, DOS & WINDOWS

OCEAN MOTIONS COMPANY
24hr service 800-775-0917 Gulf 801-487-8372

Q.E.D. SYSTEMS, INC. VIRGINIA BEACH (804) 490-5000

MARINE ENGINEERS NAVAL ARCHITECTS
LOGISTICS ENGINEERS

ARLINGTON LAKEHURST
BREMERTON SAN DIEGO CHARLESTON
JACKSONVILLE PHILADELPHIA SAN FRANCISCO

Sensors, Instrumentation and
Monitoring Systems for
Harsh Environments

- Ship & Offshore Platform Response/
Environment Monitors
- CALM Buoy Spill Prevention Monitors
- Cranes, Winch, & Mooring
Tension/Payload
- Subsea Vibration & Stress
Measuring Systems
- Fatigue/Motion Monitors for
Towed Barges

SPARTA
9455 Towne Centre Drive
San Diego, CA 92121-1954 • (619) 455-1650 PH • (619) 455-1698 FAX

Vacanti Software
Boat, Ship, Yacht Design
& Analysis Software

PC Compatible Software
PROLINES - Hull Design & Hydrostatics
PRO-HYDRO - Damage Stability
FOIL/KLIFDRA - Control Surfaces

Since 1984
17226 163 PL SE, Renton WA 98058
Fax/Phone 206-277-0288
24 Hrs - 206-644-3109

M. ROSENBLATT & SON, INC.
NAVAL ARCHITECTS AND MARINE ENGINEERS

New York City
350 Broadway
New York, NY 10013
Tel: (212) 431-0900
Fax: (212) 334-0837

San Francisco
620 Folsom Street
San Francisco, CA 94107
Tel: (415) 777-0500
Fax: (415) 777-4015

Washington, D.C.
Newport News
Norfolk
Ozard

Bremerton
San Diego
Charleston

M. ROSENBLATT & SON, INC.
NAVAL ARCHITECTS AND MARINE ENGINEERS

R.A. STEARN INC.
NAVAL ARCHITECTS and MARINE ENGINEERS

253 N. 1st Avenue
Sturgeon Bay, WI 54235
Phone (414) 743-8282 FAX (414) 743-9543

V/L Logistics, Inc.

INTEGRATED LOGISTIC
SUPPORT SERVICES

CONFIGURATION
DATA MANAGEMENT

APERTURE CARDS
MICROFILMING

RELIABILITY &
MAINTAINABILITY STUDIES

SUPPLY SUPPORT,
TRAINING

TECHNICAL PUBLICATIONS

3400 BIENVILLE BLVD., OCEAN SPRINGS, MS 39564
PHONE: (601) 872-2768 FAX: (601) 875-6443

Seaworthy Systems, Inc.

MARINE ENGINEERS AND NAVAL ARCHITECTS
Essex, CT 06426
(203) 767-9061

SAN FRANCISCO • NEW JERSEY • WASHINGTON, DC

A.K. Suda & Associates, Inc.
Naval Architects and Marine Engineers

3004 19TH STREET
METAIRIE, LA 70002

TEL: (504) 831-8371
FAX: (504) 831-8371 EXT. 20

VIBRANALYSIS ENGINEERING CORP

- PREDICTIVE MAINTENANCE PROGRAMS
- VIBRATION ANALYSIS
- FIELD & SHOP BALANCE
- ACOUSTICAL CONSULTANTS
- COMPUTERIZED DATA COLLECTION
- INFRARED - THERMAL ANALYSIS

VIBRANALYSIS ENGINEERING CORP 800-553-1614
743-522-3555
9300 Gamebird
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

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 ...

DEADLINE: The 15th of the month for the following months ad

FREQUENCY DISCOUNT RATES

1X	\$80 ea.
3X	\$75 ea.
6X	\$70 ea.
9X	\$65 ea.
12X	\$50 ea.

COLUMN WIDTH

1 COLUMN - 3"
2 COLUMN - 6 1/4"
3 COLUMN - 9 1/2"

COLUMN DEPTH

MINIMUM - 1"
MAXIMUM - 12"

EQUIPMENT/PRODUCTS/SERVICES FOR SALE

HAMPTON ROADS MARITIME TRAINING CENTER

- The best maritime training available and at fair prices
- U.S. COAST GUARD APPROVED COURSES.
- Courses held every week.
- 5 Radar Displays - Radar Simulator Training since 1983.
- Examination Prep Courses for all licenses/USMMD's.

