

**MARITIME  
REPORTER**  
AND  
ENGINEERING NEWS

**OUTSTANDING  
PASSENGER VESSELS & FERRIES  
OF 1992**

**PLUS:  
DIESEL ENGINE  
DIRECTORY**

**SPECIAL SUPPLEMENT  
CASINO BOAT BUILDING  
Update**

**JANUARY 1993**

**PREVIEW:  
NAPVO '93  
SEATTLE, WA**

## Inmarsat Service

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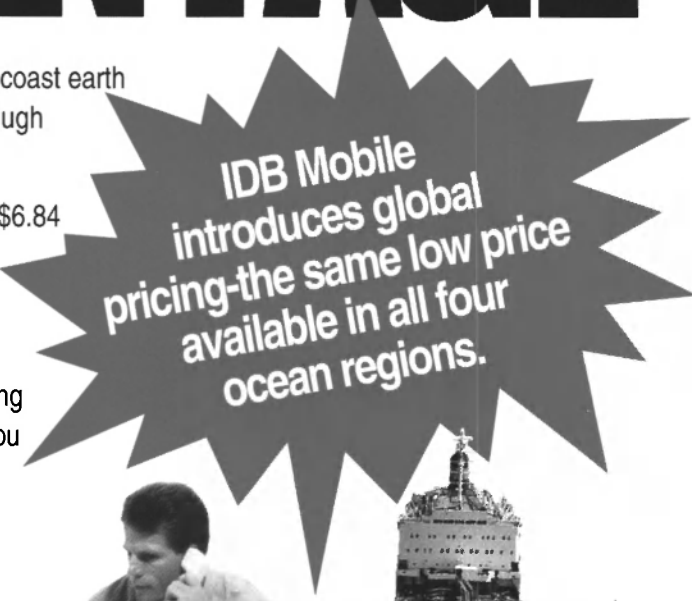
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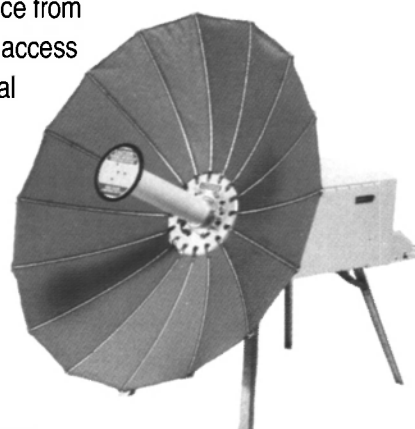
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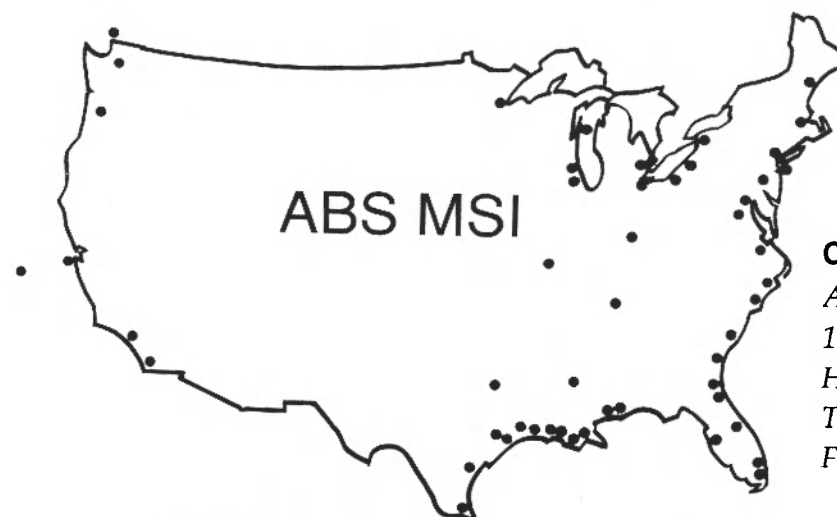
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**A**ccording to OPA '90 tank vessel and facility owners and operators must submit to the U.S. Coast Guard an oil spill response plan designating a "qualified individual" (QI) who can act on their behalf to implement the plan.

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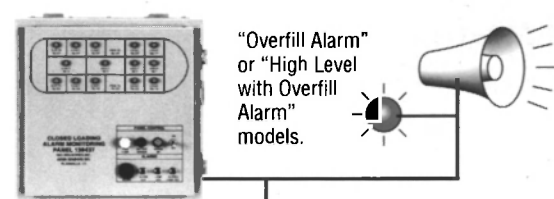
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## ON THE COVER

The Star of Honolulu, from Nichols Brothers Boat Builders, is a 1,600-passenger, 1,166-ton cruise/dinner boat. Operated by Paradise Cruise Ltd., the vessel circumnavigates Oahu, powered by two Caterpillar, 1,125-hp diesel engines.

### INSIDE:

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### SPECIAL SUPPLEMENT

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### U.S. Buys 12 Sealift Ships for \$266 Million

The U.S. bought 12 Ro/Ro ships for a total of \$266 million, expanding its fleet of strategic sealift ships to 109.

The Maritime Administration (MarAd) plans to spend \$60 million on ship refurbishing, as several of the ships require drydock work. All but one of the ships are foreign-built, and all but three fly foreign flags. Three U.S. shipowners, First Chicago Leasing Corp., Lykes Bros. Steamship and Eagle Shipholding are selling ships for \$13.9 million, \$20.5 million and \$24.9 million respectively.

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### Kvaerner Group To Acquire Kimek Shipyard

Norwegian shipping, offshore and engineering group Kvaerner A/S has announced that it is taking over the closely-held Kimek A/S shipyard in Kirkenes on the Russian-Norwegian border.

Kvaerner, which already owns 40 percent of Kimek, intends to provide the company with 30 million Norwegian Kroner (\$4.8 million) in fresh capital.

According to Kvaerner, the shipyard will change its name to Kvaerner Kimek A/S and will concentrate on modernization and maintenance work for the Russian fishing fleet.

The acquisition of the remaining outstanding shares in Kimek coincides with a major government development package for both the yard and Kirkenes. "This 230-million-(Norwegian) Krone (\$36.7 million) program, which is due to get underway immediately and will be completed in 1994, is being funded jointly by

Kvaerner and the Norwegian government," the release continued.

### Navy Awards Litton \$760.9 Million Contract To Build Amphibious Assault Ship

Litton's Ingalls Shipbuilding Division, Pascagoula, Miss., was awarded a \$760.9 million contract from the U.S. Navy to build the

sixth ship of the Wasp (LHD) class 40,500-ton multipurpose amphibious assault vessels.

Ingalls has previously been awarded contracts to build the first five Wasp class ships, and has already delivered two in active service with the fleet.

The Wasp class ships are 844 feet long. The vessel's primary mission is the embarkation, deployment, landing and support of a fully-equipped U.S. Marine landing force of almost 2,000 troops.

December 3, 1991

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The Isabell C. is owned and operated by Maritime Tug and Barge Inc. of Stuart, Florida. In addition to two 250-hp (186 kW) John Deere propulsion engines, this tug also operates with a 58-hp (43 kW) John Deere powered gen-set. For reliable marine power on your jobs, call Deere Power Systems at (319) 292-6060, or contact your John Deere engine distributor.

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Meanwhile, in response to customer demand, you can now route Inmarsat calls through Goonhilly - access code 02 - using both East and West Atlantic Ocean Region satellites.

Which means that Goonhilly coverage now includes the whole of the Atlantic, all of the Mediterranean, North Sea, the Gulf and parts of the Pacific and Indian Oceans.

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In independent testing and in field testing by several rope manufacturers, ACE polyester SeaGard ropes — 3-strand and braided — outlasted and out-performed ordinary polyester ropes

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Today, many rope manufacturers have found that they require a higher level of performance plus cost-effectiveness for the most demanding applications, such as: tethers for balloons, underwater surveillance systems, offshore oil rigging and transmission & distribution (T&D) lines. ACE polyester SeaGard meets these requirements. And, for the sailor who wants the best in performance, SeaGard ropes offer that certain added security plus easy, smooth handling.

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**Allied Fibers**

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### Cummins Engine Company Earns 50th Anniversary Recognition

Peter Hamilton, vice president and chief financial officer, and James Durham, vice president-government business at Cummins Engine Company Inc., recently received a copy of an insertion in "The Congressional Record" from U.S. Senator Richard G. Lugar (R-Ind.). The honor was presented in recognition of Cummins' 50th anniversary of distinguished service to the military.



Peter Hamilton (left) and James Durham (right) receive a copy of an insertion in "The Congressional Record" from U.S. Sen. Richard G. Lugar.

The award was presented to the Columbus, Ind.-based company during a ceremony at the Association of the U.S. Army Show in Washington, D.C. Cummins' military service began in 1942 with the order of 5,000 H-160 engines for the "Red Ball Express," a contingent of troops led by Gen. George Patton after the invasion of Normandy.

### Two Record-Size Hayward Self-Cleaning Strainers Sent To LNG Plant

Two new automatic, self-cleaning strainers from Hayward Industrial Products, Elizabeth, N.J., will soon join three other strainers already installed at a liquid natural gas (LNG) plant in Indonesia.

Each strainer, reportedly among the world's largest, is capable of handling 85,000 gpm. They are made entirely of 316 stainless steel and are fitted with 60 mesh Durawedge<sup>®</sup> Screens.

The 25,000-lbs. units are designed to strain seawater from a shallow coral reef inlet to supply cooling water for condensers, compressors and other plant equipment.

In the Strain-O-Matic cleaning process a small portion of the flow is used to backwash the screen periodically in an automatic clean and purge cycle, eliminating the need to interrupt the system flow to clean and/or change filter elements.

For additional information about Hayward's Strain-O-Matic line,

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### New Oil Recovery System From Seawax Company

An innovative solution to recovering spilled oil from coastlines and seawater using hydrocarbon wax has been introduced by the Simi Valley, Calif.-based Seawax Company, founded by the spill recovery system's inventors

and patent holders, John Bartha, Van Nuys, Calif., and Gyorgy Csapo, Boszormenyi U., Hungary.

According to the company's technical report, the new method employs hydrocarbon wax, preferably paraffin, as the cleaning agent for petroleum oil spills. Molten wax is sprayed onto an oil-covered surface entraining large volumes of hydrocarbon oil in the wax. After approximately 15 to 20 seconds the wax solidifies and can be removed with skimmers or scrapers. The resultant mixture of solidified wax and oil is approximately 40 percent wax and 60 percent oil, dirt, etc.

After removal, the mixture is then heated in a remelter pot where the wax is decanted from the oil and re-used in molten form again. The recovered oil can be used as fuel for the wax melting step.

The wax is non-reactive chemically or biologically, therefore posing no danger to marine life.

For additional information on the Seawax oil recovery system,

Circle 1 on Reader Service Card

### OPA90 Liability Coverage Could Be Available Soon

NCC BankAssure, a Lloyd's insurance brokerage firm, is about to launch a new insurance product that would provide the U.S. Coast Guard with the financial guarantees for oil pollution liabilities that the protection and indemnity (P&I) clubs are unable to furnish.

A major U.S. insurance group would underwrite the new product, which would bridge the gap between the Coast Guard's draft regulations in the Oil Pollution Act of 1990 (OPA90), and the coverage that the P&I clubs are willing

to offer. Under OPA 90, shipowners who wish to continue U.S. trading will have to provide financial guarantees, set at \$1,500 per gross ton of their largest vessel, before they can receive their required Certificate of Financial Responsibility. This will equate to \$100 million for the largest tanker in the U.S. trade and the P&I clubs are refusing to issue such guarantees.

The potential market for the coverage has increased as hopes that the Coast Guard might soften its position were dashed by the election victory of President-elect Bill Clinton and his environmentalist Vice President-elect Al Gore.

### Tankers Begin Installing Emergency Oil Spill Kits

Absorption Corp., Bellingham, Wash., announced that it has received its first order from the maritime shipping industry for its shipboard Emergency Response Spill Kit, a new product designed to enable oil tankers to comply with the requirements of the U.S. Oil Pollution Act of 1990.

In a simultaneous announcement, Naess Shipping (Holland) B.V. confirmed that it has ordered Absorption Corp.'s spill kits for 16 of the vessels under its management.

Absorption Corp. is a wholly-owned subsidiary of International Absorbents Inc., of Vancouver, B.C. Naess Shipping provides technical ship management services for an international fleet comprising in excess of 20 vessels. A majority of the tankers, for which the kits have been ordered, belong to the PetroBulk Group, one of the world's largest operators of refined products and chemical tankers.

The spill kits include containment booms and absorbent pillows which utilize Absorption Corp.'s patented natural wood fiber cellulose material marketed under the name "Absorbent W." The company reports that Absorbent W is a unique sorbent which separates oil from water on contact, absorbs and retains up to seven times its weight, offers non-toxic organics, is entirely biodegradable and is safely burnable, producing a usable BTU value while yielding minimal ash.

For complete information on the emergency spill response kits offered by Absorbent Corp.

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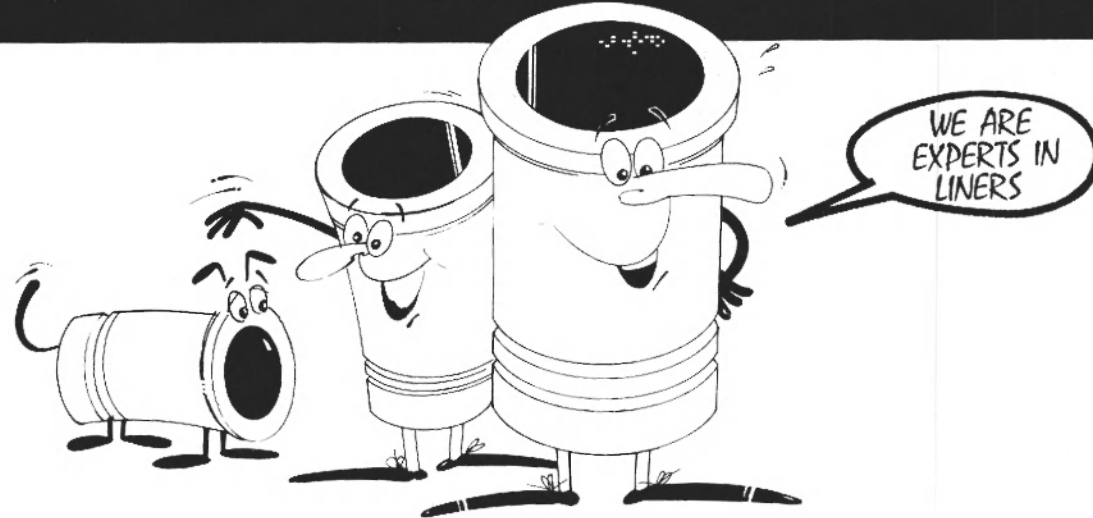
### First New 'K' Line Jumbo Containership Enters Service

The first of five fast "king-size" container vessels, the Brooklyn Bridge, recently entered "K" Line's transpacific service. The new 3,500-teu vessel was delivered to the shipping line on December 3, 1992. The containership sailed from Tokyo on December 10th, bound for Long Beach, Calif., to begin its maiden voyage across the Pacific.

The Brooklyn Bridge will replace the Rainbow Bridge in "K" Line's scheduled liner service between the U.S. West Coast and Asia.

All five of "K" Line's new container vessels are scheduled to enter service by July 1993. The phasing in of these new ships will give "K" Line greatly increased capacity in the growing Pacific trade.

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## Propulsion Update

### World's First Natural Gas-Powered Passenger Ferry Scheduled For Spring 1993 Delivery



The first ferryboat to run exclusively on natural gas is scheduled to set sail this spring, transporting passengers on the Elizabeth River between Norfolk and Portsmouth, Va.

The world's first passenger ferry gas is scheduled to cruise in the boat to run completely on natural spring of 1993. Tidewater Regional

Transit (TRT) of Norfolk, Va., is converting the ferry boat from diesel to natural gas in an attempt to reduce air and water pollution in the Chesapeake Bay.

"We believe the natural gas ferry will play an important role in assisting regional efforts to improve both the air and water quality," said Jayne Whitney, director of program management, TRT.

The program gained full steam when the Federal Transit Administration (FTA) awarded an Alternative Fuels Initiative Program grant of more than \$600,000 to TRT, to convert the ferry to natural gas.

The U.S. Coast Guard has approved the preliminary plans for the natural gas ferry boat, which will transport approximately 2,700 passengers per day on the Elizabeth River between Norfolk and Portsmouth, Va.

Engineers from Virginia Natural Gas Co. (VNG), a subsidiary of Pittsburgh-based Consolidated Natural Gas Company (CNG), worked closely with TRT and Portsmouth-based JH, Inc., a marine engineering consulting firm, to complete plans and specifications for the ferry boat to meet the Coast Guard's approval.

VNG will provide, install and maintain a natural gas compressor on the Elizabeth River so the boat can re-fuel.

Norfolk Shipbuilding and Drydock Corporation (Norshipco), one of the largest privately-owned shipyards on the East Coast, has agreed to let VNG locate the refueling site in one of its shipyards.

The cost to run the ferryboat on natural gas will be relatively the same as it is to power it on diesel.

### Saab Marine Receives ISO 9001 Certificate For Quality Assurance

Saab Marine Electronics, a Gothenburg, Sweden, became one of the first companies in the world to be awarded an International Standardization Organization (ISO) 9001 international quality assurance certificate for radar-based level gauging and electronic cargo handling systems.

The certificate was ceremonially handed over on Saab Marine Quality Day by Ulf Thorsell, the Gothenburg representative of certification society Det norske Veritas (DNV).

The ISO 9001 approval is the recognized European standard and officially assures the high quality of Saab Marine Electronics' products and services.

Kurt Isaksson, managing director of Saab Marine Electronics, explained the necessity of an export oriented company working in accordance with an international quality assurance standard.

Saab Marine Electronics is one of the world's leading manufacturers of radar-based level gauging onboard tankers, with a 1991 turnover of 200 million Swedish Kroner (\$34.5 million). Its non-contact level gauging technology is also widely used in oil terminals, refineries, tank farms and other industrial applications. The company also manufactures cargo and monitoring systems for tankers.

For more information about Saab Marine Electronics,

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Circle 262 on Reader Service Card

Maritime Reporter/Engineering News





The chemical tanker M/T Marinor.

## Conoship International Delivers Specialized Chemical Tanker 'Marinor'

The 7,930-dwt chemical tanker M/T Marinor was recently delivered by Welgelegen Nieuwbouw en Reparatiebedrijf BV, Harlingen, The Netherlands, an associate shipyard of Groningen-based Conoship International BV, the joint marketing, sales, design and engineering force that represents 10 shipyards in the northern part of The Netherlands.

The vessel will be trading with the Botany Bay Parcel Tankers pool under a long-term charter to carry clay slurry, used in the paper industry, and chemicals such as sulphuric acid on the U.S. and Canadian East Coasts.

The tanker is 368.1 feet in length, has a 59-foot breadth and a draft of 24.6 feet. Her 20-man crew is accommodated in single cabins.

The ship was specifically designed by Conoship to carry clay slurry in one direction and sulphuric acid on the return trip. Some of the factors taken into account were: the latest IMO/IBC type 2 vessel requirements; the limited number of tanks; required trim and draft restrictions; and the nature of clay slurry and various chemicals. The Marinor's 12 cargo tanks, six for clay slurry and six for chemicals, all incorporate Avesta 2205 stainless steel, which combines high tensile strength with very good resistance against pitting from corrosive chemicals. The vessel is classified by Lloyd's Register.

All cargo tanks are equipped with electric deepwell pumps: Svanehoj DW 125/150 centrifugal pumps for the clay slurry tanks; and Svanehoj Bornemann E2 U6300 eccentric rotor deepwell pumps in the chemical tanks. A Cargomaster system from Skarpenord/Henri Systems allows cargo operations to be controlled and monitored from a central office situated in front of the deck house, providing an unobstructed view of the main deck.

The ship's main propulsion plant consists of a non-reversible, four-stroke, in-line Krupp MaK 6M552 marine diesel engine with an output

of 4,050 kW at 500 rpm. This drives a four-bladed, highly-skewed, controllable pitch Berg propeller through a Lohmann & Stolterfoht reduction gear box, generating a top speed of 14.4 knots. Vessel maneuverability is enhanced by a Holland Roerpropeller PD 265-1100 bowthruster with an output of 300 kW at 1,460 rpm.

The following systems provide auxiliary power for the vessel: three Caterpillar diesel generator sets rated at 350 kW each; one Van Kaick, 400-kW shaft generator; and one Caterpillar emergency generator set rated at 65 kW. Three boilers are also installed for cargo tank heat generation.