COAST GUARD APPROVED COURSES

RADAR (Original)	5 Day	\$ 300.00
RADAR (Renewal)	3 Day	\$ 150.00
RADAR (Renewal)	1 Day	\$ 75.00
ARPA (Original)	5 Day	\$ 425.00
FLASHING LIGHT		\$ 100.00

207 GRANBY STREET, SUITE 307
NORFOLK, VA 23510
(Across From The Federal Building)
PHONE: (804) 622-1869 or 625-2126



179 Hickory Ave.
Harehan, LA 70123
TEL: (504) 737-3172
FAX: (504) 737-1094

"INNOVATIVE PRODUCTS FOR THE MARINE INDUSTRY"

- AEVADS
- MODULAR ALARM SYSTEMS
- PUBLIC ADDRESS SYSTEMS
- DIGITAL ALARMS & MONITORING
- ANALOG / DIGITAL METERS
- DIGITAL STEERING / CONTROLS
- ELECTRO-HYDRAULIC STEERING
- WATERJET CUTTING
- LASER GRAPHICS PRODUCTS
- NAVIGATION LIGHTING PANELS

CUSTOM DESIGNED MICROPROCESSOR BASED INTEGRATED CONTROL, MONITORING AND ALARM SYSTEMS



Archway has a new Marine Products Catalog

We now feature Medical and Safety Products. Our catalog will save you Money, Time and Effort!

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



Need a Better Job?

The Mariner's Employment Guide can help you! Listing by state, unions, schools, shipboard, offshore, yachts, casinos, cruise ships, etc. Includes help in license procedures, average wages, position descriptions, travel paid, vacation pay. 346 pages. 6,831 Addresses. 48 states covered and much more. Send \$35.95 to:

Marine Techniques
126 Western Avenue, Suite 266 Augusta, ME 04330-7252
Dealer inquiries welcome

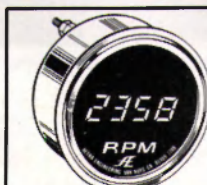
Tired of nautical reproductions

Maritifacts has only authentic marine collectibles rescued from scrapped ships: navigation lamps, sextants, chronometers, bells, barometers, flags, binnacle, telegraphs, portholes & more.
Current Brochure - \$1.00 FAX: 904-645-0150
MARITIFACTS, INC.
P.O. Box 8604 Jacksonville, FL 32239-0604 PHONE: (904) 645-0150

Make your ring buoys do their job.

Attach our throw line holder kit to your ring buoys and we guarantee they'll travel the length of the line. First toss, every toss.
FREE BROCHURE • 1-800-326-TOSS

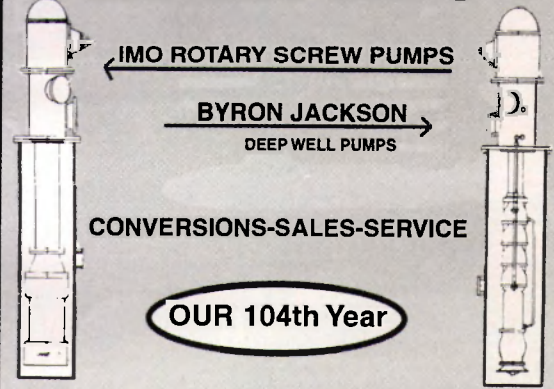
First:SS



TACHOMETER

Guaranteed accurate to 1 RPM. Withstands severe marine use.
AETNA ENGINEERING
800-776-7962 FAX 818-366-7896

BARGE PUMPS



OUR 104th Year

DUVIC'S PUMPS

"Greater downtown" HARVEY, LA 70059
Box 1237 • 504-341-1654

EQUIPMENT/PRODUCTS/SERVICES FOR SALE

**SERVICE • REPAIR • PARTS
CONSULTING • DESIGN**

**CUNNINGHAM MARINE
HYDRAULICS CO., INC.**

201 Harrison St. • Hoboken, N.J. 07030
(201) 792-0500 (212) 267-0328
FAX # (201) 792-7716

JACKSONVILLE, Florida 32202
(201) 792-0500
TWX 710-730-5224 CMH Hoboken, NJ



**FOR SALE
COLT PIELSTICK
PC 4 SERIES**

CYLINDER LINER ASSY
UNUSED/ W/ ABS CERTS
P/N: T56875

AIR MARINE SYSTEMS, INC.
(804) 468-9400 (804) 468-9666 Fax

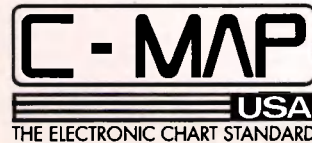
FOR SALE

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

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

MARIT - Since 1904 -

- Stud Link Anchor Chain • Open Link Chain
- Marine Railway Hauling Chain
- Chafe Chain • Anchors, Shackles & Fittings

ETS. MARIT
856 Chemin De L'Empire
59230 Saint Amand Les Eaux
FRANCE
Tel: 33 27 48 42 15
Fax: 33 27 48 90 00

CLASSIFICATION
SOCIETY APPROVED
North American Agent
Contact: Paul Gattozzi
Tel & Fax (617) 233-7750

**LARGE VESSEL
MOORING EQUIPMENT**

- Large Pedestal Fairleads with 15" rollers.
- Large Bulkhead Chocks 18"x24" bow and stern.
- Smit Brackets S.W.L. 200 ton for 76m.m., 3" chain
- 200 ton S.W.L. Bow Stopper and Plinth

ALL IN STOCK - IMMEDIATE DELIVERY

MARITIME POWER CORPORATION

200 Henderson Street, Jersey City, NJ 07302
Phone: (201) 433-0870 • Fax: (201) 433-9287



**Shipbuilding & Repair
SMEC-DH, Shanghai, China**

- China's largest shipbuilding & repair base
- Over 15 major shipyards & marine institutes
- Modern facilities & experienced work force
- Container ships, bulk carriers, tankers, etc.
- Model tank test, design & drafting services
- Port machinery & ship's equipment
- Salvage, dredging & geological survey
- Offshore supplies, anchors, chains, etc.

HCG Accommodation System

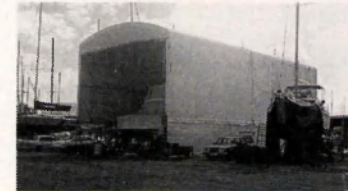
- Highly flexible regarding to bulkhead sizes
- Robust, uniform construction
- Low cost, Easy to install and maintain
- Superior fire resistance (SOLAS)
- Excellent sound reduction (44dB)
- Pleasing finished appearance
- Widely used in many types of ship

SEACOS Loading Computer

- MS-Windows and NT based
- Works w/ all leading gauging/sounding systems
- Graphical and pictorial presentations
- ABS, LR, DNV, GL, BV, KR, NKK approved
- Used on more than 350 ships/vessels
- Other marine software

Your Exclusive Agent in North America
ALL ALPHA INTERNATIONAL, INC.
P.O. Box 498985, Cincinnati, OH 45249 U.S.A.
Tel: (513) 683-6589 Fax: (513) 683-5359

**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 407-286-0166

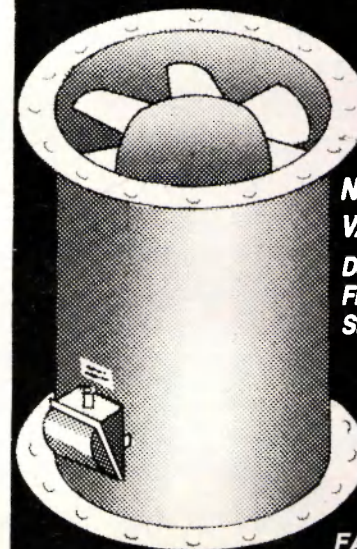
Smith Berger Marine, Inc.
SHIPBOARD SYSTEMS & FISH PROCESSING EQUIPMENT

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

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

**CONRAD
Industries, Inc.**



QUICK REPAIRS - 2 SHIFTS
FOUR DRYDOCKS 2-400 TON
SPECIALISTS IN BARGE AND DRYDOCK
CONSTRUCTION
..... SINCE 1948
PH. 504-384-3060 FAX 504-385-4090
PO Box 790 Morgan City, LA 70381