For additional information about Conoship International,

Circle 151 on Reader Service Card

### M/T MARINOR Equipment List

Main engines.....	Krupp MaK
Propeller.....	Berg
Reduction gear.....	Lohmann + Stolterfoht
Bowthruster.....	Holland Roerpropeller
Generator sets.....	Caterpillar
Shaft generator.....	Van Kaick
Emergency generator.....	Caterpillar
Cargo control.....	Skarpenord/Henri Systems
Purifiers.....	Alfa-Laval
Cargo pumps.....	Svanehoj/Bornemann
Tank washing system.....	Toftejorg
Cargo heating system.....	Konus/Klima
Navigation system/Radars.....	Racal
Radios.....	SP Radio
SatCom.....	SP Radio/Saturn
Gyro compass.....	Sperry
RDF.....	STC Marine
Autopilot.....	Robertsons
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Echo sounder.....	Marconi
Weather fax.....	Furuno
Lifeboat.....	Fassmer
EPiRB.....	Kannard
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January, 1993



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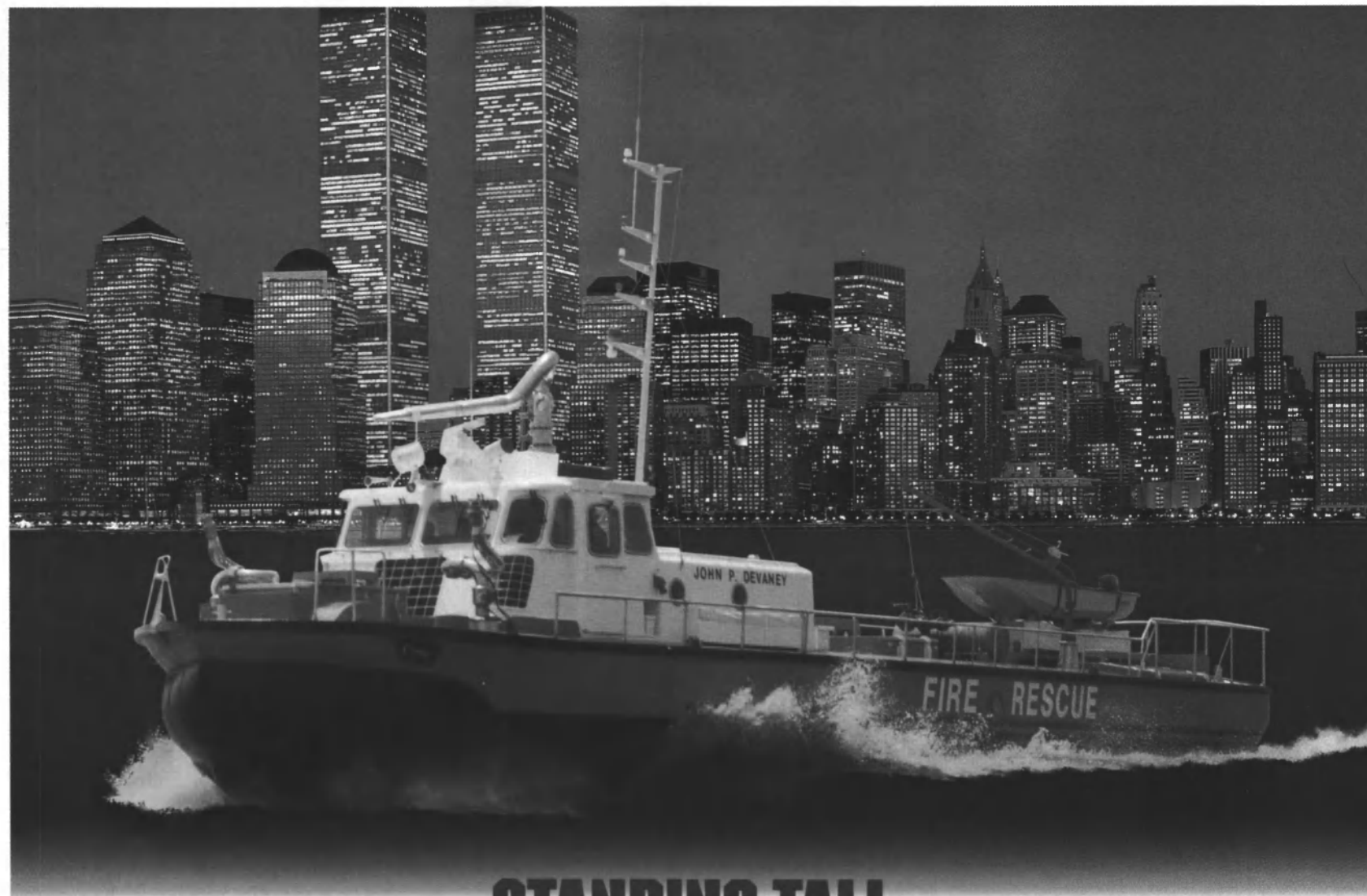


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Circle 272 on Reader Service Card



## STANDING TALL IN THE BIG APPLE.

### NEW SES MULTIPURPOSE FIRE & RESCUE CRAFT ESCORTS LEAD SHIP IN JULY 4TH TALL SAILING SHIPS PARADE.

While celebrating the past, New Yorkers got a view of the future when the first of two Textron Marine Systems' fire and rescue craft sailed up the Hudson River with the tall ships commemorating Columbus' voyage to America.

Built by Textron Marine Systems, the 70-foot craft, named for fire fighter, John P. Devaney, represents a new era in ship and pier fire fighting and harbor rescue. The new boats are the first additions to New York's fireboat fleet in 31 years.

A surface effect ship (SES) design, the craft rides on a cushion of air trapped between flexible bow and stern seals and rigid catamaran-style side hulls. This technology provides high-speed capabilities to respond nearly four times faster than conventional fireboats. Able to operate in extremely shallow water, the new SES craft reduces total fireboat inventory requirements. Other operating costs are kept low through fuel-efficient diesel engines and small crew sizes.



The craft is equipped with five monitors which deliver as much as 5,500 gallons per minute and are remotely operated from inside an enclosed wheelhouse by one crew member, using an automated fire-fighting system. Total crew requirements range from three in the wheelhouse to three to six on deck. Rescue equipment, navigational and communications aids and pumping systems on the new craft all represent the latest in fire-fighting technology.

Like New York, any harbor-based city benefits from swift response across water in emergency situations. Tall ships come and go, but New York City's SES fireboats will lead the way in keeping the harbor in safe hands well into the next century.

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Circle 225 on Reader Service Card

Maritime Reporter/Engineering News

## Portland Ship Repair Registers Solid Year

Portland Ship Repair Yard (PSRY), owned and operated by the Port of Portland, Ore., performed a total of 114 overhaul projects during fiscal year ending June 30, 1992.

Total sales for the three ship repair contractors at PSRY: West State, Inc.; Cascade General, Inc.; and Northwest Marine, Inc.; were about \$170 million or 34 percent of the total commercial ship overhaul market on the North American West Coast.

Projects included major structural and coating enhancements of four very large crude carriers (VLCCs), corrective steel work on a new cable ship, twice performing tandem drydockings of large factory fish processors and a major upgrade of an international cruise ship.

During the year, 88 ships were drydocked on PSRY's three drydocks, one of which, Dry Dock 4, is reportedly the largest drydock in the Americas. This was 14 more vessels than were drydocked during the previous year.

PSRY drydocks logged a total of 11.5 million gross registered ton-days in service during the year. Drydocking and overhaul of tankers from 225,000-dwt VLCCs to 35,000-dwt product tankers accounted for 52 percent of all sales.

Other overhaul projects handled at PSRY during the year included work on Maritime Administration and other government-owned ships, U.S. and foreign cargo ships, fishing ships, cruise ships, barges, tugs and miscellaneous vessels, including two cable ships.

The average PSRY project size was over \$2 million and ship repair employment in mid-1992 was 2,150. During the year, PSRY added on-site training facilities and curricula for about 100 ship repair students.

To receive additional information about PSRY,

Circle 143 on Reader Service Card

## Peterson Using Four Types Of Hull Materials To Build Multiple Vessel Classes

Peterson Builders, Inc., of Sturgeon Bay, Wis., recently received a Navy contract to build seven 11-meter (36-foot), fiberglass landing craft (LCPL) that place the yard in the unique position of building four types of vessels, each using a different construction material, simultaneously.

Present activity includes: the construction of five 224-foot, wooden mine countermeasure vessels; five aluminum, 51-foot fast-patrol boats; one 96-foot, steel passenger/vehicle ferry; and seven GRP (fiberglass) landing craft. This work effort will provide a backlog for Peterson into 1994.

According to Peterson Builders, it is one of the only shipyards in the U.S., if not the world, to accomplish simultaneous construction of multiple vessel classes using four different hull materials, all within the same facility.

January, 1993

To receive additional information about Peterson Builders,

Circle 150 on Reader Service Card

## FMC Will Implement ATFI System Next Year, May Restrict Transmissions

The Federal Maritime Commission (FMC) has reported that its'

Automated Tariff Filing and Information (ATFI) system will be implemented next year, despite a new law that changed the agency's original timetable and forces the FMC to impose a user fee on the system.

President **Bush** recently signed the Davis Bill into law, which offsets the repeal of an unpopular recreational boating fee by requiring buyers of the ATFI's electronic data and their customers to pay a 46-cent-a-minute access fee.

The agency is also considering a proposal to enforce the new law by preventing information buyers from transmitting or downloading original FMC data stored in tape or disk format to their customer's computers.

Industry sources report that the new user fee and the other proposed FMC restrictions may speed up the formation of an alternate privately-owned, tariff-automation system that would completely bypass the ATFI system.



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Combined with higher performance transmitters and receivers, and the latest raster displays, ST provides performance levels never before available. Now, with PATHFINDER/ST, your vessels—and their crews—can have an important extra measure of safety and efficiency, including a

unique Safety-Coded CPA Circle, which shows course selections for safest CPAs. PATHFINDER/ST is available as an ARPA or a True Motion/Relative Motion display with Electronic Plotting. These displays can easily retrofit the displays in older Raytheon Bright Display Radar Systems, and can be high-performance repeaters for radars of most other manufacturers.

### Comparison Tests Prove PATHFINDER/ST Radars See What Other Radars Can't.

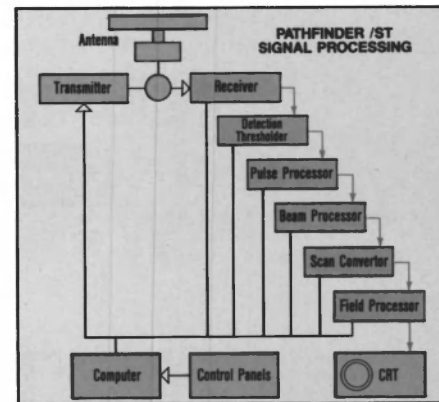
In side-by-side comparison tests, a PATHFINDER/ST display and a conventional radar display were connected to the same radar system. *PATHFINDER/ST consistently displayed targets not detected by the conventional display.*

## Near-Perfect Target Detection.

Using increased signal-to-noise levels, high dynamic range, precisely matched pulse bandwidths, and exclusive Rain Rate circuits, PATHFINDER/ST receivers faithfully capture target returns even in severe clutter.

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From the control panels through the computer, transmitter, and receiver—and then in five steps leading to the CRT—Raytheon's exclusive Superior Technology provides sharp, bright radar pictures virtually free of clutter.



## Simple Installation and Flexible System Configuration.

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Specifications subject to change without notice.

Circle 242 on Reader Service Card



### Commercial Containership That Converts To RoRo Proposed For Sealift Use

A ship that would serve as a commercial containership in peacetime, but have the ability to quickly convert to a militarily-useful roll-on/roll-off (RoRo) vessel during a national emergency, has been proposed in a paper presented during a recent

meeting of the Society of Naval Architects and Marine Engineers (SNAME).

Charles Cherrix, chief of the Maritime Administration's naval architecture division, and Marc Lasky, the division's assistant chief, proposed a ship with removable RoRo decks. The decks could be stacked in a vessel's container slots or on shore, while the ship operates as a commercial containership.

While commercial operators generally prefer containerships, RoRo vessels have the optimum configuration for the military, which requires a ship that can carry heavy equipment and vehicles and unload them at ports that may not be equipped with their own cargo cranes.

The authors proposed a 1,900-teu capacity vessel that would be more than 650-feet long and would cost approximately \$160 million if built in a U.S. shipyard.

### Kvaerner Warnow Werft Receives Order For Two More Containerships

The Kvaerner Warnow Werft shipyard in Germany has been awarded an order for two 1,400-teu containerships worth approximately \$31 million each. The new order extends the yard's orderbook of 10 vessels, three of which were received since joining the Kvaerner Group, until the end of 1993.

Keel laying work for both of the 19,000-dwt vessels is scheduled to begin immediately. The first containership is being built for the account of Interorient Navigation, Cyprus, and the other is for Dietrich Tanke, of Hamburg. The ships are due to be delivered in November and December of 1993, respectively.

The vessels will be 548 feet in length and have an 82-foot beam. The ship's cargo holds will be fully cellular, but no cargo handling gear will be carried onboard either vessel. To give the two containerships the capability to carry refrigerated containers, 140 power points will be fitted.

The shipyard has about 3,000 employees and is undergoing a modernization program due to be completed in 1996. Eventually, Kvaerner Warnow Werft will be able to construct ships of up to 180,000 dwt.

### Navy Awards Contract For \$69.1 Million To Rockwell

The U.S. Navy has awarded a contract to Anaheim, Calif.-based Rockwell International Corporation's Autonetics Marine and Aircraft Systems Division (AMASD) for information transfer systems to be installed aboard the Navy's Arleigh Burke (DDG 51)-Class guided missile destroyers. The initial award is for five ship sets valued at \$29.2 million and scheduled for delivery in April 1995, with options for up to eight additional ship sets worth \$39.9 million.

The equipment, the AN/USQ-82(V) Data Multiplexing System (DMS), is a shipboard networking system that distributes ship systems information throughout the vessel.

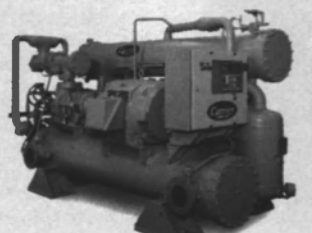
AMASD is already under contract for 16 DMS systems for the DDG 51 through DDG 66. A smaller version is also produced for the Wasp (LHD 1)-Class amphibious assault ship.

The DDG 51-Class DMS uses five linear coaxial cables to replace the miles of hardwire that are traditionally needed to link shipboard electronic systems.

Along with reducing weight, wiring costs and installation time, the DMS is a modular-designed information transfer system that provides a new level of flexibility for adding or changing electronic equipment during the host vessel's lifetime.


For more information about Rockwell's shipboard DMS,

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Circle 269 on Reader Service Card



### Korean Yards Prepare For Likely Subsidy Fight With Clinton White House

The South Korean shipbuilding industry is predicting tough times ahead as new ship orders dwindle and the incumbent U.S. Administration seems likely to support legislation that could hurt foreign shipyards.

Last summer, Congress overwhelmingly approved a bill introduced by Rep. **Sam M. Gibbons** (D-Fla.) that would have barred or heavily penalized ships entering U.S. ports that were built with foreign shipyard subsidies. During his election campaign, President-elect **Bill Clinton** promised that he would support legislation to combat foreign shipyard subsidies, while President **Bush** threatened to veto the Gibbons Bill. The South Korean Shipbuilder's Association believes that there is a good chance that the bill will be passed under the **Clinton** Administration.

Korean shipbuilders received 1.44 million tons of overseas orders in the first 10 months of 1992, down 57.6 percent from last year. According to the shipbuilding association, South Korean yards will manage this year because of the amount of orders they received in the first few months of the year. However, by mid-1993 the lack of orders will become more evident.

### Ingalls Wins \$34.5 Million Destroyer Support Contract

The U.S. Navy has awarded Litton's Ingalls Shipbuilding division, Pascagoula, Miss., a \$34.5 million contract to continue providing engineering and support services for the Navy's Spruance (DD 963) and Kidd (DDG 993) class destroyers.

The new award includes options for four additional years of services, which could bring the total potential value of this contract to \$188.9 million.

Ingalls has been providing planning yard support for these ships since 1981. The shipyard built all 35 of the ships, which were delivered to the Navy between 1975 and 1983. Under the ongoing program, Ingalls provides engineering, design, scheduling and logistic support services and planning for the maintenance, upgrading and overhaul of the 31 Spruance and four Kidd class destroyers in the fleet.

For more information about Ingalls Shipbuilding division,

Circle 167 on Reader Service Card

### C. Baxter Receives Two New Contracts, Completes RRF Ship Reactivation

C. Baxter, Jr. & Associates International, Inc., of Mobile, Ala., has recently been selected for two new marine consulting assignments, one as the project manager for the construction of a new sulfur tanker and the second to design an ocean service tug. The firm has also success-

fully completed a Ready Reserve Force (RRF) vessel reactivation.

International Shipholding Corporation has selected C. Baxter, Jr. as its owner's representative and project manager for the construction of a 24,000-ton, molten-sulfur tanker, to be operated by Freeport McMoran Resource Partners.

The 524-foot tanker is being built at McDermott International's Morgan City, La., shipyard, and is currently the only deep draft merchant vessel under

construction in the U.S. The ship is scheduled for delivery in 1994.

C. Baxter, Jr. has also been chosen by Dana Marine Services, Inc., to design a 96-foot by 28-foot by 12-foot ocean service tug. The vessel will be operated under the U.S. flag.

The RRF vessel S.S. Corpus Christi was successfully reactivated by C. Baxter, Jr. after an eight-year lay-up. The 10-week reactivation was carried out at Bethlehem Steel's shipyard, in

Port Arthur, Texas, for AFRAM Lines (USA), Ltd.

C. Baxter will continue as operating port engineers for the owners.

C. Baxter, Jr. is a full service marine consulting firm with extensive experience in design, new construction and conversion projects.

For additional information about C. Baxter, Jr. & Associates,

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Siemens supplied the electrical system including propulsion, power plant and automation for the mid-life modernization of the Canadian Coast Guard Icebreaker "Louis S. St. Laurent".

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### BP Contracts With Foss For Tractor Tugboat Using Voith-Schneider Propulsion

British Petroleum (BP) Oil Company and Foss Maritime Company, of Seattle, Wash., have agreed for Foss to construct and operate an enhanced tractor tugboat in Puget Sound to provide escort services to

all BP-chartered tankers operating in the area. The new tug will be equipped with a Voith-Schneider, 7,600-hp propulsion system providing additional power, 360-degree maneuverability and firefighting capability not available with conventional tugs.

The tug will also be equipped with two 6,600 gallon-per-minute firefighting monitors that can deliver water or foam. The new tug is

scheduled for delivery in February 1994.

BP Oil indicated that the new tug will add a margin of safety to its operation that was previously unachievable with other types of escort vessels.

Foss Maritime currently owns and operates six tractor tugs, two 4,000-hp units and four 3,000-hp units. Foss indicated that the tractor tug's enhanced ability to maneuver in any

direction significantly increases its ability to maintain control of a tanker in all situations.

For additional information about Foss Maritime,

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For further information about Voith-Schneider propulsion systems,

Circle 174 on Reader Service Card

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**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.



**WILLIAMSBURG** — 200' x 64' ferry built for the Commonwealth of Virginia carries up to 55 vehicles and 350 passengers.



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



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### Navy Awards Sealift Design Contracts

The Navy has awarded Phase I engineering and design contracts to seven U.S. shipyards. Phase I requires the development of designs to meet the Navy's performance requirements for fast sealift ships. The designs are to be submitted in May 1993, with the award of production contracts expected to be made in September 1993.

Contracts for \$1.2 million were awarded to the following six shipyards: Avondale Industries, New Orleans, La.; Bath Iron Works, Bath, Maine; Ingalls Shipbuilding, Pascagoula, Miss.; National Steel and Shipbuilding Company, San Diego, Calif.; Newport News Shipbuilding, Newport News, Va.; and American Ship-Tampa Shipyards, Tampa, Fla. Trinity Industries' Halter Marine shipyard, Gulfport, Miss., will receive a contract valued at \$1,179,215.

The Congressionally-mandated U.S. sealift program dates back to fiscal year 1990 and the recent contract awards represent a major milestone in the program's execution. The program will not only provide necessary sealift assets, but also much needed ship construction work to American shipyards as they begin the transition from the defense market to the commercial market.

### Chantiers De L'Atlantique Delivers 'Dreamward' Cruise Liner

Chantiers de l'Atlantique, a subsidiary of GEC Alsthom, has delivered the cruise ship Dreamward at Saint-Nazaire, France, to its owner, Kloster Cruise Limited.

The 200-meter ship, which can accommodate more than 1,500 passengers, will sail on one-week cruises from Fort Lauderdale to the Caribbean in the winter, and from New York to Bermuda in the summer.

Chantiers will deliver a sistership, the Windward, to Kloster Cruise in April 1993.

The Dreamward and the Windward are the first ships supplied to Kloster Cruise by Chantiers. Since 1979, however, Kloster Cruise has been operating the "Norway," formerly called the "France," which was built by the Saint-Nazaire yard 30 years ago.

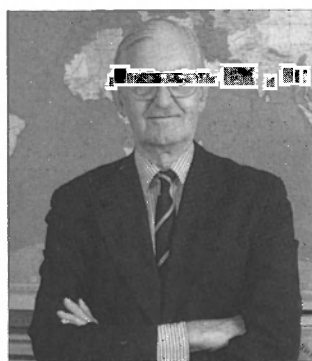
For complete information on the services and facilities of Chantiers de l'Atlantique,

Circle 27 on Reader Service Card



# U.S. MARITIME POLICY REFORM

by Ole Skaarup, chairman  
Skaarup Shipping Corporation



Ole Skaarup

**I** am afraid the label placed on the Maritime Reform Package proposed by Transportation Secretary **Andrew Card** as "the most sweeping maritime policy reform in over 50 years," is an exaggeration.

Fortunately, Congress went home without taking action on the measure, but supporters are trying to sell it to the **Clinton** transition team. One must hope that the **Clinton** people do not take the bait. They can do a lot better.

The cornerstone of our U.S. maritime policy for the last half century has been the Merchant Marine Act of 1936. In its original form it was not a bad act. Its declaration of policy was admirable then, and would be today. It reads: For national defense and for development of foreign and domestic commerce the U.S. shall have a merchant marine sufficient to carry its domestic waterborne commerce and a substantial portion of the waterborne export and import foreign commerce, supplemented by efficient facilities for shipbuilding and ship repair.

It is painfully clear that the provisions of the Act failed to achieve the declared policy and perhaps our government failed to take appropriate action to keep up with the times.

Nobody disputes that the U.S. industry has been healthier. Less than five percent of our total trade is carried on U.S. ships, and only one major commercial ship has been built in a U.S. yard in the last five years.

Our national maritime policy, or lack of compliance, is the primary reason for this decline. The need for a dramatic change of policy is evident, but the package from Secretary **Card** is far from dramatic change.

It is enlightening that Secretary **Card**, in a Congressional committee hearing, termed his proposal "a pragmatic approach to a very serious problem," and a program "built around the international liner trades." He also stated, "It is better to have something than nothing." This is hardly a dramatic change or a sweeping maritime reform.

The U.S. is a world champion in short-term solutions which have a tendency to turn into long-term di-

sasters, and Secretary **Card's** proposal is a masterpiece in this league.

In the mid 1980's, before Secretary **Card** presented his reform package, the **Reagan** Administration made an attempt to beef up the sick maritime industry. The Commission on Merchant Marine and Defense (COMMAD) was appointed to make a study of the industry.

It took two years to get the Commission constituted, and another two years of hearings and study to present a recommendation.

The result was HR 2463, The Merchant Marine and Defense Act of 1989 which, after Congressional hearings, died a peaceful death in 1990. When considering the Secretary's proposal, remember that it took COMMAD six years to achieve absolutely nothing.

In the meantime, Congress passed a few pieces of legislation with rather detrimental impact on the maritime industry. The elimination of the Subpart F Reinvestment Provision of the 1986 Tax Reform Act has resulted in the loss of a third of the U.S.-owned foreign-flag fleet with more to follow.

The longshore provision appended to the Immigration Act has created a lot of work for the Administration with no other visible results. The 1990 Oil Pollution Act (OPA 90) is threatening to close U.S. ports for oil import. Other unfortunate legislation is pending: the Gibbons bill would impose serious penalties on ships built in subsidized foreign yards and visiting U.S. ports, in the vain hope of making U.S. yards competitive; and the Clay bill, which would subject foreign seamen to the U.S. labor laws with no apparent benefit to the U.S.

## Creation Of The Proposal

But how did the Maritime Reform proposal come about? At the end of 1991, the benefits to the liner companies from the Gulf War had run their course and a major lobbying effort, for a policy change to make their ships more competitive with foreign carriers, was initiated. A wish list was presented to the government along with a virtual ultimatum, that vessels would be flagged out to foreign registries if no policy change was forthcoming.

Apparently the **Bush** Administration took the threat to heart and hastily appointed a "Policy Coordinating Group" with a membership consisting of 17 key members of the Administration, mostly from the President's cabinet, and headed by Transportation Secretary **Card**.

It was a group of outstanding people, but with scant, if any, knowledge of the maritime arena. Whereas COMMAD labored for years to produce nothing, this new group was given a deadline of one

month to produce a Maritime Reform Bill that would ensure the U.S.'s position as a maritime power into the next century.

After one month grace, on June 17, 1992, Secretary **Card** announced his 16-point package.

It did not require a lengthy study to determine that the proposal was not a true maritime reform, but an answer or concessions to the liner companies.

I will happily endorse a policy that supports our liner companies, but not a law or regulation which: excludes all other entities of the maritime industries; effectively eliminates any possibility for revival of U.S. shipbuilding; drains our economy of billions of dollars; totally neglects the interests of U.S. exporters, importers, commerce and industry; and unfairly favors a special interest group to the detriment of the American public. Unfortunately, this is how I read the reform

**To allow construction of U.S.-flag ships abroad, even with use of tax-deferred CCF dollars, would....export billions of dollars and thousands of shipyard jobs; certainly not the kind of export we are trying to promote.**

package.

Secretary **Card's** support of the Jones Act and cargo preference is nothing new, but a reaffirmation of the most expensive subsidies on our books, \$10 billion per year, give or take a few billion.

To allow construction of U.S.-flag ships abroad, even with use of tax-deferred CCF dollars, would, of course, help liner companies, but it would export many billions of dollars and thousands of shipyard jobs—certainly not the kind of export we are trying to promote.

The Contingency Retainer Program, the "centerpiece" of the reform package, is just another name for an operating subsidy. The 74-ship program would secure some 1,500 seagoing jobs at a cost to the taxpayers of about \$1.1 billion. This provision leaves no room for expansion of the liner fleet and leaves

nothing for tankers, bulk carriers or any other kind of ship.

Besides, the Merchant Marine Act clearly subjects any ship owned by U.S. citizen to requisition.

The remaining provisions of the 16-point package are fairly unsubstantial, with suggestions and recommendations which would do little to infuse business into the U.S. maritime industry.

An extraordinary turn of events was reported shortly before **Christopher L. Koch**, chairman of the Federal Maritime Commission, presented his views in the October 1992 issue of Maritime Reporter. The Assistant Secretary of Defense, **Colin McMillan**, submitted a memo to Secretary **Card** stating the DOD had adequate sealift capacity.

Considering that the **Card** Maritime Reform package was initiated by liner company's threat of flagging out, and structured to prevent it, it would be reasonable to throw the package overboard and forget the whole thing, going to work instead on a realistic major comprehensive maritime reform act, based on commercial and economic considerations. After the DOD has scuttled the timeworn excuse that the U.S.-flag merchant marine was essential for national security, we can concentrate on the job to rebuild a fleet of competitive ships to carry a substantial part of our ocean borne trade and at the same time revive a competitive shipbuilding industry to produce the ships for a new fleet.

I marvel at our generosity, or lack of commercial acumen, in maritime matters. We pay huge amounts for the U.S. Navy to protect the oceans of the world, and at the same time pay billions to foreign ships to carry 95 percent of our ocean borne trade. Perhaps we should charge the foreign fleets for this important service. We pass a bill which will require construction of a new generation of double-hull tankers, and do nothing to get the business for our own shipyards. We close down our coke ovens for environmental protection, and instead of investing in pollution control, sell coal to Japan and buy back the coke produced in modern coke ovens using foreign ships for the transportation at some \$40 per ton. We insist on using our Alaskan oil in the U.S., paying inflated freight rates for Jones Act ships. The examples are endless.

These, and other features, must be considered when we think reform. The timing is right for a new Merchant Marine Act, but it will take a team of wise, dedicated, unbiased people, and input from all facets of the economy to structure a policy which will address the entire maritime arena and the need and health of the nation. It could be a crowning achievement for the **Clinton** Administration.

**Battelle's Ocean Sciences Laboratory Wins \$24 Million EPA Contract**

Battelle's Ocean Sciences Laboratory in Duxbury, Mass., has won a four-year contract renewal with the U.S. Environmental Protection Agency (EPA) valued at up to \$24 million.

Under the contract, Battelle will provide technical support to the EPA's

Oceans and Coastal Protection Division to help protect the U.S. ocean and coastal environments.

Project responsibilities include evaluating ocean- and coastal-based pollution, conducting oceanographic studies and monitoring coastal and estuarine environments to help state and local governments meet federal environmental regulations. Environmental, ecological and health risk assessments; pollution control; and mitigation activities

also will be performed under the contract.

The scope of the project is nationwide. Battelle will potentially be working with all 10 of the EPA regions, as well as with the EPA headquarters in Washington, D.C.

The contract includes work in the Atlantic and Pacific oceans and the Gulf of Mexico.

For more information,

Circle 38 on Reader Service Card

**Porsgrunn Steering Gear Installs World's Largest Retrofit On Tanker**

After a serious steering gear break down aboard the M/T Mimosa, owned by Peter Smedvig A/S, the company decided to install a completely new rotary vane steering gear, to replace the RAM-type steering gear.

The Mimosa project took 48 days to complete from the time it was ordered until the time it was ready for shipment.

Porsgrunn Steering Gear A/S supplied the rotary vane steering gear for the Mimosa and has executed over 1,000 orders for large steering gears of this type. Most of these are reportedly still in operation.

The Mimosa installation was reported to be the largest in the world. For further information describing the Porsgrunn steering gear,

Circle 35 on Reader Service Card

**Somerville Elected ABS President And COO**

Robert D. Somerville has been elected president and chief operating officer of the American Bureau of Shipping by the ABS board of managers at its semiannual meeting in New York City.

Mr. Somerville, who is currently located in London as president and COO of ABS Europe, one of three operating divisions of ABS, will assume his new duties in the New York City corporate office of ABS.

Mr. Somerville's position as president and COO of ABS Europe will be filled by Antonio C. Lino Costa, who is currently vice president of the South American region of ABS Americas.

Frank J. Iarossi, who previously held the title of ABS chairman and president will continue as chairman and chief executive officer.

In his new position, Mr. Somerville will have responsibility for all technical, operational and administrative activities related to marine classification and certification.

**Ship Analytics Awarded Three Contracts Totaling Approximately \$750,000**

Ship Analytics has been awarded three contracts totaling nearly \$750,000 for upgrading shiphandling simulator systems used for training maritime cadets and ships officers of commercial shipping companies.

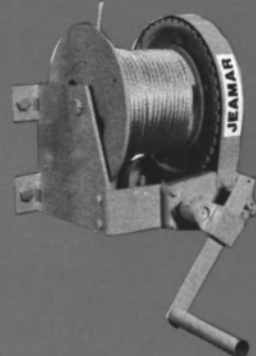
The company will upgrade systems for the Korean Marine Training and Research Institute and the U.S. Coast Guard Academy. Ship Analytics will also upgrade shiphandling facilities with new control console and other diverse equipment at the Massachusetts Maritime Academy, helping satisfy increased demand for system usage by commercial shipping interests. The original Ship Analytics system was installed in 1988.

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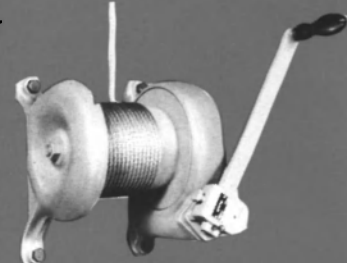
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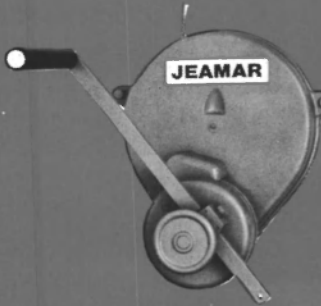
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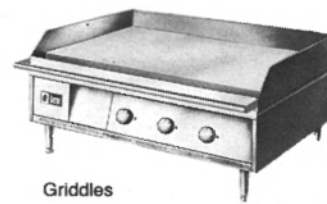
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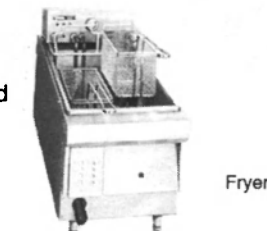
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### SCG Backs Industry's Model Spill Response Plan

A model spill response plan, developed by the maritime industry for shipboard use, has received U.S. Coast Guard support.

The model plan, now available to shipowners worldwide, reflects the format of recently issued USCG guidance. The plan was developed by the International Association of Independent Tanker Owners (Intertanko), the International Chamber of Shipping and the Norwegian Shipowners' Association.

Progress was recently made when Coast Guard Commandant Adm. James J. McHugh told Intertanko that owners submitting VRPs by February 18, 1993, will be held to comply with OPA 90 vessel response requirements for a period of five years.

According to Intertanko director Trygve Meyer, "Use of the model plan—available as a document or in PC disc format—will help owners meet the deadline. While much effort is still required to develop submissions for individual vessels, owners using the model plan will find the task easier. They can also be confident that they are working to a format acceptable to the USCG."

Intertanko has produced a separate publication called "How to Proceed Under OPA 90," which discusses the various requirements connected with vessel response planning.

The model plan is available from Intertanko, Gange Rolvsgate 5, 0273 Oslo. Fax: +47 2 563222.

### AT&T Among Leading Investors In Americas-1, Columbus-II Systems

AT&T recently announced that it is among the leading investors in Americas-1, a new \$220-million undersea fiber optic cable system connecting the U.S., St. Thomas, Brazil, Trinidad and Venezuela. AT&T has 25 percent ownership in the system. Columbus-II is a \$360-million system which will connect Palermo, Italy; Funchal, Portugal; Sardina, Spain; St. Thomas, U.S. Virgin Islands; West Palm Beach, Fla., and Cancun, Mexico. Both systems will work together to enhance each other's restoration capabilities.

A portion of both fiber optic cable systems will use new AT&T Bell Laboratories SL2000 undersea cable technology. The new technology can reportedly carry communications data at speeds of up to five billion bits per second—ten times the speed of today's newest transoceanic systems.

In 1994, Americas-1 is expected to complement the recently completed Caribbean system, Taino-Carib. Americas-1 will also operate with another fiber optic cable system planned for the region, Columbus-II.

Americas-1 is owned by 58 international telecommunications carriers. The supply contracts for this system were awarded to AT&T Submarine Systems, Inc. (AT&T-SSI) and Alcatel Submarcom. AT&T-SSI will design, engineer and install

more than three-fourths of the Americas-1 system, including the cable segment using the latest generation SL2000 cable system.

Construction on the Columbus-II system is expected to begin in August 1993 with service starting in December 1994.

For more information on the services and products offered by AT&T-SSI,

Circle 23 on Reader Service Card

### Litton Awarded Multimillion Dollar U.S. Navy Contract

Litton's Guidance & Control Systems division, headquartered in Woodland Hills, Calif., has been awarded a multimillion dollar contract by Hughes Aircraft Mississippi to produce 342 LP-81 inertial measurement units (IMUs) for the U.S.

Navy's Advanced Capability (ADCAP) MK-48 torpedo.

Since 1985 Litton has produced approximately 700 IMUs for the ADCAP program.

Work on the contract will be accomplished by Litton's Guidance & Control Systems division facilities in Grants Pass, Ore., Salt Lake City, Utah, and Woodland Hills, Calif., and continue through the year 1995.

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Circle 228 on Reader Service Card



### ITT Introduces 'Night Mariner' Night Vision Binoculars

ITT's Electro-Optical Products Division introduces a breakthrough for commercial fisherman who run at night, the Night Mariner™ night vision binoculars, derived from technology proven in the night-time operations of Desert Storm.

With Night Mariner, skippers can identify objects detected on radar, read channel markers, see landmarks, detect navigational hazards, identify approaching vessels and more.

The binoculars incorporate technology previously available only for government and military use. Made in the U.S.A., the Night Mariner binoculars collect available light and amplifies it up to 2,000 times. Features such as the F1.17 lens and 40-degree field of view give boaters the power to see at night.

Additionally, Night Mariner features an automatic gain control to ensure a consistent level of viewing brightness.

Night Mariner weighs only 1.5 pounds and is constructed to withstand a rugged environment. The binoculars are water resistant and even float, and are backed by a two-year factory warranty.

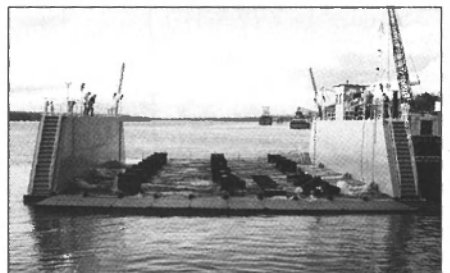
For additional information on the Night Mariner binoculars from ITT Electro-Optical Products Division,

Circle 165 on Reader Service Card

### Carline Expands Services With New Drydock

Carline Management Company announced the addition of the new 134-foot by 70-foot floating drydock at its Carline Fleet facility, at mile 183 of the Mississippi River, near Geismar, La. The new drydock, designed by Shearer & Associates, was built by Maxon Marine.

The drydock was constructed to service standard to large barges plus up to medium sized towboats. The structure has a maximum 1,000-ton capacity and reportedly exceeds ABS requirements for both strength and stability. It is designed to fully dock 200-foot barges or towboats, and to end dock up to 300-foot by 54-foot barges. The dock has 60-feet between its wing walls, 48-inch high keel blocks, full flood lights, the latest design in safety equipment and a state-of-the-art ventilation system in each wing wall for the pump motors and valve actuators.



Carline's new drydock is located near Geismar, La.

A control house located on the inboard wing wall provides one-man operation of all valves and pumps.

20

The dock can lower from "full up" to "full down" in 25 minutes, and six large pumps allow it to reverse the cycle in 30 minutes.

For more than a decade Carline has provided fleet services, wet dock repair, gas freeing and cleaning for liquid cargo barges.

For more information on the capabilities of Carline,

Circle 177 on Reader Service Card

### MegaFilm's Systems Gain U.S. Navy Approval

MegaFilm's flame retardant temporary floor and wall protection systems have gained recognition by the U.S. Navy. After the company submitted samples and technical data to the Navy at the beginning of the year for a full evaluation, the Navy Department has confirmed that it recognizes the role MegaFilm can play within the refurbishment of the fleet's vessels, according to the company.

It has advised various yards that they are allowed to purchase the product after evaluating them against products they currently use.

To date, the company's products have been used in several U.S. yards and by Caribbean Cruise Lines for protection of surfaces during refurbishments and newbuildings.

As the materials are flame retardant, they are able to be used vertically to protect walls, as well as bulkheads and machinery. The materials are constructed with a pyramid face, so that one side of the material is flat. If the flat side is used against walls and bulkheads, the pyramids protrude and act as a deflector against impacts. When the product is used to protect floors, corridors and other large areas, the pyramids are used facing downward to create a non-slip surface.

When the product is overlapped, a flat joint can be achieved as the pyramids invert into the reverse side, making the joints trip-free and allowing a large area to be covered quickly.

The material is offered in two-, three- and six-foot widths, and is available in four grades. Using heavier grades, which costs more, for higher traffic areas and lower grades for light traffic areas allows MegaFilm to create a cost-effective package based on customer need.

For additional information on MegaFilm,

Circle 168 on Reader Service Card

### McDermott Units Complete First North Sea Platform Built In Middle East

Two units of McDermott International, Inc. have combined to complete construction of the first North Sea platform ever built in the Middle East, and a third unit will install the platform for Phillips Petroleum Company UK Limited in its Hewitt development.

The project was completed under

a \$38-million contract awarded by Phillips to McDermott Engineering (Europe), Limited (MEEL). The contract called for the complete design, procurement, construction and transportation of the 1,600-ton living module, the supporting jacket and a 75-meter connecting bridge.

Construction and transportation of the 44-man offshore living quarters platform were provided by McDermott-ETPM East, Inc. under a subcontract with MEEL at McDermott's Jebel Ali fabrication yard in the United Arab Emirates.

Under a separate contract Phillips awarded installation of the platform to HeereMac, McDermott joint venture with Heerema.

The platform includes sleeping cabins for 44 people, a laundry, kitchen and dining room, gymnasium and off-duty recreation facilities. Offices, a workshop and an all weather helideck are also included on the platform. The jacket, module and bridge are being transported to the North Sea on the ocean going transport ship Sunrise, owned by Mammoet Shipping of Holland.

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# SAILOR

Maritime Reporter/Engineering News

### .S. Navy Orders Sperry Marine Ring Laser Gyros

The U.S. Navy has ordered a Sperry Marine MK-39 Ring Laser Gyro Attitude and Heading Reference System for each of its three new Pathfinder Class T-AGS ocean survey ships.

The new vessels, currently under construction at Trinity Marine

Group's Halter Marine yard, Gulfport, Miss., will be the first Navy survey ships to have ring laser gyros.

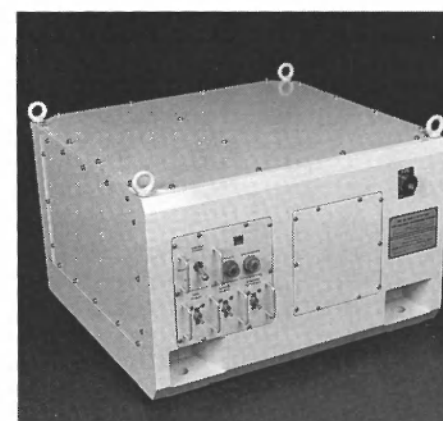
According to Sperry Marine vice president **John V. DeMaso**, the MK-39 is the world's first production marine ring laser gyro attitude and heading reference system. The unit's ring laser gyro has a mean time between failure of over 200,000 hours and accuracies of a four ARC mins

SEC lat RMS heading, 1.75 ARC mins roll and 1.75 ARC mins pitch. The MK-39 is entirely enclosed with no need for external cooling fans.

Sperry Marine Inc., headquartered in Charlottesville, Va., is a subsidiary of Newport News Shipbuilding, a Tenneco company.

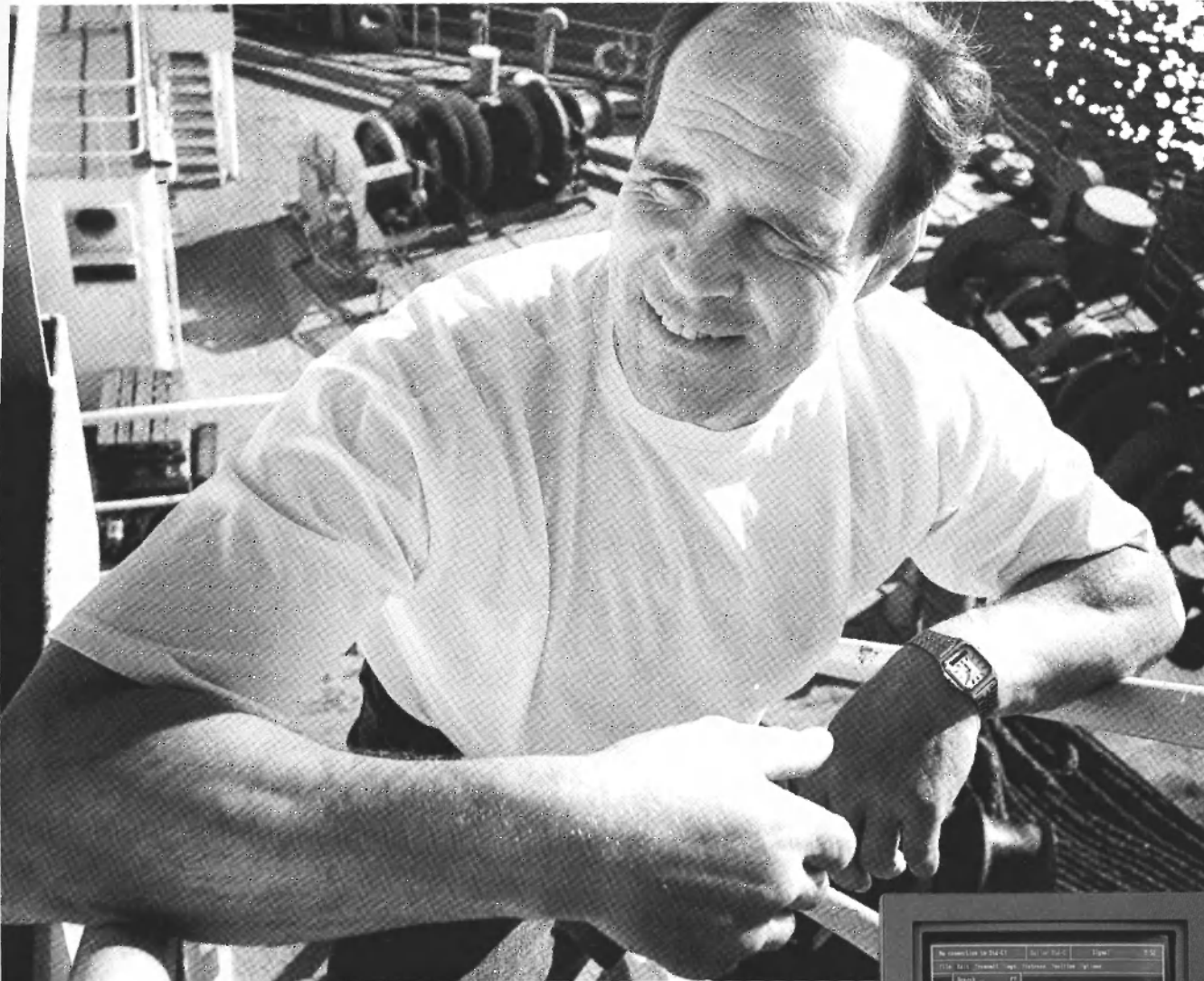
For additional information on the Sperry Marine MK-39,

Circle 170 on Reader Service Card



The Sperry Marine MK-39 Ring Laser Gyro Attitude and Heading Reference System.