EMPLOYMENT/RECRUITMENT

SENIOR SHIPPING MANAGEMENT POSITION WEST COAST AREA

Available for qualified individual able to manage small fleet of dry bulk carriers. Must be experienced in all aspects of ship maintenance and management. Send Resume and Salary Requirements to:

Box #102
Maritime Reporter
118 East 25th Street
New York, NY 10010

MARITIME EXECUTIVE

SHIPYARD CLOSING • MANAGER WILL RELOCATE
WELL KNOWN CONSTRUCTION & REPAIR FACILITY
PROJECT MANAGEMENT, ADMINISTRATIVE &
FINANCIAL EXPERTISE. TUG & BARGE OPERATIONS,
WATERFRONT CONSTRUCTION, LARGE YACHTS.
EXTENSIVE ENVIRONMENTAL EXPERIENCE. IN
WATER & SHORESIDE REMEDIATION, DREDGING.
DOCKMASTER. HAZMAT TRAINED. EDUCATION:
MBA FINANCE, BS MATHEMATIC, 2 YRS NAVAL
ARCHITECTURE & MARINE ENG. PLEASE CONTACT
MARITIME REPORTER BOX 107

Marine Engineer Electrical and Electronic Systems

Design and oversee repair and maintenance of marine electronic and electrical power, automated, control and safety systems and equipment. Inspect and test systems and equipment to determine source of problem. Analyze and read electrical and electronic diagrams and specifications to determine repair procedures or need for replacement or other corrective action. Direct installation activities to ensure proper operation and make adjustments as needed. Supervise and coordinate activities of 7 electrical and electronic technicians. Requirements: Master's degree in Electrical or Electro-Mechanical Engineering and 4 years experience in the job offered. Salary \$53,600.00 per year for 40 hours per week. All qualified applicants please apply at the Texas Employment Commission, Houston, Texas, or send resume to 1117 Trinity, Room 424T, Austin, Texas 78701. J.O.# TX 7214590. Ad paid for by an Equal Employment Opportunity Employer.

DESIGN ENGINEER WANTED

A small, fast growing midwest marine engineering/design firm is seeking a marine engineer with mechanical and/or electrical design experience. Minimum five years marine design experience required. Degree preferred, but not required. Proven experience with machinery layouts and systems design a must. Manual or CAD drafting skills also required.

Base salary plus bonuses, profit sharing, and full medical provided. Will assist in relocation costs. Respond with resumes to:

Box #1201
Maritime Reporter
118 East 25th Street
New York, NY 10010

MARITIME EMPLOYMENT DIRECTORY

EXPANDED FOR '95 LARGEST EDITION YET!
NATIONAL SOURCE BOOK OF MARINE
COMPANIES, SCHOOLS & NAUTICAL BOOK
STORES. Names, Addresses, Phone & Fax Numbers, Deep Sea, Coastwise, Casinos, Inland, US & Foreign Flag Listed A to Z by State.
Send \$29.95 TO: AMERICAN AGENDA
PO BOX 1408R, Port Aransas TX 78373
MONEY BACK GUARANTEE
COD SHIPMENT 512-749-6910
COD Chg. \$8.00 Total \$37.95

"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 - New Orleans, LA
(504) 362-8809

Michael R. Keough, CPC
KEOUGH ASSOCIATES
P.O. Box 010990
Staten Island, N.Y. 10301-8347
PH: (718) 979-8698 FAX: (718) 667-8347
Recruitment & Personnel Consultants to the Marine Industry

VESSELS FOR SALE/CHARTER

Marcon International, Inc.
Ship Sales & Charters • Consultants

TUGS AND WATER BARGES EXCLUSIVELY IN OUR HANDS FOR SALE

TB33428 POTABLE WATER BARGE "BLACK POINT"
260' X 61' X 21' built '79. ABS. 5850 tons waters in 8 tanks.

TB33429 POTABLE WATER BARGE "MASTIC POINT"
250' X 50' X 19' built '71. 4000ldw on 15' draft. 8 cargo tanks.

TG18070 TRIPLE SCREW TUG "LOVELY BAY"
70' X 24' X 10.5' built '75. 3 x GM16V92 total 1800BHP.