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RE2100 is the compact control unit for the HF SSB range - whether you wish a 250, 600 or 1200W PEP system.

RM2150 is a compact MF/HF DSC watchkeeping receiver and DSC modem. RM2151 is a DSC/telex modem and scanning receiver which meets the requirements for ARQ telex and Maritex.

RM2042 is a VHF channel 70 DSC watchkeeping receiver and DSC modem to be connected with RT2048 - a simplex/semi-duplex VHF.

SAILOR Inmarsat Standard-C meets the requirements for GMDSS satellite communication and EGC reception.



## SAILOR..THE GREAT EUROPEAN

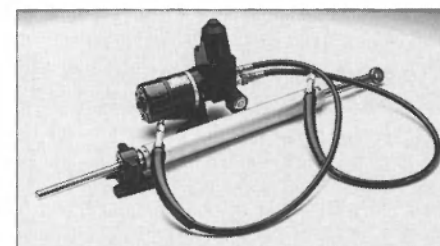
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Circle 225 on Reader Service Card

January, 1993

### Cetrek Wagner Introduces New Line Of Linear Actuators

The Cetrek Wagner autopilot division of Teleflex introduced a new line of electrohydraulic sailboat linear actuators. Teleflex, a leading marine steering manufacturer, produces the linears in its hydraulic steering division.



New linear actuator from Cetrek Wagner.

The linears are based on Teleflex high efficiency pumps, proven cylinders and rudder position sensors. To simplify installation the linears feature separate pump and cylinders, built-in reservoir, bypass solenoid and integral linear rudder position sensor.

For additional information,

Circle 164 on Reader Service Card

### San Francisco Pilot Orders Gladding-Hearn Boat

The San Francisco Bar Pilots Association has selected Gladding-Hearn Shipbuilding, The Duclos Corp., Somerset, Mass., to build its next pilot boat. The vessel, which is scheduled for delivery next July, is the pilot association's first boat built by Gladding-Hearn.

Designed by Gladding-Hearn and C. Raymond Hunt Associates of Boston, the 65-foot vessel's deep-V hull will reach speeds of 25 knots.

The twin-screw vessel, which has an 18-foot beam and draws six feet, is an all-weather boat powered by two Caterpillar Diesel 3412-DITA engines. The engines will drive two 36-inch nickel-bronze propellers via ZF 2:1 reverse/reduction gears and Aquamet 17 shafts.

For further information on Gladding-Hearn,

Circle 31 on Reader Service Card

21





photo credit: Spirit Cruises

## NAPVO 1993 Annual Convention & Exhibition

January 16-19, Seattle, Wash.

**T**he Annual Convention & Exhibition of the National Association of Passenger Vessel Owners (NAPVO) is scheduled to be held at the Sheraton Seattle Hotel & Towers, Seattle, Wash., from January 16-19, 1993.

NAPVO is a national association for owners and operators of dinner cruises, overnight cruise vessels, private charter boats, car and passenger ferries, sightseeing and excursion boats, and gaming vessels. The yearly event represents a gathering of some of the top leadership in the small passenger vessel industry, still one of the fastest growing market segments in the U.S. marine transportation industry.

The goal of the three-day event is to provide opportunities for networking, help small vessel owners build their business, highlight the benefits of industry growth, recognize the importance of the many industry segments and how they work to benefit each other, and stress the importance of a unified approach to solve industry problems.

To achieve these ambitious goals, show organizers have planned a full-schedule of activities and events for attendees, as well as brought together a distinguished list of approximately 60 companies to exhibit their products and services (see NAPVO '93 Exhibitors List).

This year's event will address the theme "Creating Unity and Opportunity Out of Diversity." The conference will open on Friday, Janu-

ary 15, at 4:00 p.m. with the opening plenary session entitled "Future Trends for the 1990's: How the Passenger Vessel Industry is Affected." Discussion during this initial session will center on the economic and business outlook for the coming decade and its impact on the industry. Other general sessions will include a panel discussion of industry operators entitled "Trends in the Travel Industry," scheduled for Monday, January 18, at 9 a.m. At 10:15 a.m. on Monday, another plenary session is offered, entitled "Industry Market Segments Panel Discussion."

The final presentation is scheduled for Tuesday, January 19, at 10:30 a.m., entitled "Healthy Companies." Rounding out the conference program will be twelve special interest workshops, interspersed throughout the three days, featuring specific topics.

Trade show exhibitors on the exhibition side of the NAPVO show will include companies ranging from equipment manufacturers and dealers to insurance companies, shipyards, marine architects and other service suppliers. The exhibit hall will be open: Saturday, January 16, from 6 to 8 p.m.; Monday, January 18, from 8 a.m. to noon, and from 2 p.m. to 3:30 p.m.; and Tuesday, January 19, from 8 to 9 a.m., and from 10:30 a.m. to 1:30 p.m.

See the NAPVO '93 Calendar of Events for additional educational and social activities.

NAPVO, founded in 1971, includes a membership of more than 350 vessel operating companies and more than 100 associate suppliers. NAPVO members operate more than 1,200 passenger vessels throughout the U.S. and its territories, and represent a \$500 million industry which carries more than 55 million passengers each year. Last year NAPVO members placed orders for more than 20 new major vessels, with a total cost of more than \$40 million.

For further information on the National Association of Passenger Vessel Owners, contact: NAPVO, 808 17th St., NW, Suite 200, Washington, D.C. 20006; Tel: (202) 785-0510; Fax: (202) 785-0540.

### NAPVO '93 Calendar Of Events

#### Friday, January 15

9 a.m. to 5 p.m. — Committee Meetings

#### Saturday, January 16

9 a.m. to 3 p.m. — Board of Directors Meeting  
noon to 6 p.m. — Exhibitor Registration  
2 p.m. to 8 p.m. — General Registration  
4 p.m. to 6 p.m. — Opening

Plenary Session: "Future Trends for the 1990's: How the Passenger Vessel Industry is Affected."  
6 p.m. to 8 p.m. — Opening Reception in Exhibit Hall

#### Sunday, January 17

8 a.m. to 12 p.m. — Registration  
8 to 9 a.m. — Captain's Breakfast  
12:30 to 2:30 p.m. — Lunch Cruise on Spirit of Puget Sound  
2:30 to 4 p.m. — Three Super Seminars and Vessel Tours  
4 to 6 p.m. — Vessel Tours at Pier 55 and Reception  
6 to 10 p.m. — Evening Event at Tillicum Village/Blake Island

#### Monday, January 18

7:30 a.m. — Registration  
9 to 10 a.m. — Plenary Session: "Trends in the Travel Industry"  
9 a.m. to noon — Exhibit Hall Open  
10:15 to noon — Plenary Session: "Industry Market Segments Panel Discussion"  
2 to 3:30 p.m. — Exhibit Hall Open  
3:30 to 5 p.m. — Workshop

#### Tuesday, January 19

7:30 a.m. — Registration  
9 to 10:15 a.m. — Regional Meetings Associate Members Council  
10:30 a.m. to noon — Plenary Session: "Healthy Companies"  
10:30 a.m. to 1:30 p.m. — Lunch in

Maritime Reporter/Engineering News



Exhibit Hall/Exhibits Open  
 10 to 4 p.m. — Ferry Council  
 Program  
 10 to 2:45 p.m. — Idea  
 Roundtables  
 3:45 to 4:15 p.m. — Workshops  
 4:15 to 5:45 p.m. — Business Meet-  
 ings  
 7 to 11 p.m. — Closing Banquet/  
 Reception: "Seafair Theme"

**NAPVO '93  
 Exhibitors**

Advanced Computer Solutions  
 Alaska Diesel Electric  
 Atlantic Marine, Inc.  
 Bender Shipbuilding & Repair  
 Bensinger's/Div. Allen Foods  
 Bud Jones  
 C.A. Hansen Corp.  
 Caterpillar Financial Services  
 Caterpillar, Inc.  
 Custom Ship Interiors  
 DeJong & Lebet  
 Directions In Design  
 Elliott Bay Design Group, Ltd.  
 Envirovac, Inc.  
 Excel Food Service Co.  
 Freepoint Shipbuilding  
 Gasser Chair Co.  
 Guido Perla & Associates  
 Interior Design Intl.  
 Intl. Games Technology  
 Jamestown Metal Marine  
 Johnson & Higgins  
 Leevac Shipyards, Inc.  
 Loomis & Lapann, Inc.  
 Marco Shipyard  
 Maritime Reporter & Engineering News  
 Maritime Services Corp.  
 Maritime Systems Designs  
 Multicom Communications  
 Navatek Ships Ltd./Royal Hawaii  
 Nichols Brothers Boat Builders  
 Omaha Steaks Intl.  
 Pacific Coast Marine Industry  
 Pepsi  
 Peter Kalby Co./Novenco  
 Plastics, Inc.  
 Rodney E. Lay & Assoc.  
 Safeco Credit Co.  
 Service Marine Industries  
 Skipperliner  
 Steiner Shipyard, Inc.  
 Sunrise Design, Inc.  
 Superior Boat Works, Inc.  
 Swath Ocean Systems, Inc.  
 T.J. Software, Inc.  
 Taylortec, Inc.  
 Trans Bay Images  
 Trase Miller  
 Trinity Marine Group  
 Twin Disc, Inc.  
 U.S. Coast Guard  
 Ultra Poly, Inc.  
 Universal Distributing Of Nev.  
 Vessel Information Systems, Inc.  
 Viking Life-Saving Equipment  
 Wooster Products Inc.  
 ZF Industries of North America

**Soundcoat Names  
 Pellegrino West Coast  
 Sales Manager**

Soundcoat, one of the world's leading fabricators of noise and vibration control materials, has named **Tom Pellegrino** West Coast sales manager. A veteran in the noise control industry, Mr. Pellegrino brings an extensive background in the marketing of polyurethane foams, engineered composites and elastomers for acoustical applications. Before joining Soundcoat, he served as Midwest and West Coast sales manager for Blachford and EAR Specialty Composites.

Mr. Pellegrino will direct and supervise the activities of Soundcoat's West Coast represen-

tatives and provide technical liaison between customers and the Soundcoat engineering department.

**Aker Design For Offshore  
 Vioska Knoll Platform  
 On Schedule**

Aker Omega, Inc. is currently working for British Petroleum Ex-

ploration on the detailed design and major equipment for the deck and topside facilities for the Vioska Knoll 989 platform, which is located in 1,290 feet of water, offshore of Louisiana.

The deck and production facilities will be lifted onto the jacket in one piece with an estimated lift weight of 4,800 tons. The project was started in April and the design has progressed on schedule to allow

the recent bid of the deck fabrication. All major equipment packages have been acquired to meet fabrication schedules. The remaining design is scheduled for completion by May, 1993.

For free literature describing the services of Aker Omega,

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### NHTA Formed To Promote Advancement Of Harbor Tug Services

A group of 13 Atlantic and Gulf Coast tugboat companies have announced the incorporation of a new industry association and the election of a board of directors and officers.

The trade group, National Har-

bor Tug Association (NHTA), has been formed to promote the advancement of harbor tug services in coastal and inland ports and waterways, providing operating efficiency and safety, regulatory awareness to association members and their customers.

**Richard Murray, III** was elected president and director of the new association. He is chairman and chief executive officer of Crescent Towing Co., Inc.

Mr. Murray noted, "We will work closely with the maritime industry, our members and the various regulatory agencies to promote operating efficiency, safety and reliability in harbor tug services."

NHTA plans to broaden its membership by adding East and Gulf Coast companies and by expanding to include Pacific Coast tugboat operators as well.

Other officers and directors include: as vice president, **Milton R.**

**Rose**, vice president of Bay-Horton Towing Company; as secretary, **Peter J. Nistad**, president of WJ Stack Towing & Transport Company; and, as treasurer, **Ricert A. Santos**, vice president of Hvide Shipping, Inc.

### MGI Of Canada Offers New Shipboard Life Raft Deployment System

MGI International Marine Safety Solution Inc., of North Vancouver, B.C., has introduced a new life raft stowage rack and deployment system (LRS).

In current stowage and deployment systems, life rafts are tied to supports and released all together. MGI has developed a system that provides: the reliability of a mechanically-operated remote release suitability for any manufacturer roll-off type containers; standardized stowage and safety operation throughout vessel fleet; a reduction in crew requirements and training time; and easy access for raft and container maintenance.

The project took two years of R & D. The racks are engineered to Safety of Life at Sea (SOLAS) specifications for lifesaving appliances and have undergone rigorous testing throughout development and during sea trials. Inspected and accepted by both Canadian and U.S. Coast Guards, the racking system is currently used by Washington State Ferries, the Ontario Ministry of Transportation and on order for Northumberland Ferries.

For free literature detailing the new liferaft racking system from MGI,

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### KMF Acquires Scandinavian Propellers A/S Of Denmark

Korsor Motor og Propellerfabrik A/S (KMF) has acquired Scandinavian Propellers A/S of Denmark and will continue to produce controllable pitch propellers.

The owners of existing Scan Prop units will still be able to receive technical assistance and spare parts through KMF. KMF will offer continued production and delivery of new Scan Prop propellers to customers in markets all over the world.

The Scan Prop program consists of three- and four-bladed controllable pitch propellers which can be fitted behind reduction gears with built-in pitch control or alternatively be controlled via Scan Prop's own range of separate manual or hydraulic pitch-control units. Fully featherable units can also be supplied and the range is suitable for engines between 100 and 2,000 hp using propeller-shaft diameters from 70 mm to 230 mm.

For free literature describing the Scan Prop propellers,

Circle 186 on Reader Service Card

Maritime Reporter/Engineering News





The Polembros Shipping-owned Katina P, a 70,000-dwt tanker, broke her keel during a storm and sank off the coast of Mozambique earlier last year. Salvors helped prevent any major spill.

## International Salvage Union Members Meet To Discuss Industry Segment's Future

**I**nternational Salvage Union (ISU) member companies meeting in Hong Kong have agreed to endorse proposals which would strengthen marine emergency response services worldwide.

Conclusions of a major industry study, performed for the Salvage Working Group, a joint industry body representing shipowners, insurers and salvors, should dictate the posture ISU members will take with policy makers.

"Our first priority will be to examine and discuss the final conclusions of the Salvage Working Group," said ISU president, **Klaas J. Reinigert** of Smit Tak, The Netherlands. "We will then seek further talks with shipowners and insurers, to develop a more detailed joint policy on the future of salvage. This joint industry view can then be communicated to the International Maritime Organization (IMO), the European Community (EC) and individual governments."

"In the case of the IMO, we will take account of Resolution 8 of the Oil Pollution Preparedness, Response and Cooperation Convention, which is concerned with improving salvage services," Mr. Reinigert continued. "As for the EC, the industry will respond to the long-awaited report on the European Commission investigation of salvage resources and needs in the European Region."

In addition, ISU members agreed to brief the IMO, the European Commission and individual governments on the gaps in salvage cover identified in the Salvage Working Group study.

The ISU's American members have already held discussions with the U.S. Coast Guard, the National

Research Council and other authorities, stressing the importance of the salvor's role in preventing pollution.

"The lack of adequate salvage emphasis is seen as a major weakness in the extensive pollution control arrangements established under the U.S. Oil Pollution Act of 1990 (OPA90)," said Mr. Reinigert. "This gap in salvage needs to be bridged. It is encouraging to note that the U.S. authorities have recently launched a major investigation of salvage resources in U.S. waters."

ISU members also discussed the implications of a recent salvage case, carried out under Lloyd's Open Form (LOF) 90, in which special compensation for pollution-related services has been denied due to the position of the casualty. Under the new Salvage Convention and LOF 90, the availability of special compensation is restricted to coastal and inshore waters and "areas adjacent thereto."

LOF 80 does not impose such a geographical limit and is preferred to LOF 90 whenever any oil tanker threatens pollution outside coastal waters. However, its safety net system is limited to oil tankers.

Therefore, as matters stand, LOF 80 and LOF 90 provide no incentive to respond to a serious chemical pollution threat outside coastal waters.

"This situation is really unacceptable," said Mr. Reinigert. "It is completely contrary to the spirit of the new Salvage Convention and today's more intense focus towards protection of the environment."

Some preliminary conclusions of the independent survey of the international salvage industry previously mentioned indicate the salvage industry has some serious catching-up to do (source: International Salvage Union Bulletin).

Among the survey's findings are that the salvage industry is in serious decline. This is, in part, due to the decline in the incidence of marine casualties during the 1980's, yet it is believed that the amount of salvage coverage fell faster than the level of demand.

While, during the 1980's, improved navigation equipment and a host of other factors have helped reduce the number of marine casualties due to collision, contact, stranding and fire or explosion, it is reported that the growing age of the world fleet could spark casualty numbers to new highs as soon as 1996.

The survey found that in 1989-90, vessels aged 15 years or more accounted for approximately 50 percent of all recorded serious casual-

ties to 27 percent over the same period.

So the survey's early conclusions suggest that the aging world fleet and human factor will lead to an increased number of ship casualties each year, thus the demand for salvage services will likely be higher in the 1990's than it was in the 1980's.

Membership of the ISU is comprised of marine salvage contractors who have a record of successful salvage, demonstrating a high level of expertise, and who meet the standards expected of a professional salvor. Currently there are 39 members of the ISU, based in 27 countries and operating worldwide.

### Viking Adds Connor To Sales Staff

**James Connor** has joined the sales staff of Viking Life Saving Equipment, Inc., Miami, Fla. The announcement was made by **Paul Jensen**, general manager of Viking's U.S. operations.

Mr. Connor has in-depth experience in protective inflatable equipment for both pleasure and commercial uses. His ultimate goal is to increase Viking's visibility in the yachting industry. He will set up new dealers for such safety equipment and work with Viking's affiliated service stations, participating in demonstrations, boat shows, safety seminars and national sales events.

Viking is an internationally recognized manufacturer and distributor of SOLAS and U.S. Coast Guard approved life rafts, life jackets, survival suits and other protective equipment.



Klaas J. Reinigert

ties. The casualty rate for the oldest vessels was particularly high. The survey also predicts, based on current information available, that the proportion of the world fleet aged 15 years or more will jump from 54 percent in 1991 to 62 percent in 1996, and very old tonnage, 25 years older and more, increasing from 20



## ABB Turbocharger: Renewed Focus On Quality, Customer Service

**A**BB Turbocharger Co. has earned a reputation of providing quality products and services, a reputation built on many years experience and much acquired technical knowledge.

But the North Brunswick, N.J.-based company is not resting on its laurels.

To remain competitive in the tough world economy which has marked the 1990's, ABB Turbocharger is increasingly stressing its modern, computerized, customer database; its highly trained engineering staff and pending certification to ISO 9000 quality assurance standards; its client relationships; and its worldwide network of service stations.

ABB Turbocharger (and formerly BBC<sup>™</sup>) activities started in 1955 in the U.S.

Among the first customers were prominent engine manufacturers, including Nordberg, Worthington and Enterprise, to whom a large number of turbochargers were sold.

Today ABB's OEM group supplies numerous new turbochargers and application engineering to many top engine manufacturers, including Caterpillar, Inc., Coltec Industries Inc. and Waukesha Engine Division.

ABB Turbocharger Co. was es-

tablished in North Brunswick in 1988, the same year that Brown Boveri and Asea merged to form one company, ABB Asea Brown Boveri, Ltd.

ABB Turbocharger presently has more than 800 customers. The company's modern shop is equipped for metallizing, balancing and repairing all turbochargers and rotors manufactured by ABB as well as the reconditioning of blades, bearings and pumps. Additionally, the warehouse is stocked with thousands of spare parts fitting various turbocharger models, ready to be shipped on a moments' notice.

"We try to do the right thing right the first time," said **Mark Rothmann**, president, summing up the company's philosophy. To live up to this standard, Mr. Rothmann and company have focused on total customer satisfaction, an effort which starts with the company's unique ship database.

### Database Saves Time, Money

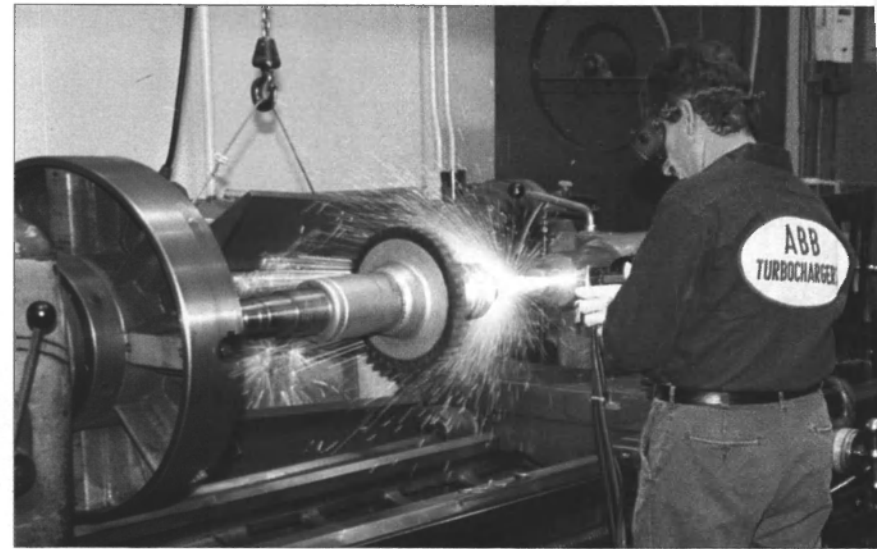
According to Mr. Rothmann, the company has a computerized database of approximately 150,000 BBC<sup>™</sup> turbochargers in use worldwide. This database equates to a savings in time and money for a ship operator. For example, if a ship is

coming to port with a suspected turbocharger problem, ABB Turbocharger can, in most instances, access its database to ascertain the exact technical specification of the respective unit onboard, so when the ship is docked, proper parts and services can be provided.