TG05043 TWIN SCREW HARBOR TUG "PLEASANT BAY"
43.5' X 14' X 8.2' built '77. 2 x GM8V71 total 460BHP.

Vessels can be inspected in the Bahamas by arrangement. We invite your best firm cash offers. Sellers may be interested in a lease-back of selected units until June 1995.

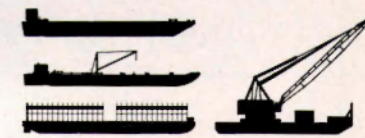
Tel: 206-678-8880 Fax: 206-678-8890

Details believed correct, not guaranteed. Offered subject to availability.

FOR SALE OR CHARTER CARGO DECK BARGE

Barge Dimensions: Length 250 ft., Width 72ft., Height 15 ft., 6 in.
Gross Registered Tonnage: 2238 ton
Maximum cargo capacity: 5500 ton
Location: Green Cove Springs, Florida
Availability: Immediate
Charter Rate: Negotiable depending on duration, use and location

Contact:
MARINER TOWING LTD.
169 Pope Road
Summerside, P.E.I. Canada, C1N 5C6
Phone: (902) 436-5967
Fax: (902) 436-6944



Specializing in

- I Water Transportation of General Cargo, Chemicals and Bulk Petroleum
- I Sales, Charters and Brokerage of Marine Equipment and Vessels
- I Vessel Design, Construction and Repair

ZIDELL
MARINE GROUP

3121 SW Moody Avenue, Portland, Oregon 97201
(503) 228-8691 (800) 547-9259
RCA Telex 283985 FAX: (503) 228-6750
Ask for Bill Gobel or Jack Breshers

TO RESERVE YOUR CLASSIFIED AD

CALL (212) 477-6700
OR FAX YOUR ORDER TO (212) 254-6271

Harrab's, Vicksburg, Mississippi



Star Casino, Lake Pontchartrain, Louisiana



Place Your Bets on the Nation's Top Builder of Riverboat Casinos

In the high-stakes business of riverboat gaming, it pays to place your bets on a winner. From the very beginning of the riverboat casino boom, Bender has delivered boat after boat — on time and on budget. In fact, Bender is the nation's top builder of casino riverboats and dockside casino barges.

When Illinois river waters opened to gaming, Bender's swift 90-day conversion raced the *Alton Belle Casino* to this market far ahead of its competition.

Since this record-breaking beginning, Bender has set the industry standard for rapid delivery in a business where time means everything.

With the addition of its new yard in Braithwaite, Louisiana, Bender is now even more competitive on delivery and pricing. Bender delivered the *Star Casino*, Louisiana's first riverboat casino, less than eight months after its new facility opened, and it continues to race new casino boats into the market with record speed.

Bender has casinos under construction for Louisiana, Illinois, Mississippi, Missouri and Iowa, and is developing markets in other states.

With this impressive track record, Bender offers you turn-key entry into the river casino business. Our experienced staff is knowledgeable in gaming regulations in most states and can serve as your guide through the technical red tape. From initial design and concept, we can assist you with site development, looking for outside financing, interior design, food and beverage planning, land-based support facilities — everything you'll need to get you to opening day.

Every Bender vessel is backed by a 75-year history of quality and reliability. In 1994, Bender is celebrating its 75th year as one of America's leading shipbuilding and repair companies.

Bender's full-service facilities in Mobile, Alabama and Braithwaite, Louisiana provide for maximum flexibility in delivery.

When all the cards are on the table, the winning choice is BENDER!



BENDER
SHIPBUILDING & REPAIR CO., INC.

265 South Water Street • Mobile, AL 36603 • P.O. Box 42 • Mobile, AL 36601 • Phone: (205) 431-8000 • Fax: (205) 432-2260

Circle 201 on Reader Service Card

KARL SENNER, INC. ... WHEN ONLY THE BEST WILL DO



M/V FRED LEE

Karl Senner, Inc. supplied the M/V FRED LEE with two (2) Reintjes WAF 760 - 5.75:1 ratio, vertical offset, reverse reduction marine gears. KSI also supplied electronic integrated engine/transmission control systems and electric/hydraulic, disc type, shaft brakes.

Owner: **U.S. Army Corps Of Engineers**

Builder: **Equitable Shipyards/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 23[®] on Reader Service Card