The ABB database can not only be used to save time and money, but also to keep turbochargers running at peak efficiency. Whenever a repair is performed by ABB's factory-trained engineers, a comprehensive



Mark Rothmann



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report is filled out and forwarded to the company's worldwide headquarters in Baden, Switzerland. Repair information can be obtained from the 76 ABB service stations worldwide.

Other service shops have no access to ABB's latest service and repair specifications and requirements, nor the benefit of the extensive service network, said **Stephen Rothmann**, manager, technical services. There are certain intricacies of data which ABB has and competitors do not, which we have gained through experience and testing."

Whether it's an overhaul, a repair or a recondition of existing parts, **Mr. Rothmann** contends ABB Turbocharger can offer customers substantial savings due to its developed service network.



Reconditioning/welding of turbocharger blades in a specially designed, clean and climate-controlled room.

#### Total Quality

However, ABB's commitment to customer service starts with a total quality. ABB U.S.A. field service technicians are trained for two years, including a three-week training course at the factory in Switzerland. Also, service technicians, including those stationed at authorized service stations, are brought to the North Brunswick, N.J., facility once a year for a week-long refresher course, to hone traditional skills and learn new ones.

Additionally, ABB Turbocharger expects to soon be certified under the ISO 9000 total quality management guidelines. ISO 9000 is a series of guidelines and standards on quality systems and requirements written and maintained by the International Organization for Standardization Technical Committee (TC176), which is comprised of representatives from 97 countries. Although the costs to become and remain certified are substantial and include every member of the ABB Turbocharger organization, **Mr. Rothmann** believes it is "the right thing to do," and the investment will pay off as he believes certification will become a requirement to do business with most companies.

#### Client Contacts Are The Key To Future Success

Enhanced technical capabilities and quality standards are useless



Balancing of a VTR714 Turbocharger Rotor

unless the customer is made aware of them, and this is a current challenge ABB Turbocharger is tackling.

"We would like to extend our relationship (with clients) to provide technical and commercial information to more of our client base," said **Mr. Rothmann**. "This will allow us to service our customers better and prepare for potential problems."

**Mr. Rothmann** sees this as a more personalized contact effort to help shipowners plan for overhauls and service, to quickly diagnose and treat problems to keep turbochargers running at peak performance. ABB Turbocharger currently conducts information seminars at locations around the country and is offering personalized training for shipboard maintenance personnel, and **Mr. Rothmann** hopes to expand this effort in the near future.

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#### Worldwide Service

"We can be a single source for U.S.-based owners worldwide," said Mr. Burak. "Through our network we can provide worldwide service, and actually be an extension of a shipowner's repair department overseas."

"It is important for the customer to know if there is a problem, we have a worldwide service network," said Mr. Rothmann. And because

of ABB's belief in the quality of work it performs, it offers customers complete warranties on all repair jobs.

Citing its expansive capabilities, Mr. Rothmann points to the company's special "clean room," where turbocharger blades are reconditioned, to ensure the purest possible weld. Reconditioned turbocharger components such as bearing assemblies, pumps and blades can offer substantial cost savings to

the customer versus purchasing new parts. Also, every turbocharger rotor brought into the shop is balanced on a computerized system. The data for correct measurements is pre-input into the computer, to eliminate human error.

Maintaining high quality and reputation throughout the service network is no easy task. To ensure quality service and customer satisfaction, ABB Turbocharger insists

on repairing a turbocharger to original specifications. "We be responsible for doing repairs that won't last," said Rothmann.

Finally, Mr. Rothmann is confident that ABB Turbocharger's quality and extensive base of U.S. authorized service stations will convince more shipowners to have repairs including turbocharger and engine work—performed in the U.S.

For information on ABB Turbocharger and its service station

Circle 41 on Reader Service Card

#### Bludworth Bond Shipyard Refurbishes Five Vessels

Bludworth Bond Shipyard recently completed the refurbishing of two supply vessels from Nico International, of Dubai, United Arab Emirates. Repairs done at its Texas City, Texas, facility included replacement of steel and existing pipes, overhauling the main engines and towing winches.

Simultaneously, the Bludworth Bond facility in Houston completed the refurbishing of three supply vessels that had been purchased from Maritime, Ltd., of Singapore.

Repairs and upgrades included replacement of steel, overhauls of the main engines and towing winches, drydocking and underwater machinery repairs.

For further information on the Bludworth Bond Shipyard,

Circle 195 on Reader Service Card

#### Guido Perla & Assoc. Offers Full-Service Engineering

The naval architecture firm of Guido Perla & Associates, Inc. is a full-service engineering firm, which has served the marine field since 1979. From the design of cruise ships, ferries, large factory trawlers and freighters, to minor modifications, expertise gained through extensive experience is the firm's benchmark. The in-house design team includes engineers representing all engineering disciplines.

For information on Guido Perla,

Circle 196 on Reader Service Card

#### Viking Features Full Line Of Life Saving Equipment

Viking Life Saving Equipment (America), Inc., of Miami, has been supplying the marine industry in the U.S. with equipment and services for more than 11 years.

Vikings, which is a subsidiary of A/S Nordisk Gummibaadsfabrik, has a product line including Davit-launchable and regular throw overboard (SOLAS- and USCG-approved) inflatable life rafts, and single- and dual-track marine evacuation slides.

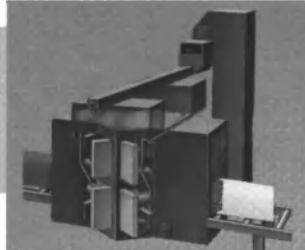
For information on Viking,

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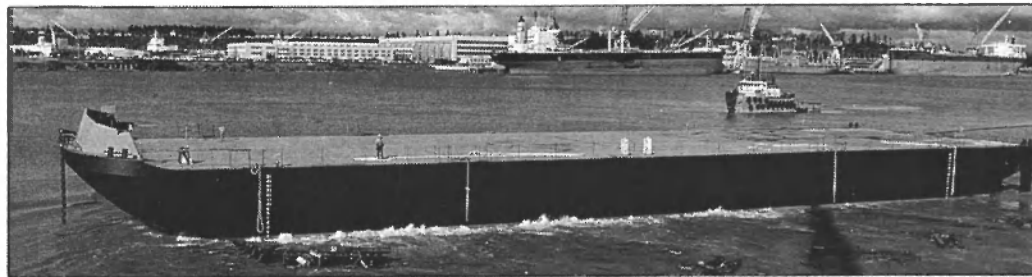


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Deadrise	-	2'0"
Draft Light	27'-1/2"	3'10"
Draft Loaded	15'10"	16'
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Length Bulkheads	3	1
No. Tanks	32	18
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Curved Rake Bow	29'	49'
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Diesel Engines	3 Detroit Diesel 8V-71, 233 HP @ 1,800 RPM
Location	Engine Room on After Deck
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Depth of Mid-Body	14'0"	Time to Close	4 Min. 34 Sec.
Hopper Length	128'0"	Hopper Angle Fully Open	53.78 degrees
Level Hopper Volume	1,421 cu. yd.	Fuel Tank Capacity	445 Gal.
DWT @ d = 10.22 ft.	1,615 L.T.	Hydraulic Cylinders	18" Diam. 120" Stroke (2 Fwd. & 2 Aft)
Rake Lengths F. & A.	26'0"	Plating	Side, 9/16", Bottom, 5/8" Hopper, 5/8"
Twin Skegs			
Stern & Fwd. Rake Decks Stepped up 20"			
Engine GM 671			



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### Siemens Releases "SM-TV," Video Newsletter

Siemens Marine Systems has produced its first edition of SM-TV, a 12.5-minute video newsletter. The program features news and information of particular interest to the North American marine industry.

The four-part program takes the viewer from Atlanta, Ga., to Hamburg, Germany, with a few stops in between, providing candid interviews with key personnel and industry specialists, as well as touring on-site applications. Just a few of the video's highlights are: tour of the Atlanta facilities; attending the SMM show in Hamburg; a discussion with James McCaul of the International Maritime Associates (IMA) of Washington, D.C.; and a service call on the Marchen Maersk at Long Beach.

For information on the video,

Circle 152 on Reader Service Card

### Southwest Ocean Services Announces Two Contracts

Southwest Ocean Services, Inc. of Houston, Texas, was awarded a contract from Shell Offshore, Inc., of New Orleans, to design and fabricate supply boat barrier nets for the Auger Tension Leg Platform to be installed in the Gulf of Mexico. Southwest Ocean Services will team with Tension Technology Intl. and United Ropeworks (U.S.A.) Inc. to provide engineering, manufacturing and fabrication for the project. Manufacture and fabrication of the nets is scheduled for completion this month.

Southwest Ocean Services also

announced that an agreement has been reached with Cordoaria Sao Leopoldo (CSL) of Brazil, to function as a service center and distributor. CSL manufactures double-braided rope in 13- and 21-inch circumference sizes. Southwest Ocean Services specializes in the fabrication of large synthetic rope assemblies.

Southwest Ocean Services provides design and fabrication services for all types of synthetic fiber ropes, hardware and rope systems.

For more information on the products and services Southwest Ocean Services, Inc. offers,

Circle 153 on Reader Service Card

### Maritime Services Revamps P&O's "Love Boat" Lounge

Maritime Services Corp. and its wholly-owned affiliate, MSC Maritime Canada Ltd., have completed renovations on the 553-foot cruise ship, Pacific Princess.

This is the 12th contract MSC has completed in three years for P&O Cruises, Ltd. of London, owners of the Pacific Princess. The multi-million dollar renovation of the British-flag vessel, which was done at Yarrow, Ltd., Repair Division, Victoria, British Columbia, Canada, was completed in 24 days.

After meeting with the vessel's interior designers in Genoa, Italy, MSC representatives returned to their Hood River (Portland), Ore., facility to fabricate interior components. MSC supplied ceilings, wall coverings and furnishings for the Pacific Princess' casino, which got a new Las Vegas-style look. MSC also supplied many components for the revamping of both the show lounge

and passenger cabins.

For more information on MSC,

Circle 155 on Reader Service Card

### Mackay And JRC Sign Long-Term Agreement

Japan Radio Company (JRC) and Mackay Communications have signed a long-term installation, maintenance and service agreement which complies fully with the shore-based maintenance requirements stipulated in the 1988 amendments to the 1974 Solas Convention implementing the Global Maritime Distress and Safety System (GMDSS).

JRC is engaged in the manufacture and sale of radio communications and navigation equipment for the marine market.

For information on Mackay,

Circle 156 on Reader Service Card

For information on JRC,

Circle 157 on Reader Service Card

### Avondale Sells Its Harvey Quick Repair Division To Bollinger

Avondale Industries, Inc., New Orleans, La., has signed an agreement to sell the assets and businesses associated with its Harvey Quick Repair Division, located in Harvey, La., on the Harvey Canal, to Lockport, La.-based Bollinger Machine Shop & Shipyard, Inc.

Avondale is one of the nation's leading marine fabricators. In addition to its shipbuilding operations,

the company specializes in boat construction and is a major repair contractor for commercial and government vessels.

Bollinger Shipyards has been the ship repair and construction business for almost 50 years and is privately owned. Bollinger will now have a total of 16 drydocks available to service their customers at facilities in Lockport, Larose, Algiers and now Harvey, La.

### Loral Librascope Wins \$4.4 Million Contract For Submarine Systems

Loral Corporation announced that its Loral Librascope division, Glendale, Calif., has received a \$4 million, 48-month contract from the Defense Advanced Research Projects Agency (DARPA) to develop fieldable prototype artificial intelligence-based submarine planning and control system.

The company said that its submarine engagement automated planning and control system (SEAPACS) contract calls for a system that will provide appropriate offensive and defensive action recommendations for submarine engagements.

Loral Librascope will also provide a proof-of-concept automated torpedo attack and defense system to be demonstrated in a laboratory and at sea, and will demonstrate system design by applying it to strike warfare problem scenarios. According to Loral, the completed system could be installed onboard all of the Navy's submarines by 1996.

### Mitsubishi Engine For Fast Light Craft

Mitsubishi Heavy Industry Industries (MHI) has introduced a new lightweight high-speed engine, which will be suitable for the propulsion of fast catamarans, dynamically-supported craft and smaller naval patrol vessels.


The S16R-MTK-S engine is an alloy-framed V-16 with 170 mm cylinder bore and 180 mm piston stroke and develops 2,850 bhp (2,100 kW) at 2,000 rpm, and weighs only 5.4 tons. This represents a weight/power ratio of 4.2 lb/bhp.

The fuel consumption is reported to be less than 0.35 lb/bhp-h. The engine is fitted with Mitsubishi turbochargers and fuel injection equipment. It is claimed to have very low noise and vibration levels and has been designed for easy maintenance. Mitsubishi plans to introduce six- and 12-cylinder versions of the engine in the near future.

The first application for the new engine will be in driving the Mitsubishi MWJ-5000A water jets which propel the 350-passenger super shuttle Rainbow, a 40-knot plus hydrofoil catamaran which is being built at Mitsubishi's Shimonoseki shipyard, for local commuter services.

For complete information describing the new Mitsubishi engine,

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The President Casino Mississippi built by Leevac

## Riverboat Gaming On The Mississippi

*Operators Plan New Floating Casinos In Fast-Paced Market*

By John R. Snyder

**L**ife on the Mississippi is changing for the better. Since Iowa first launched riverboat gaming on April 1, 1991, four other states along the Mississippi have enacted similar legislation.

Missouri became the latest state to legalize riverboat gaming on the Mississippi River, when voters overwhelmingly approved a statewide proposition on election day.

In accordance with the new law, local municipalities or counties also have to approve gambling in separate proactive local referendums. St. Louis, St. Charles, Ste. Genevieve, Jefferson City, Parkville, Jefferson county and Buchanan county did so on the same day.

Ironically, Hannibal, Mo., the hometown of Mark Twain, whose name is synonymous with the Mississippi riverboat era, was the only community to reject riverboat gaming in the recent Missouri vote.

Exhibit 1 shows highlights of the current riverboat gaming legislation in Illinois, Iowa, Louisiana, Mississippi and Missouri.

There are a number of groups actively lobbying for legalization of riverboat gaming in Connecticut, Texas, Virginia, West Virginia and Wisconsin.

With five states already on-line and others seriously considering le-

galization, shipbuilders, naval architects, outfitters and suppliers are gearing up for a lucrative, multimillion-dollar market which should be sustained for at least the next five years.

Depending on their size and outfitting, the average construction cost of a new riverboat casino could be \$6 million to \$12 million, with proposed gaming boats in Louisiana more than \$35 million.

Perhaps the only exceptions to this gage are the casino vessels that will operate in Mississippi, a market that will be predominately composed of refitted, existing barges.

There are currently 14 riverboat casinos operating, five each in Illinois and Mississippi and four in

Iowa. Exhibit 2 provides details on riverboat casinos in operation, while Exhibit 3 shows new construction.

"It's going to be a very good market over the next few years," said Charles Burrell, whose company, Jennings, La.-based Leevac Shipyards, Inc., is a major player in the construction of casino boats. "And with the recent passage of Missouri gaming, a good market just got a little bit brighter."

Leevac is currently in discussions with several parties interested in riverboat casinos.

The yard's most recent delivery was the DeJong & Lebet-designed President Riverboat Casino Mississippi, which is one of the few self-propelled vessels currently in op-

eration in Mississippi.

Fully outfitted with sophisticated surveillance and gaming equipment, the President Riverboat Casino Mississippi had a reported price tag of \$17 million.

### Admiral To See Action As A Casino Boat

The approval of riverboat gaming in Missouri will have a dramatic impact on the St. Louis riverfront. Under special provisions written into the Missouri law, permanently moored vessels within a certain distance of the Eads Bridge will be allowed to offer gaming.

This provision, especially written in for the idled Admiral, owned

### Exhibit 3

### Major Riverboat Casinos On Order or Under Construction (as of December 1, 1992)

VESSEL	CAPACITY	OPERATOR	HOMEPORT	BUILDER	EST. DELIVERY
Casino Queen	4000	Arch Paddle Boat Co.	E.St. Louis, IL	Patt Shipyard	Spr. '90
Alton Belle Casino II	1400	Alton Riverboat Gambling	Alton, IL	Atlantic Marine	5/90
City of Lights I	600	Prett Industries	Aurora, IL	Garbe Iron Works	Spr. '90
City of Lights II	600	Prett Industries	Aurora, IL	Garbe Iron Works	Spr. '90
Grand Casino Gulfport	N/A	Grand Casino, Inc.	Gulfport, MS	Service Marine Industries	N/A
Promus II	1200	Des Plaines Development	Joliet, IL	Service Marine Industries	8/90
Playas Riverboat Casino	1200	S. III Riverboat Casino	Metropolis, IL	Leevac Shipyards	2/90
Promus I	1200	Des Plaines Development	Joliet, IL	Service Marine Industries	1/90



by **John Connelly's** Gateway Riverboat Cruises of St. Louis, would give the former steamer a new life. The old riverboat, which measures 374- by 92-feet and was at one time licensed to carry 4,400 passengers, has been shut down since late 1988. Mr. Connelly also owns the excursion vessel Belle of St. Louis, built by Leevac Shipyards.

When she was constructed, the vessel, an integrated power unit and barge, was prewired for slot gaming operations. Mr. Connelly has already indicated that he plans to utilize both these vessels in casino operations.

According to preliminary plans recently outlined by **Gary C. Frommelt**, director of marine operations for Gateway Riverboat Cruises, the refurbishment of the Admiral would involve the removal of bulkheads and gift shop areas on the first deck.

The first deck would then probably be closed off. The main ballroom on the second deck would be widened to the full beam of the boat by removing the outer bulkheads. This area would then be utilized as the main casino. The renovation of the Admiral is expected to be completed this spring.

In addition, according to one industry source, another gaming vessel is in the design phase for the Connelly Group.

Its intended area of operation is unknown at this time.

There are approximately 10 slots available near the Eads Bridge for permanently moored casino boats, six of which are reportedly controlled by the Connelly Group.

At the recent Riverboat Gaming Congress & Expo held in New Orleans, Mr. Connelly also announced that his firm, President Riverboat Casinos, Inc., had applied for registration for public trading on the NASDAQ exchange.

A stock offering would supply the firm with an infusion of capital to further expand operations.

The firm includes excursion vessel operator Gateway Riverboat Cruises, President Casinos gaming operations in Iowa and Mississippi, and gaming equipment manufacturer International Gaming Technology.

#### Proposals For The St. Louis Riverfront

In the space of one week of the approval of riverboat gaming in Missouri, there were no less than a half dozen projects proposed for the St. Louis riverfront by would-be casino operators.

One of the most ambitious projects came from Jumer Hotels & Casinos, the operator of the successful Illinois gaming vessel Casino Rock Island.

Jumer's proposal calls for the construction of two new casino boats and a 250-room hotel at Laclede's Landing, an historic district north of the Eads Bridge currently under renovation.

As laid out by Jumer, the two casino boats would be near replicas of the steamers J.S. Deluxe and



Interior of The President Casino Mississippi

Capital, which served St. Louis in the early 1900s.

The J.S. Deluxe II would be permanently moored at the site, while the Capitol II would make regular gaming excursion trips. The 320-foot J.S. Deluxe II, with a restaurant on its upper deck and casinos on its second and main decks, and a 195-foot pavilion barge, featuring gift shops, recreation area and offices, would be built first and open in the spring of 1994.

The 293-foot Capitol II would be completed in the fall of 1995. The hotel would be open by late 1994. Jumer expects to draw over 3.1 million people to the complex upon its completion.

The total cost of the project would be more than \$90 million.

According to figures released by the company, this unique attraction would create jobs for 2,250 employees with a payroll of \$67 million and produce a projected \$163.9 million in city and state revenues over its initial five years.

Other proposals for Laclede's Landing came from: Ashfari Enterprises, Casino Magic Corporation, Kuhlmann Design Group, St. Louis Riverport Resort, and Skyline Casinos, Inc.

City officials are expected to decide late this month which of the firms would receive the mooring lease for Laclede's Landing.

#### Queen of New Orleans: A \$35 Million Riverboat

"Hilton has long been at the forefront of the gaming industry and as gaming proliferated across the country, we plan on taking advantage of appropriate opportunities," said **Barron Hilton**, chairman and president of Hilton Hotels Corporation. Sticking to its philosophy, Hilton Hotels Corporation and its partner New Orleans Paddlewheels, Inc., are soon expected to announce the award of the contract to construct a 3,500-passenger, 400- by 90-foot casino paddlewheeler for Louisiana.

According to **Duncan McKenzie**, president, Hilton's Queen of New Orleans Riverboat Casino, the short list of yards in the running for the contract has been narrowed to Halter Marine, Inc., a part of the Trinity Marine Group; Avondale Industries, Inc.; Bender Shipbuilding & Repair Co., Inc.; and McDermott, Inc.

Many insiders believe that Halter Marine, which provided the design work for the vessel, will be awarded the construction contract. The \$35 million project, which will involve 200 jobs for ship workers, is expected to be completed approximately 12 months from the start of construction.

Some industry sources suggest that the cost of the vessel might

exceed \$35 million, once specialized surveillance, coin counting and gaming equipment is installed. Upon completion, the Queen of New Orleans would feature a 30,000-square-foot casino containing nearly 1,500 slot machines and 60 table games.

"We are going to award the contract to a Louisiana-based yard to stay within the spirit of the law, which was to create jobs locally," said Mr. McKenzie. "Three of the yards are based right here in New Orleans, while Bender just recently purchased the Bergeron Shipyard in Braithwaite."

Conservative estimates by Mr. McKenzie project that the vessel will carry over one million passengers per year, generating revenues of about \$40-45 per person per trip. If a lease can be obtained, the Queen of New Orleans would operate out of a new open air pavilion located at the Canal Street Wharf.

New Orleans Paddlewheels, Inc., will own 50 percent of the project and manage the operation of the vessel. Hilton Gaming Division will manage the operation of the casino.

According to joint venture partner **Warren Reuther**, president of New Orleans Paddlewheels, Inc., the two firms are also considering operating vessels out of the cities of Lake Charles and Shreveport.

These vessels would be smaller than the Queen of New Orleans, with a length of 250 feet and beam of 60 feet, carrying 1,500 passengers. The paddlewheelers, of Rodney E. Lay design, would be similar in style to the Players Riverboat Casino under construction at Leevac Shipyards, Inc., in Jennings, La.

"Riverboat gaming will have a major impact on tourism to Louisiana," said Mr. Reuther. "The project [Queen of New Orleans] will work to enhance the existing charm and excitement New Orleans is renowned for..."

As many as 15 licenses are expected to be issued in Louisiana, with a maximum of six vessels operating out of any one Parish.

By law, gaming operations have been limited to: the Mississippi, Red, Calcasieu, Mermentau, Ouachita and Atchafalaya Rivers, Bayou Bienvenue, Lake Pontchartrain, Lake Maurepas and the Gulf Intracoastal Waterway.

All the vessels must be paddlewheelers and of at least 150 feet in length. Up to 60 percent of the passenger square footage can be devoted to gaming.

#### Current Constructions: Largest Boat Being Built At Patti Shipyards

The largest riverboat casino to date, the Casino Queen, is under construction at Patti Shipyards in Pensacola, Fla.

The 445-foot riverboat will be delivered this spring for operation out of East St. Louis, Ill. Originally ordered by Roberts River Rides on speculation, it was recently sold to Arch Paddle Boat Company of East St. Louis.

In mid-November, the first steel was cut for Harrah's new 210- by 78-



Harrah's Casino boat under construction at Service Marine

foot paddlewheeler destined for operation out of Joliet, Ill. Under construction at the Morgan City, La., shipyard of Service Marine Industries, Inc. (SMI), a premier designer and builder of casino boats, the "Promus II" riverboat will have a capacity of 1,200 passengers, with over 20,600 square feet of gaming space and 820 gaming positions. She will have three enclosed decks accented by an elegant atrium and stylish glass elevator.

Her paddlewheel is powered by four Caterpillar 3508 generator sets producing 715 kw each. The gensets will also supply power to the 300-hp bowthruster and the 300-hp stern thruster through an SCR system.

"We were happy to see Harrah's go this way [with a paddlewheeler]," said Tom Hensley of SMI. "This will enable us to demonstrate our capabilities in this design, although we have built paddlewheelers in the past."

The last paddlewheeler delivered by SMI was the 108-foot, 600-passenger Annabel Lee built in 1988. Over the past few years, SMI has delivered several megayacht-style vessels to the dinner cruise and excursion market.

Additionally, Harrah's first casino boat for Joliet, expected to be delivered by SMI this month, is a megayacht-style boat.

The paddlewheel design will offer Harrah's greater operational flexibility, since gaming laws of several states stipulate that vessels either must be paddlewheel-driven or reminiscent of historical riverboats.

Mr. Hensley said he expects to sign a contract shortly to construct another gaming vessel for a Missouri operator.

At Aurora, Ill., work is well underway by Garbe Iron Works on the City of Lights I and City of Lights II. The two vessels, being built on-site for Pratt Hotels, should be ready for a spring delivery.

Earlier this year in Mobile, Ala., Bender Shipbuilding & Repair Co., Inc., completed its work on the ex-Monte Carlo. The former excursion vessel was converted to the casino boat Silver Eagle for owners Jo Daviess Riverboat Venture.

The 205-foot Silver Eagle is operated out of Galena, Ill., by the Eagle Ridge Resort.

Construction is underway at the Jacksonville, Fla., shipyard of Atlantic Marine, Inc. on the new \$12-million Alton Belle Casino II for Alton Riverboat Gambling Partnership.

The vessel, similar in design to the Empress Riverboat Casino operating out of Joliet, will replace the 500-passenger Alton Belle Casino. The Alton Belle Casino II, scheduled for a May 1993 delivery, will have a capacity of 1,200, with 900 gaming positions.

#### Operators Benefit From Dockside Gaming In Mississippi

Ironically, most riverboat gaming in Mississippi isn't done on a riverboat at all.

Dockside gaming has allowed

operators to utilize existing barges refit with superstructures as casinos.

There are no restrictions as far as maximum vessel size or square footage devoted to gaming. Vessels must be a minimum of 150 feet in length with capacities of no less than 200 persons, and can operate 24 hours-a-day, seven-days-a-week. The Mississippi law has allowed operators to get started more quickly than any other state.

And business is certainly boom-

ing in Mississippi. The counties of Adams, Claiborne, Hancock, Harrison, Issaquena, Tunica and Warren have already passed proactive local referendums legalizing dockside gaming.

With five vessels up and operating and a sixth due shortly, Lorenzo Creighton, the director of the Mississippi Gaming Commission has projected the "casino win" for the first fiscal year to be about \$260 million, generating \$20 million in tax revenue for Mississippi. Mr.

Creighton said that at this time no cap has been set on the number of licenses that the state will issue. There are currently 18 gaming establishments either licensed or awaiting licenses in the state. Some operations, in addition, already have expansion plans in the works.

For instance, the owners of the 295-foot, two-story Mardi Gras Casino located at a 340-acre site in Bay St. Louis, which only opened at the end of September, already have plans to expand their operation.

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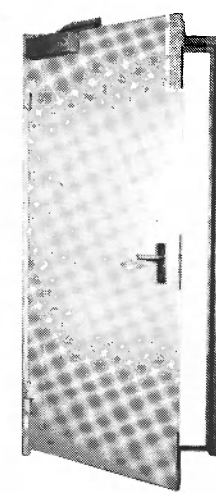


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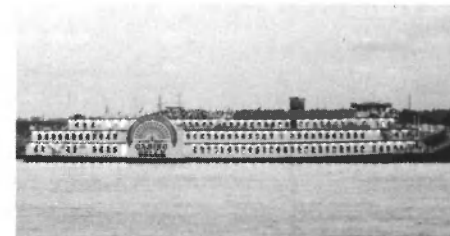
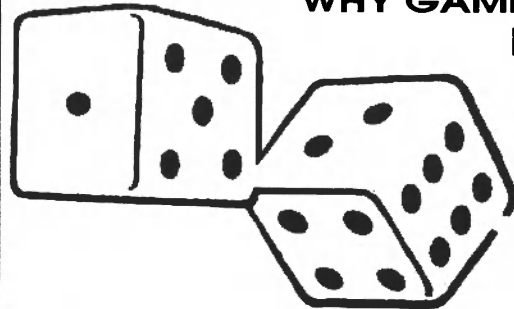


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**Exhibit 1**

**Riverboat Gaming Legislation At A Glance**

STATE	BET LIMITS	LOSS LIMITS	# OF LICENSES	COMMENTS
ILLINOIS	None	None	10	As many as 2 boats per license; max. 1200 gaming positions.
IOWA	\$5 maximum	\$200 per cruise	10	Self-propelled riverboats; max. 30% of boat for gaming.
LOUISIANA	None	None	15	Paddlewheel-driven boats only; max. 60% devoted to gaming.
MISSISSIPPI	None	None	No limit as yet.	Dockside gaming only; gambling 24 hours per day, 7 days a week.
MISSOURI	None	\$500 per cruise	Not determined as yet.	Self-propelled & permanently moored boats; min. 500 pass. capacity.

Casino Magic plans to add two additional 295-foot barges to the existing vessel to increase its usable gaming area to over 84,000 square feet. SMI, which performed the work on the Mardi Gras Casino, has been contracted to procure two vessels for refit.

According to **Len James Giacone** of Casino Magic, contractors were expected to complete the second floor of the Mardi Gras Casino in time for a December 26 opening.

"We've had a tremendous impact on the Mississippi economy," said **Mr. Giacone**. "We're not only bringing people into this area, but most of our employees live within the state." Employment is expected to reach 1,400 people upon completion of the second floor of the casino.

Expansion plans are also in the works for Grand Casino, Inc., operators of the Grand Casino Gulfport, who are expected to set up a similar gaming complex in Biloxi. The current Grand Casino Gulfport, composed of four 295- by 54-foot barges, has 195,000 square feet of gaming space.

Business is brisk at the Biloxi Belle, according to **Tippy O'Bryan**, vice president of public relations for the Mississippi Riverboat Amusement Corp., owners of the vessel.

"We opened in the late summer, and business is still fantastic," said **Mr. O'Bryan**. "Business is well above our projected percentages and

we're looking forward to the spring-time, when a number of snowbirds and tourists should flock to this area."

**Mr. O'Bryan** said that preliminary discussions are already underway for expansion, although nothing to date has been finalized.

The one-time Iowa riverboat casinos, the former Emerald Lady and Diamond Lady, in combination with a pavilion barge, have ventured downstream to more profitable grounds to be reborn as the floating casino Isle of Capri in Biloxi.

"We are excited to be involved in the development of gaming in Mississippi as well as with the revitalization of the Mississippi Gulf Coast," said **Edward S. Eilers**, president of the President Casino at Broadwater Beach Resort in Biloxi. "I'm confident that the emergence of casino gaming will have a positive impact on the economy in the entire region," he added.

A replica of a turn-of-the-century sidewheeler, the 292-foot President Casino Mississippi is permanently moored at the Broadwater Marina. She features 17,000-square feet of casino space, with 480 slot and video poker machines and 42 table games.

The newest gaming development to open is the 500-foot pastel pink Casino Splash, operated by Tunica Casino. Formerly a floating entertainment center in Louisville, the Casino Splash was refurbished by Bender Shipbuilding & Repair, in

Mobile.

She opened at Tunica in October.

Meanwhile, conversion work is underway on the Miss New York, a former Staten Island ferry. The vessel will be utilized in dockside gaming at Port Gibson, Miss.

Although Mississippi is a wide-open market—with no restrictions on the number of licenses that will be issued (and thereby no restriction on the number of vessels)—it may prove not as attractive to some shipbuilders as some other states, since many of the riverboat casinos will wind up being newly refit non-self-propelled barges. Most or all of this refit work is performed by private contractors, rather than shipbuilders.

**Illinois Operator's Emergence Hurts Iowa Operators**

High stakes riverboat gaming operations in Illinois have cut into the profits of Iowa casino boat operators. This has led to the shifting of some Iowa vessels by major operators.

Steamboat Development, for example, moved its two flagships, the Diamond Lady and the Emerald Lady, to the more profitable waters of Mississippi, where they now reside as part of the dockside casino Isle of Capri. Operators in Mississippi not only benefit from reduced crewing and fuel costs, but from 24-hour-a-day, seven-day-a-week gaming operations.

The passage of Missouri riverboat gaming has also had an impact on the Iowa scene. It clears the way for the sale of the 387-foot Dubuque Casino Belle to St. Charles, Mo., investors.

The vessel, formerly owned by

Roberts River Rides, is scheduled to leave for Missouri after March 31, 1993. Originally built at a cost of \$12 million by Patti Shipyards, Inc., of Pensacola, Fla., the Dubuque Casino Belle was sold to St. Charles Riverfront Station, a subsidiary of Palace Station, Inc., of Las Vegas, for a reported \$17 million.

According to **Ken Bonnet**, assistant to the president of Roberts River Rides, one of the main factors in the decision to sell the Dubuque Casino Belle was the health of owner **Robert Kehl**.

In addition, the current state of gaming was also a factor in the sale. "I hope that the gaming legislation in other states inspires Iowa to change," said **Mr. Bonnet**. "The current situation leaves Iowa operators at a distinct disadvantage. The \$5 bet limitation in particular is a problem. A player needs the opportunity to increase his bet in order to increase his winnings more quickly."

Although I wouldn't necessarily like to see unlimited losses, I believe the Missouri law is more ideally suited, with no restrictions on wagering and losses limited to \$500."

**Mr. Bonnet** said that the company plans to continue operating the 500-passenger casino boat Mississippi Belle II out of Clinton, Iowa.

The other Iowa boats currently operating include the five-deck, 3,000-passenger President Casino Belle homeported in Davenport, Iowa, and the former DeWitt Clinton, newly renovated by Sioux City Riverboat, Inc.

Now called the Sioux City Soo, the 150-foot riverboat, which operated for years out of the South Street Seaport in lower Manhattan, is based in Sioux City.

**Riverboat Casinos In Operation**

(as of December 1, 1992)

VESSEL	CAPACITY	OPERATOR	HOMEPORT
Alton Belle Casino	600	Alton Riverboat Gambling	Alton, IL
Casino Rock Island	1000	Jumer Hotels Ltd.	Rock Island, IL
Empress Riverboat Casino	1200	Des Plaines River Entertainment Corp.	Joliet, IL
Par-A-Dice	1068	Greater Peoria Riverboat Corp.	Peoria, IL
Silver Eagle	1000	Eagle Ridge Resort	Galena, IL
Dubuque Casino Belle	2200	Roberts River Rides	Dubuque, IA
Mississippi Belle II	500	Roberts River Rides	Clinton, IA
Sioux City Soo	500	Sioux City Riverboat Corp.	Sioux City, IA
President Riverboat Casino	3000	Galwey Riverboat Cruises	Davenport, IA
President Casino Mississippi	1500	Broadwater Beach Hotel & Casino	Biloxi, MS
Biloxi Belle	1900	Miss. Riverboat Amusement Corp.	Biloxi, MS
Casino Magic	1500	Mardi Gras Casino	Bay St. Louis, MS
Casino Splash	1500	Tunica Casino	Tunica, MS
Isle of Capri	2400	Riverboat Corp. of Miss.	Biloxi, MS

**Exhibit 2**

**Austal Ships Delivers Eighth Catamaran In Two Years**

Austal Ships of Australia is now one of the leading builders of 40-meter, high-performance catamarans.

It recently completed its eighth catamaran for Asian owners in less than two years with the delivery of the 40-meter, 338-passenger ferry "Nan Gui."

The West Australian aluminum-ferry builder's \$70 million sales figures represented almost half of the \$160 million export earnings for the lightweight sector of the State's shipbuilding industry in 1992.

Ten catamarans were ordered by Yuet Hing Marine Supplies of Hong Kong, seven of which had been completed and shipped by the end of 1992.

Two 354-passenger ferries are currently under construction for the Ping Gang Transportation Corporation and the Zhu Hai Jiuzhou Port



The Nan Gui on final sea trials off Fremantle.

Administration Group and are scheduled for delivery in March.

To meet its growing demand, Austal is spending \$5 million on a waterfront shipyard to allow construction of 76-meter "AutoExpress" superferries capable of carrying more than 400 passengers, 72 cars and 10 buses or trucks at speeds up to 40 knots.

Austal will also be the production base for a range of 38-meter, air-cushion catamarans and giant ferries up to 120 meters in length.

For complete information on Austal Ships' facilities,

Circle 36 on Reader Service Card

**Atlantic Marine To Build Tri-Deck Gaming Vessel**

Atlantic Marine, Inc., of Jacksonville, Fla., signed a contract with Alton River Boat Gambling Partnership, of Alton, Ill., to build a triple deck gaming vessel with capacity for 1,200 passengers and 100 crew.

The 222-by-66-foot vessel is scheduled for a May 1993 delivery.

Designed by Rodney E. Lay & Associates, of Jacksonville, Fla., the vessel is powered by two Caterpillar 3412TA marine engines with Twin Disc reduction gears.

Caterpillar also supplied two 3508, 715-kW generator sets for elec-

trical service; a 3304, 113-kW generator set for emergency power, and a 3208TA engine to power the Schottel SST170 48-inch bowthruster.

The three ballroom-sized decks will have 1,200 gaming positions, which includes 900 slot machines. Interiors of the casino decks will be designed by Interior Design Intl., of Seattle, Wash.

In addition to the Alton Belle, Atlantic Marine has built four other casino vessels. Three paddlewheel vessels, Diamond Lady, Emerald Lady and Par-A-Dice, and the modern catamaran, the Empress.

Established in 1964, Atlantic constructs all types of vessel including dinner boats, ferry boats, research vessels, tugs, barges and fishing vessels for the U.S. and international market.

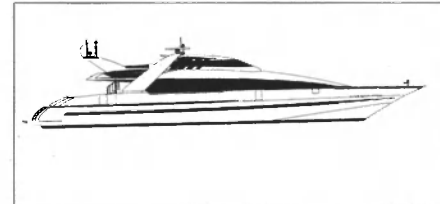
For additional information on the products and services offered at Atlantic Marine, Inc.,

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### MTU Engines Power One Of World's Fastest Yachts

Some of the world's fastest yachts are powered by MTU engines. A recent yacht, the Moonraker, delivered to John Staluppi, recorded a speed of 66.7 knots during sea trials.

Moonraker is reported to be the third in a series of MTU-powered luxury yachts to establish speed records. Previously, the Octopussy, also owned by Mr. Staluppi, was regarded as one of the fastest yachts in the world with speeds of 53 knots, until the transatlantic record-breaker Gentry Eagle was rebuilt as a luxury yacht and reached a speed



Profile of the Moonraker powered by MTU engines.

of 62 knots. In addition to being the fastest yachts in the world, more of the world's top 100 yachts are reported to be powered by MTU engines than any other engine maker.

The 166-foot Moonraker, built in Norway by Norship-Eikefjord, is powered by two MTU 16V396TB94s, which deliver 3,480 hp each and a Textron Lycoming TF-40 gas turbine, at 4,600 hp. The boat is also equipped with three KaMeWa waterjets.

For complete details on the line of engines offered by MTU,

Circle 13 on Reader Service Card

### Insulations, Inc., Finishes Second Gaming Boat For Leevac Shipyard

Insulations, Inc., of New Orleans, an insulation, refractory and interior finish contractor, has completed work on a second gaming ship for Jennings, La.-based Leevac Shipyards. Owned by Southern Illinois Riverboat Casino Cruises, a subsidiary of Players International, the paddlewheel riverboat will offer gaming cruises on the Ohio River from Metropolis, Ill.

The 1,200-passenger vessel has a length of 210-feet, a 60-foot beam and an 11-foot depth.



Insulations, Inc. worked on this Leevac boat

The riverboat has three decks, with the top deck left uncovered for sightseeing, and three casinos. She was designed by Rodney E. Lay and Associates, Jacksonville, Fla., while the St. Louis-based firm of Directions and Designs created the

vessel's interior design.

Insulations, Inc., was involved in the installation of insulation, fireproofing and interior finishes for both the Player Ship and the company's first Leevac gaming-boat project, the 190-foot Casino Rock Island.

The insulation work included installing blanket and board materials in the hull, interior hulls, potable water piping and removable insulation covers on the exhaust system.

Fireproofing was done by fitting rigid mineral wool board materials on bulkheads to meet Coast Guard A-60 requirements.

The scope of Insulation's work on the ship's interior included the installation of sheathing, wall finishes, architectural ceiling systems and sound abatement materials.

For additional information about Insulations, Inc.,

Circle 192 on Reader Service Card

### Alfa-Laval Retrofits Egyptian Passenger Vessels

Alfa-Laval has received a major order from Egypt for oil treatment systems.

The order was placed by El-Qamar El-Saudi El-Masry, Cairo, an Egyptian shipping line operating three passenger ships in the Red Sea between Suez and Jeddah.

The company reportedly chose to replace existing Alfa-Laval fuel and lube oil cleaning systems onboard two of their passenger ships, the Mecca and the Sindibad, with Alcap systems from Alfa-Laval.

Each ship is being fitted with an Alcap FOPX 605 for fuel oil and an Alcap LOPX 705 for lube oil. An additional LOPX 705 will act as a standby for both the fuel and lube oil Alcaps.

The order also includes two Heatpac EHS heaters for each ship and Alfa-Laval Cleaning-in-Place systems for the separators.

For further information on the Alcap systems from Alfa-Laval,

Circle 6 on Reader Service Card

### Kvaerner Offers Four-Page, Color Brochure On New Motion Dampening System

Kvaerner Fjellstrand, of Omastrand, Norway, is offering the fast ferry industry a free, four-page, color brochure.

The new literature from the Norwegian builder fully describes its new Clipper Motion Dampening System (MDS) for improving the sea-keeping characteristics aboard their high-speed catamarans, a fast-growing industry segment, in high seas.

According to the company, its Clipper MDS is designed to improve passenger comfort and safety in heavy seas, allowing ferry operators new access to routes that were once prohibited because of rough sea conditions.

The Clipper MDS consists of struts fitted at the forward end of each hull at precisely the point where they can provide maximum dampening effect.

Additionally, an adjustable two-square-meter-area fin is mounted on each strut.

Vessel motion is measured by sensors, which feed into a computer controlling the entire system.

This system constantly adjusts the angle of the fins so that they are continuously counteracting the motion of the vessel in the sea, providing maximum comfort and safety.

The system can be installed on Kvaerner Fjellstrand's 38.8 M Advanced Slender Catamarans and 40 M Flying Cat models.

Retrofitting on existing vessels is also possible.

The company's first Clipper MDS has reportedly been successfully mounted and tested on the M/V Victoria Clipper, a vessel belonging to Clipper Navigation, of Seattle, Wash.

Kvaerner's brochure includes a photograph of its Clipper MDS and a bar graph illustrating the M/V Victoria Clipper's percentage of bow acceleration versus wave height, with and without the Clipper MDS.

To receive a free brochure about Kvaerner Fjellstrand's Clipper MDS or additional information about the company and its services,

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### Wartsila To Manufacture Vasa 46 Engine In R.I.

Wartsila Diesel North America, Inc., announced it will manufacture the Vasa 46, the newest and largest Wartsila Diesel engine, for the North American shipbuilding and power generation market. The new facility is at Quonset Point, R.I.

This facility will manufacture the Vasa 12-, 16- and 18V46 engines. It will also package the Vasa 32 engine for main propulsion and power generation applications in the North and Central American markets. The new venture will also design, manufacture and market complete engine room modules suitable for use in the U.S. Navy's strategic sealift ships, as well as commercial ships.

"We are currently in the midst of producing a turnkey floating power

plant for Guatemala that will contain 20 diesel engines generating 110 MW of power," said Wartsila Diesel North America, Inc. president **Clas-Eirik Strand**. "From the signing of the contract to delivery is just eight months, and that includes getting the engines from Finland. Imagine what kind of turnaround we can provide with local engine availability."

In addition to manufacturing the engines, the new venture will be

designing, engineering and constructing complete stern modules for large ships. Each module will have the propulsion system, generating sets and all controls already in place. "This concept is state-of-the-art in modern shipbuilding," said **Karl Yannes**, vice president, Wartsila Diesel North America for Marine Engines. "This will save time and money, not to mention the headaches of coordinating the many vendors needed to complete a propulsion system."

To capitalize on builder's and owner's desire for a single source engine room manufacturer, Wartsila Diesel developed PROPAC, a fully integrated propulsion system, each tailored to meet individual customer's needs.

For additional information on Wartsila Diesel North America,

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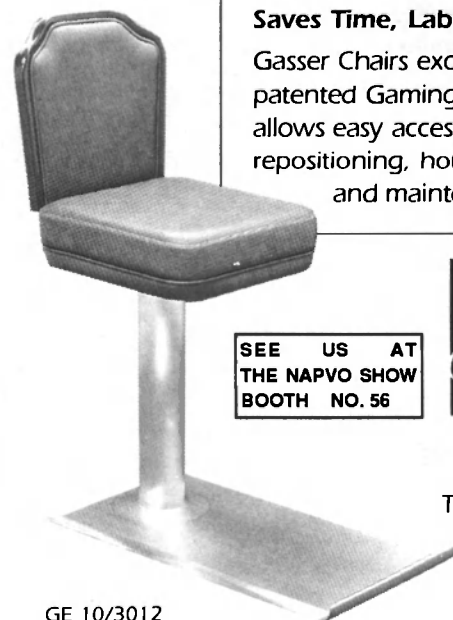
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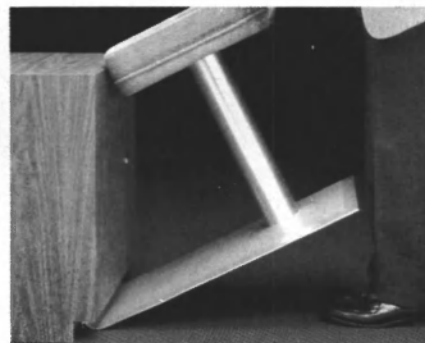


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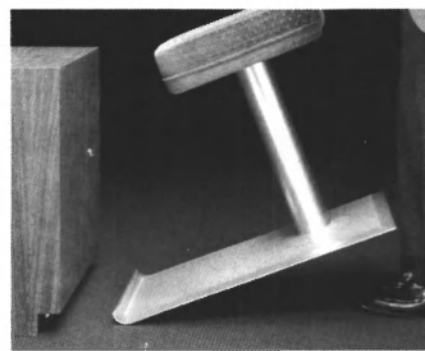
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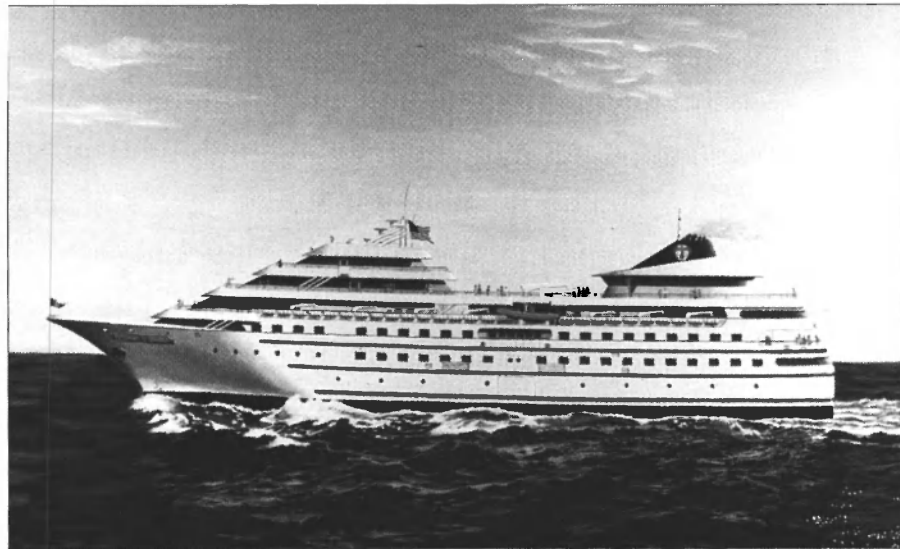
Gasser Chair Co. has been in the seating business for more than 45 years.

For additional information on seating solutions from Gasser Chair Co., and for information on the company's full line of products and services,

Circle 176 on Reader Service Card

Circle 254 on Reader Service Card

Maritime Reporter/Engineering News



Artist's rendition of the M/V Patricia M. Skurra

## Beckley To Design New Passenger Ship With 'Buy American' Concept

Bald Eagle Cruise Line, Muskegon, Mich., is a new company which is intent on serving residents and tourists in Wisconsin and Michigan by providing modern, state-of-the-art transportation on Lake Michigan between the ports of Muskegon, Mich., and Milwaukee, Wis. The company contacted Beckley Engineering Co., Inc., a naval architect, marine and mechanical engineering firm based in Savannah, Ga., to design the vessel.

Beckley Engineering designed the M/V Patricia M. Skurra with the "buy American" concept in mind. The ship is 300 feet long and 65 feet wide and will have a capacity for 1,250 passengers and 63 vehicles. Two Caterpillar 3616 main engines, each producing 6,600 bhp at 900 rpm, will provide the ship with a service speed of 21 knots. Two Caterpillar 3512 DI T A diesels provide electrical power to the ship with emergency power being produced by a Caterpillar 3406 DI T engine.

Other propulsion equipment includes: Lufkin reverse reduction gears, with approximately a 5:1 ratio; Quincy air compressors; Bird-Johnson four-blade fixed pitch propellers; pumps from Allis-Chalmers; an Otis elevator; two York 250-ton screw compressors for air conditioning; two ORCA 11-500 sewage treatment plants; and two Clayton oil-fired heating boilers.

The navigation and control system, "Integrated Bridge Control," was provided by Sperry Marine. Deck machinery was from by McElroy Machine

## Alaska Diesel Helps Repower Pushboat 'Jackie Cenac,' With Luggers Diesels

Cenac Towing Company of Houma, La., recently overhauled its pushboat, Jackie Cenac. An engine room overhaul was part of the work performed, and the existing twin screws were replaced with triple-screws, each powered by a Luggers 6170A rated at 640 hp for continuous duty.

The turbocharged and aftercooled six-cylinder, in-line engine was Cenac's choice after the successful repower of two smaller pushboats with the 400 hp Luggers 6140A's. The Jackie Cenac also received two new 36-kW Northern Lights gensets.

The Jackie Cenac's duties include pushing up to 900 feet of tow on the Mississippi River and Intercoastal Waterway, a job which requires her engines to run virtually non-stop for up to four days.

When pushing 75 percent of a full tow at five knots, each of the Luggers average 15.8 gallons of fuel consumed per hour, at 1,825 rpm.

The 70-foot, steel-hulled Jackie Cenac has a loaded draft of eight feet and can carry 18,000

& Manufacturing, with the car deck doors supplied by MacGregor-Navire.

Lifesaving equipment was provided by Viking Life-Saving Equipment, Schat and Willard Marine.

Other suppliers include Hopeman Bros. King Engineering; Cospolich; Automated Compaction and Gaylord.

The owners of the ship are in the process of obtaining financing for this project. Shipyards on the East and Gulf Coasts as well as in the Great Lakes region have been requested to submit proposals to the owner.

A concept review by the U.S. Coast Guard Marine Safety Center has been completed and construction is expected to begin in mid to late 1993.

For complete information on the services provided by Beckley Engineering,

Circle 172 on Reader Service Card

### Patricia M. Skurra Equipment List

Main engines.....	Caterpillar
Gears.....	Lufkin
Generators.....	Caterpillar
Bowthruster.....	Caterpillar
Emergency generator.....	Caterpillar
Propellers.....	Bird-Johnson
Air compressors.....	Quincy
Pumps.....	Allis-Chalmers
Elevator.....	Otis
Sewage treatment.....	ORCA
Air conditioning.....	York
Boilers.....	Clayton
Car deck doors.....	MacGregor-Navire
Navigation & Control.....	Sperry
Deck machinery.....	McElroy Machine
Life rafts.....	Viking
Davits.....	Schat
Rescue boat.....	Willard Marine
Joiner work.....	Hopeman Bros.
Tank gauging.....	King Eng.
Refrigeration.....	Cospolich
Compactors.....	Automated Compaction
Exhaust hoods.....	Gaylord



The Jackie Cenac was repowered with Luggers diesels.

gallons of fuel. Together, its three main engines and one genset consume approximately 50 gallons of fuel per hour, and lube oil consumption is "minimal" by the owner's own estimation.

The vessel's Twin Disc MG520, 7:1 ratio marine gear is coupled to the main engines through a torsional coupling. The boat has a four-bladed propeller from Padgett-Swann.

For information on Alaska Diesel Electric,

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Circle 266 on Reader Service Card



# OUTSTANDING VESSELS & OI



Atlantic Marine's Empress



Kvaerner Masa-Yard's Barfleur



Gladding-Hearn's Jet Express II



Trinity Marine's Greatland

The portfolio of outstanding passenger vessels delivered in 1992 is indeed a diverse lot. Ranging from the 517-foot car/passenger ferry, Barfleur, built by Kvaerner Masa-Yards, to the 222-foot casino boat, Empress, constructed by Atlantic Marine, to the 42.5-foot river excursion boat, Yookene Spirit, from Munson Manufacturing, this year's group of 11 vessels represent a broad spectrum in terms of size, design and function.

For example, the two casino boat entries, The President from Leevac and the Empress from Atlantic Marine, are similar in size and function but differ drastically in design. The modern-look Empress incorporates its gaming facilities in an up-to-date yacht appearance, while The President recaptures the old-time charm of the paddlewheeler.

In all there are three ferries, two casino and two "excursion" boats, two dinner/passenger boats, a mini cruise boat and a whale watch boat. The following story gives full specifications of each vessel, and provides due credit to builders and suppliers for creating the outstanding passenger vessels of 1992.

Plaines River Entertainment Corp. of Joliet, Ill. The contemporary, yacht-look casino boat incorporates a bow that makes the boat look like a catamaran, although she is a monohull configuration.

The boat, which has a capacity for 1,200 passengers and 100 crew, offers gaming cruises on the Des Plaines River. Designed by Rodney E. Lay Associates, Inc. of Jacksonville, the vessel is powered by two Caterpillar 3412 TA marine engines turning ZF BW251 reduction gears with a 4.13:1 ratio. Caterpillar also supplied two 3508, 715-kW generator sets for shipboard electricity; a 3304NA, 113-kW emergency generator; and a 3208TA engine to power the Schottel SST170, 48-inch bow thruster.

The Empress' Las Vegas-style interior was designed by Directions in Design of St. Louis. The two grand ballroom-size casinos are located on the upper and main decks. Deck access is provided by a 27-person Montgomery hydraulic elevator. The vessel's electronic gear includes Furuno radar, a Datamarine International depth sounder and VHF radios from Icom and Si-tex.

## EMPRESS

Atlantic Marine, Inc.

Circle 42 on Reader Service Card

Atlantic Marine, Inc., of Jacksonville, Fla., built and delivered the \$27 million, 222-foot by 66-foot Empress casino boat for the Des

## EMPRESS Equipment List

Main engines.....	Caterpillar
Reduction gears.....	ZF
Generator sets.....	Caterpillar
Emergency generator.....	Caterpillar
Bowthruster.....	Schottel
Bowthruster engine.....	Caterpillar
Hydraulic elevator.....	Montgomery
Radar.....	Furuno
Depth sounder.....	Datamarine International
VHF radios.....	Icom and Si-tex



Munson Manufacturing's Yookene Spirit

# PASSENGER FERRIES 1992

Yard	Vessel Name/Type	Main Propulsion
Atlantic Marine	Empress/Casino Boat	Caterpillar
Blount Industries Inc.	Mayan Prince/Mini Cruise Boat	Cummins
Gladding Hearn	Jet Express II/Ferry	Deutz MWM
Kvaerner Masa	Barfleur/Car-Passenger Ferry	Wartsila Diesel
Leevac	The President Casino/Casino Boat	Caterpillar
Munson	Yookene Spirit/River Excursion Boat	MerCruiser
Nichols Brothers	Star of Honolulu/Dinner Boat	Caterpillar
Skipper Liner	Water's Edge/Passenger Boat	Cummins
Trinity Industries	Greatland/Whale Watch Boat	Detroit Diesel
Washburn & Doughty	Captain Henry Lee/Ferry	Caterpillar
Westport Shipyard	Pacific Spirit/Harbor Excursion	Lugger

## STAR OF HONOLULU

Nichols Brothers Boat  
Builders

Circle 43 on Reader Service Card

The 1,600-passenger, 1,166-ton Star of Honolulu measures 232 feet long and is the heaviest vessel ever built by Nichols Brothers Boat Builders.

Delivered to Paradise Cruise Ltd., of Honolulu, the vessel circumvents Oahu during daylight hours and also offers sunset dinner cruises.

Equipped with a warts-type stabilizer and deep-vee hull for a smooth ride, the Nichols Brothers-designed dinner/excursion boat features a power plant consisting of two Caterpillar 399, 1,125-hp engines, driving Cat 7261, 3.18:1 reduction gears.

Power is transferred to the 48-inch by 60-inch Sound Propeller wheels via five-inch Aquamet shafts.

The vessel, at full load speed, is capable of 11 knots.

Mathers supplied MMW electronic propulsion controls. Nichols engineered the steering system and alarm monitors. An S-103L Schottel Werft steerable bowthruster aids docking, and can also be used to bring the vessel home, if needed. Auxiliary power for the vessel is supplied by two Cat 3406 165-kW diesel generators.

The interior of the vessel was designed by Interior Design International of Seattle.

For dinner service, the vessel can accommodate 550 passengers on the main deck for a "Star Sunset Dinner Cruise."

Approximately the same number of passengers can be accommodated on the second deck, which is open for private charter.

The third deck is designated for the 350-passenger "Three-Star Sunset Dinner Cruise," while the enclosed top deck allows 80 passenger to enjoy the "Five-Star Sunset Dinner Cruise."



Nichols Brother's Star of Honolulu



Leevac's The President Casino Mississippi



Skipper Liner's Water's Edge



Blount Industries' Mayan Prince



Westport Shipyard's Pacific Spirit



## Kvaerner Masa-Yards Inc. - the experienced builder of successful ships



Kvaerner Masa-Yards is a Finnish shipbuilding company with long traditions of producing successful high-quality ships.

The company is part of the Norwegian industrial group Kvaerner a.s.

Kvaerner Masa-Yards operates two new-building yards, in Turku and Helsinki, and a cabin module factory in Piikkiö. The company employs 4000 people.

The Technology Unit handles R&D, engineering and after-sales services, and includes the Arctic Research Centre (MARC).

Kvaerner Masa-Yards build cruise liners and passenger ferries, icebreakers and ice-going tonnage and all types of special technology vessels, such as gas and chemical carriers, tankers, cable layers, dredgers, crane ships and research vessels.

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## Kvaerner Masa-Yards

### STAR OF HONOLULU Equipment List

Main engines.....	Caterpillar
Under stocks, shafts.....	Aquamet
Propellers.....	Sound Propeller
Reduction gears.....	Mathers Controls
Steering controls.....	Schottel Werft
Generator.....	Nichols Bros.
Bowthruster.....	Wagner
Generator.....	Caterpillar
Chiller plants.....	Hempel
Seawater treatment system.....	Hardware
Engine cooling.....	Specialties
Fixed CO <sub>2</sub> system.....	Celsius Marine
Fire/smoke detection system.....	Associated Elevator
Switchboards.....	Kenwood
Power Panels.....	Electronics
Fire pumps.....	Gorman-Rupp
Oil/Water separator.....	Nelson Bilge Boy
Radar.....	Furuno
GPS.....	Si-Tex
Loran.....	Furuno
Weather fax.....	Furuno
VHF, SSB radios.....	icom
Depth sounders.....	Datamarine
EPIRB.....	Satfind
Coatings.....	International and Sherwin Williams
Non-skid deck coatings.....	P.R.C.

### MAYAN PRINCE

Blount Industries, Inc.

Circle 44 on Reader Service Card

Blount Industries, Inc. of Warren, R.I., delivered the small cruise boat the Mayan Prince to American Canadian Caribbean Line, Inc.

The vessel measures 175-feet long by 39-feet wide, and has a draft of 6.5 feet.

It accommodates 99 passengers and 18 crew members in 47 cabins, and will operate cruises during the summer months to Canada, and cruises in the fall and winter to Florida via the Atlantic Intercoastal Waterway and then operate segmented cruises through the Bahamas and Eastern Caribbean to South America.

The boat, which is USCG certified for 99 passengers on near coastal routes, is powered by a Cummins KTA-19m main engine driving Twin Disc MG-518, 3:1 reduction gears.

The Mayan Prince carries a Solas certificate and ABS International loadline for its international routes. The vessel is designed to serve the small ship cruise public in the U.S. and Canada, and because of its shallow draft is capable of stopping at small villages as well as larger ports. Its superstructure can be lowered to navigate through low bridges and canals.

The Mayan Prince also features a bow ramp for landing directly on beaches.

Aside from the main engine, Cummins also supplied: four Onan, 95-kW generators, two used for ship power, and one each for nighttime and emergency use; and a 100-hp bowthruster engine to drive the Arcurus, 28-inch diameter bowthruster from American Bow Thruster.

Electronics equipment on board includes Furuno model 1830 radar, LC-90 MK II loran and 208 A weather fax; Si-tex 77P GPS; ICOM M-120 VHF radio and M-700 SSB radio; two Datamarine 3000 depth sounders; and a Satfind 406 M3 EPIRB.

Coatings were provided by International Paint and Sherwin Williams.

### MAYAN PRINCE Equipment List

Main engines.....	Cummins
Reduction gears.....	Twin Disc
Propellers.....	Michigan Wheel
Steering controls.....	Wagner
Generator.....	Cummins
Bowthruster.....	American Bow Thruster
Generator.....	Cummins
Air conditioning.....	Lunaire
Chiller plants.....	Dunham-Bush
Seawater treatment system.....	Omnipure
Engine cooling.....	Fernstrum
Fixed CO <sub>2</sub> system.....	Chemtron
Fire/smoke detection system.....	Pyrotechnics
Switchboards.....	Power Panels
Fire pumps.....	Gorman-Rupp
Oil/Water separator.....	Nelson Bilge Boy
Radar.....	Furuno
GPS.....	Si-Tex
Loran.....	Furuno
Weather fax.....	Furuno
VHF, SSB radios.....	icom
Depth sounders.....	Datamarine
EPIRB.....	Satfind
Coatings.....	International and Sherwin Williams
Non-skid deck coatings.....	P.R.C.

### GREATLAND

Trinity Marine Group

Circle 148 on Reader Service Card

The Greatland, a whale watch boat delivered in May by Trinity Marine Group—Aluminum Boats, Inc., measures 89 feet long, with a 24-foot beam and a 5.5-foot draft.

The boat is powered by a pair of Detroit 12V92TA diesel engines, which together generate 1,800 hp.

The pair of Detroit diesels drive two ZF reduction gears, which turn two, four-blade Magnesium propellers.

Hynatic supplied engine controls and PSO-2200 steering controls.

Two Northern Lights generator engines, outputting 33 kW and 12 kW respectively, help provide electrical power onboard.

Deck machinery includes a 16-inch Kolstrand anchor windlass.

The boat is guided by a Danforth "Constellation 5" compass. The owners furnished their own radios, radar and loran.

Three pumps onboard include two bilge pumps, one from Crown Electric and one from Jabsco Belt Driven, and one Sears Jet Type potable water pump.

Additional equipment on the Greatland whale watch passenger vessel includes Sealand Model 510 toilets and a Forjford, 100-pound anchor.

### GREATLAND Equipment List

Main engines.....	Detroit Diesel
Generator engines.....	Northern Lights
Reduction gears.....	ZF
Steering controls.....	Hynatic
Deck machinery.....	Kolstrand
Shafting.....	PH
Compass.....	Danforth
Bilge pump.....	Crown Electric
Potable Water.....	Sears Jet Type
Toilets.....	Sealand
Anchor.....	Forjford

### THE PRESIDENT CASINO MISSISSIPPI

Leevac Shipyards, Inc.

Circle 45 on Reader Service Card

The 287-foot, 1,500-passenger President Casino Mississippi, built by Leevac Shipyards, Inc. of Jennings, La., and designed by DeJong and Lebet of Jacksonville, Fla., is actually two vessels.

The forward 194 feet is a U.S. Coast Guard certified subchapter H passenger barge. With the exception of the Schottel bowthruster, the emergency generator and some electric motor driven pumps, there is basically no vessel machinery located in the forward section.

The after 93-feet of The President Casino Mississippi is an uninspected power unit, which contains the main propulsion unit consisting of two Caterpillar 3508 diesel engines capable of generating 1,550 hp; and three Caterpillar generators.

The two units are mated together using two 60-ton deck winches,

which form a 287-foot vessel.

The Caterpillar engines drive Twin Disc MG530 4.94:1 reduction gears. Engine controls were supplied by Rexroth, with steering controls by Custom Hydraulics.

The imitation paddlewheels on each side of the "barge" unit are arranged such that the separation between the two units is not apparent to the average observer and, in fact, most patrons are totally unaware that there are two parts to this vessel.

The reported advantage of having this two-part unit, versus a single-piece vessel, is that normal shipboard vibration and noise is virtually eliminated in the passenger (casino) area. Also, in the event of wheel or rudder damage, in less than five minutes the electrical, air and water connections between the two units can be disconnected, the lock-up cables disconnected, and the power unit alone can be drydocked, making it easier to find a drydock capable of handling a 93-foot long unit versus a 287-foot unit.

The 93-foot power unit houses all of the accounting, count rooms, surveillance, monitoring, state police

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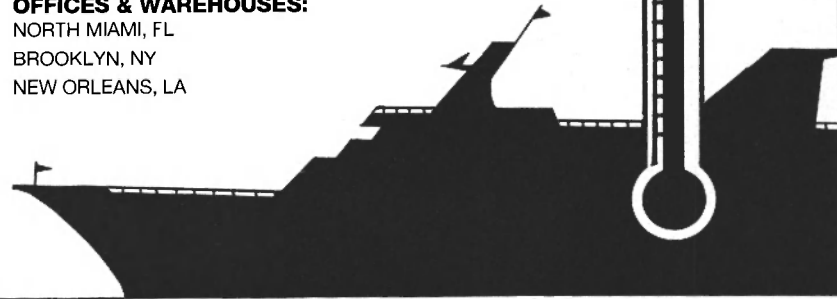
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Circle 213 on Reader Service Card



and gaming commission offices and crew breakrooms and lockers, all areas off-limits to passengers on every casino vessel in any event.

The casinos are located on the three decks of the barge unit. A large atrium between the first and second deck increases the overhead space in the main casino, providing the atmosphere of a land-based casino. The entire area is cooled with a 200-ton air conditioning system from Carrier.

#### THE PRESIDENT CASINO MISSISSIPPI Equipment List

Main engines.....	Caterpillar	Steering controls.....	Custom Hydraulics
Propeller.....	Bird Johnson	Deck machinery.....	Nabrico
Thruster.....	Schottel	Shafting.....	Aquamet
Generator engines.....	Caterpillar	Coatings.....	Sigma Coatings
Thruster engine.....	Caterpillar	VHF radio.....	Standard Communications
Reduction gears.....	Twin Disc	Depth sounder.....	Delta Marine
Engine controls.....	Rexroth	Radar.....	Raytheon
		Switchboard.....	Industrial Power Systems
		Pumps.....	MP Pumps and Worthington
		Sewage system.....	Envirovac
		Air conditioning.....	Carrier
		Fixed CO <sub>2</sub> .....	Kiddie

## WATER'S EDGE

### Skipper Liner

Circle 46 on Reader Service Card

The Water's Edge was constructed by SkipperLiner, Inc. of La Crosse Wis., for owner Water's Edge Restaurant of Long Island, N.Y. The 149-passenger sternwheeler measures 65-feet long by 18-feet wide and has a draft of 3.5 feet. The interior decor of the boat is handcrafted cherry with brass accents, and is complemented with emerald green interior carpeting.

Delivered in September, the 85-ton vessel is powered by two Cummins 4BT engines generating a combined 320 hp. The powerplants drive Michigan Wheel propellers through Twin Disc MG506 reduction gears. Aquamet provided the shafting.

Newage supplied a model VCI224E16, 40-kW generator to provide the boat with electrical power, and Cummins supplied the generator engine. Engine controls are from Morse and steering controls were supplied by Hynautic.

Electronics equipment on the vessel includes: Icom model M-56 VHF radio; Raytheon model R-21X radar; and a Danforth compass.

The boat also features Monarch pumps, model BVF-S50, and is finished with coatings from Inorganic Coatings.

#### WATER'S EDGE Equipment List

Main engines.....	Cummins
Propeller.....	Michigan Wheel
Generator engine.....	Cummins
Generator.....	Newage
Reduction gears.....	Twin Disc
Engine controls.....	Morse
Steering controls.....	Hynautic
Shafting.....	Aquamet
Coatings.....	Inorganic Coatings
VHF radio.....	Icom
Radar.....	Raytheon
Compass.....	Danforth
Pumps.....	Monarch



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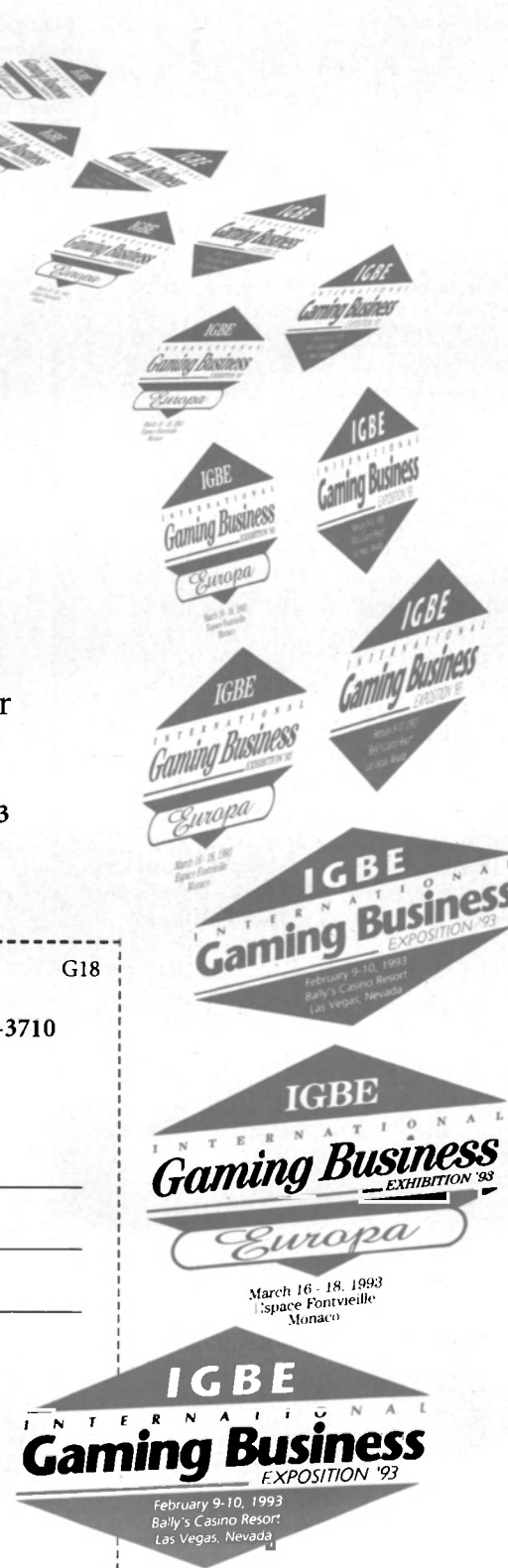
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Circle 236 on Reader Service Card

44



## BARFLEUR

### Kvaerner Masa-Yards

Circle 147 on Reader Service Card

The passenger/car ferry M/V Barfleur for B.A.I. Brittany Ferries/Truckline in France was delivered by Kvaerner Masa-Yards, Inc. at the Helsinki New Shipyard.

The 1,212-passenger ferry measures more than 517 feet long, has a 76-foot breadth and a 19-foot draft. Powered by four Wartsila Vasa medium speed, four stroke diesel engines, generating 3,100 kW at 720 rpm each, the Barfleur has a top speed of 19.5 knots.

The Wartsila diesels drive two, four-blade, controllable pitch, 4.3-meter diameter KaMeWa propellers through Lohmann + Stolterfoht, 2:1

Maritime Reporter/Engineering News

duction gears.

Two Wartsila Vasa 8R22/26 four-stroke diesels, each developing 1,420 kW at 1,000 rpm, serve as auxiliary engines.

Electrical power is supplied by three, three-phase Moteurs Leroy-Somer, 50 Hz auxiliary generators connected to the main switchboard. Backup is a Cummins emergency genset.

Designed for daily operation in the Western Channel between Poole and Cherbourg, the vessel will make four crossings per day, a feat made possible through its efficient cargo loading and unloading.

MacGregor-Navire (Fin) Oy supplied the ferry with RoRo equipment and passenger and provision elevators.

The Barfleur's passenger accommodations include 72 cabins with a total of 268 beds, two reclining seat lounges with a total of 295 seats, as well as a bar, restaurant and children's playroom.

The air conditioning and ventilation system was provided by Hi-Pres A/S.

The vessel is protected with a fire alarm system from Autronica Marin A/S, with detectors of ionic, flame, optical flame and thermal type.

The water fire extinguishing plant for the entire ferry is comprised of three Hamworthy fire pumps connected to the emergency power supply network. CO<sub>2</sub> and foam fire extinguishing systems were both supplied by Unitor.

Sliding fire doors were supplied by Kajaanin Metall.

Electronics equipment onboard includes: compasses and autopilot from Anschutz; radars and satellite navigation from Raytheon Marine Co.; Doppler from Sperry Marine; echo sounder from Skipper Electronics; and a radio navigator from Racal Marine.

#### BARFLEUR Equipment List

Main engines.....	Wartsila Diesel Oy
Auxiliary diesel engines.....	Wartsila Diesel Oy
Reduction gears.....	Lohmann + Stolterfoht GmbH
Propeller.....	KaMeWa
Couplings and Clutches.....	Vulkan Kupplungs und Getriebebau
Suction filters.....	Boll & Kirch Filterbau
Central water coolers.....	Alfa-Laval
Fire pumps.....	Hamworthy
Fire extinguishing.....	Unitor Ships Service
Fire alarms.....	Autronica
Compass and Autopilot.....	Anschutz
Radars.....	Raytheon
Doppler.....	Sperry Marine
Echo sounder.....	Skipper Electronic
Radio navigator.....	Racal Marine Electronics
P.A. and Entertainment.....	Oy Philips Ab
Cooling and Refrigeration compressors.....	Sabroe
Boilers.....	Aquamaster-Rauma Ltd.
Oil Burners.....	Weishaupt/Monarch
Air compressors.....	Ingersoll-Rand
Lube oil separators.....	Alfa-Laval
RoRo equipment.....	MacGregor-Navire
Windlass/Mooring winches.....	Norwinch
Rudder actuator.....	De Finn Ky
Bowthrusters.....	KaMeWa
Fin stabilizers.....	Brown Bros.
Life rafts.....	Viking
Lifeboat davits.....	Schat-Davit Co.
Auxiliary generators.....	Moteurs Leroy-Somer
Emergency genset.....	Cummins
Main switchboard.....	Kvaerner-Masa Yards

#### PACIFIC SPIRIT

Westport Shipyard, Inc.

Circle 48 on Reader Service Card

Westport Shipyard, Inc., of Westport, Wa., delivered the Pacific Spirit to Spirit Cruises, which operates a fleet of harbor excursion vessels in the Long Beach and Los Angeles harbor basins.

The 60-foot vessel, which is certified for 145 passengers in protected waters and 105 passengers in open waters, will be used on the firm's route between Long Beach's Shoreline Village and San Pedro's ports-of-call, and for special events.

The Pacific Spirit is powered by a pair of 260-hp L6125 Luggier diesel engines from Alaska Diesel Electric of Seattle.

The engines drive conventional propellers through Twin Disc MG-6091, 2.49:1 reduction gears.

Controls and instrumentation on the flying bridge include Mathers MMC propulsion controls, Morse steering controls and Luggier meters and alarms.

Basic navigation and communications equipment include a Raytheon R 21x Raster Scan radar. The engine room, which also contains a 12-kW M843N Northern Lights generator, is protected by a Fire Boy Halon 1301 system.

Rather than fixed seats, cabin and topdeck spaces afford space for open seating plans to fit event requirements. A refreshment bar is built into the forward part of the main cabin.

#### PACIFIC SPIRIT Equipment List

Main engines.....	Luggier
Reduction gears.....	Twin Disc
Propulsion controls.....	Mathers MMC
Steering controls.....	Morse
Meters and Alarms.....	Luggier
Radar.....	Raytheon
Fire extinguishing.....	Fire Boy Halon

#### JET EXPRESS II

Gladding-Hearn  
Shipbuilding

Circle 49 on Reader Service Card

The high-speed passenger catamaran Jet Express II built by Gladding-Hearn Shipbuilding, The Duclos Corp., is owned by First Island Co., of Put-In Bay, Ohio. The 98-foot vessel is 29 feet wide with a 3.5-foot draft.

The 395-passenger catamaran provides seasonal ferry service between Port Clinton, Ohio and Put-In Bay on Lake Erie's South Bass Island. Running along side her 93-foot sister ship, Jet Express, the new vessel helps double the operator's daily excursion service to the resort community.

Powered by twin 1,740-hp Deutz MWM diesel engines and driven by

## Traditional Design



### The Emerald Lady...

Designed by John W. Gilbert & Associates and patterned after the most successful sternwheelers of the late 1800's, the "Hudson" and the "Queen City," "The Emerald Lady," twin sister of the "The Diamond Lady," offers the grandeur of the original 19th Century Steamboats with rich Victorian interiors on four decks of casinos, gift shops, passenger lounge, main dining room and upper dining areas and children's arcade. Larger sister vessel "Par-A-Dice" operates from Peoria, Illinois.

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Circle 274 on Reader Service Card



two KaMeWa water jets, the Jet Express II reaches speeds of 32 knots fully loaded and is equipped with hydraulic adjustable trim tabs. It makes the 12-mile trip in approximately 20 minutes.

Other KaMeWa equipment on the boat includes engine and steering controls, as well as shafting. The boat's two 30-kW LIMA generators are powered by two 30-kW Lister generator engines.

Electronics onboard include Icom IC-120 VHF radio, Raytheon radar, Micro Logic loran and a Ritchie compass.

The Jet Express II, like its sister boat, was designed for the shoals surrounding Port Clinton. The water jets raise the catamaran's draft from 7.5 feet with conventional subcavitating propellers, to a shallow 3.5 feet. The three-deck, all-aluminum vessel features upholstered seats made by the shipyard and Norwegian Georg Eknes. The wide aisles and coamingless doors, folding seats, large head and wide flip-down gates reportedly make the vessel easily accessible to disabled passengers.

#### JET EXPRESS II Equipment List

Main engines.....	Deutz MWM
Reduction gears.....	ZF
Water jets.....	KaMeWa
Engine controls.....	KaMeWa
Steering controls.....	KaMeWa
Generator engines.....	Lister
Generator control panel.....	LIMA
Radar.....	Raytheon
VHF radio.....	Icom
Loran.....	Micro Logic Explorer
Compass.....	Ritchie
Depth sounder.....	Datamarine
Loud hailer.....	Raytheon
Music system.....	Bogan
Coatings.....	U.S. Paints
Pumps.....	Gould

#### YOOKENE SPIRIT

Munson Manufacturing

Circle 140 on Reader Service Card

When the Dinyee Corp. of Fairbanks, Alaska, and its subsidiary Yukon River Tours decided to capitalize on increased tour-

ism in the Fairbanks/Yukon area, it turned to Munson Manufacturing to supply a high-speed passenger tour boat.

Munson recently delivered to Dinyee a Munson Hammerhead high-speed vessel, the Yookene Spirit, built for quick river tours.

To accommodate the crowds and make a profit at the same time, Dinyee was looking for a vessel which had to meet many requirements.

The boat had to be fast, shallow draft, able to carry a bus load of people, easily beachable for bow loading and offloading, and tough, to endure being frozen into the ice or dragged up to the riverbank for winter storage.

The Yookene Spirit, which met all of Dinyee's performance and budget constraints, is powered by three 330-hp Mercruiser gas inboard/outboard engines coupled to the Mercruiser Bravo II inboard/outboard drive legs. The vessel measures 42.5 feet long by 15.5 feet wide and draws less than two feet when running at its 30-knot cruise speed. Seating accommodates 49 passengers and two crew. Electronics

onboard include dual Coastal Navigation depth sounders, Horizon Galaxy VHF, Aquameter compass and an Apelco public address system.

The USCG-certified boat was delivered for under \$160,000.

#### YOOKENE SPIRIT Equipment List

Main engines.....	Mercruiser
Engine controls.....	Mors
Depth sounder.....	Coastal Navigator
VHF radio.....	Horizon Galaxy
Compass.....	Aquameter
Public address system.....	Apelco

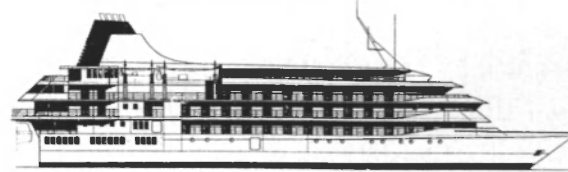
#### CAPTAIN HENRY LEE

Washburn & Doughty  
Associates, Inc.

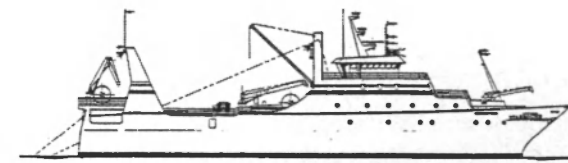
Circle 149 on Reader Service Card

Washburn & Doughty Associates, Inc. recently delivered a passenger and auto ferry to the Maine State Ferry Service in 1992.

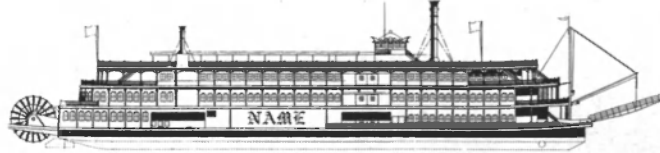
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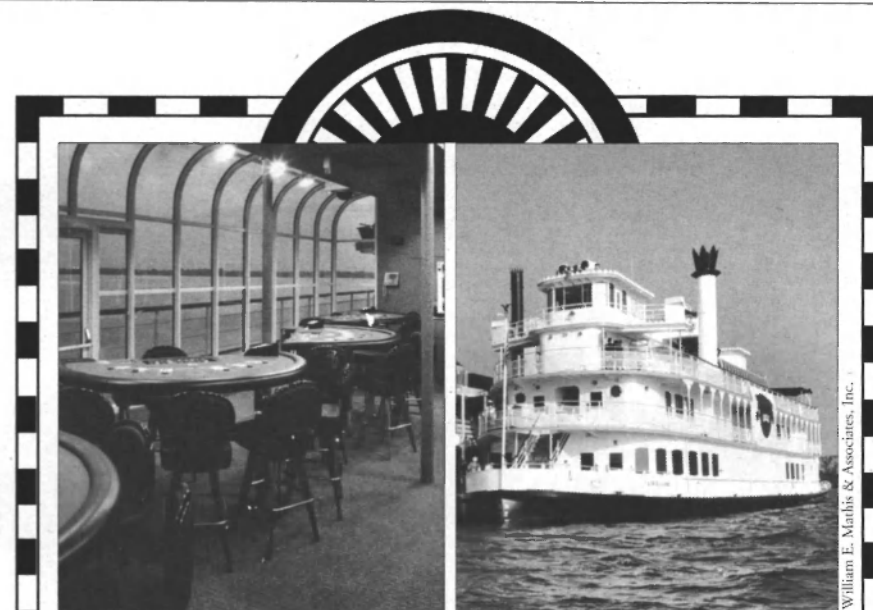
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Circle 201 on Reader Service Card

Maritime Reporter/Engineering News

The vessel, the Captain Henry Lee, holds a significant distinction: it was the first state ferry to be built at a Maine shipyard in more than 30 years.

Designed by Rodney E. Lay Associates of Jacksonville, Fla., and partially funded by a grant from the Federal Transit Administration and the state of Maine bonds, the Captain Henry Lee joins the Maine State Ferry Service providing year-round service on the Bass Harbor-Swan's Island Frenchboro route.

The vessel is 130 feet long, with a 6-foot beam and a 10-foot draft.

Power is provided by a CAT 3408 driving a Twin Disc 516, 3.5:1 reduction gear, which turns a Rice four-blade propeller.

The design speed for the 325-grt vessel is 12 knots. It has the capacity to carry 9,000 gallons of fuel oil, 500 gallons of fresh water, 250 passengers and 17 vehicles.

Three Detroit Diesel 30-kW generators, two auxiliary and one emergency, provide the ferry with electrical power.

Shafting, which includes 4.5-inch tail shafts and 3.5-inch line shafts, was supplied by Rose's Machine and Aquamet 18 respectively.

Steering equipment was supplied by Tenford and electronics equipment by Chase Leavitt.

### Carrier Builds Presence In Casino Vessel Sector With Full HVAC Systems

Carrier Transicold Marine, a division of Carrier Corporation, has captured a significant percentage of the air-conditioning contracts for Casino Cruise Vessels in the last two years. This success, according to the company, is due to its ability to supply a broad spectrum of marine HVAC full-systems tailored to a customer's needs.

Success as a "full-system" supplier is a result of the company's strong relationship with leading marine architects, according to the supplier. This relationship provides a tailored approach for the customer to specify and integrate a system within budget.

Carrier's strong dealer organization, with good locations, technical expertise and aftermarket support, also ensure operators will stay cool.

Initial jobs included the Diamond Lady, Emerald Lady and Par-a-Dice, all designed by John Gilbert and built by Atlantic Marine.

More recent contracts include the Players International gaming boat, designed by Rodney E. Lay & Associates and built by Leevac; the Empress, also designed by Rodney E. Lay & Associates and built by Atlantic Marine; the President Mississippi Casino, designed by DeJong & Lebet and built by Leevac; and Harrah's Casino Cruises, designed by DeJong & Lebet and being built by Service Marine.

For information on Carrier Transicold Marine's HVAC systems,



An artist's drawing of Swath Ocean's Super 4000-Class Fast Passenger Ferry.

### Swath Ocean, Nichols Brothers To Team On \$11.5 Million Fast Ferry Project For Florida

Swath Ocean, of Fareham, Hampshire, U.K., announced two planned newbuildings: a "Super 4000 Class" fast passenger ferry; and a "Solus 4000 Class" luxury cruise vessel.

Swath Ocean Europe confirmed a contract with Whidbey Island, Wash.-based Nichols Brothers Boatbuilders for the joint construction of one Swath Ocean Super-4000 Class fast passenger ferry, with an option, exercisable within three months, for a second vessel.

The vessel(s) are scheduled for completion in January 1994 at a fixed price of \$11,590,230 each. This equates to a total potential contract value of \$23.2 million, the largest order ever received by Nichols Brothers. They will operate under the U.S. flag on a twice-daily-return service over the 82 nautical mile distance from Freeport, the Grand Bahama Island, to Fort Lauderdale, Fla., carrying 384 passengers and a minimum of 1.25 tons of high value

commercial cargo.

The craft will measure 122 feet in length, have a 59-foot beam and draw approximately 9.8 feet when fully laden. Each craft will be fitted with two Textron-Lycoming TF-40 turbines, intaking and exhausting filtered and silenced air through an Industrial Acoustics Corporation system. The turbines will drive Philadelphia Gear 42:1 epicyclic reduction gears to wake-adapted, controllable pitch, KaMeWa propellers for an average service speed of 28.5 knots.

Electrical power will be provided by two Caterpillar 3306B 165-kW generators, while Aluminum Reynolds Company of the U.S. will provide plate for the hulls and superstructures. Interiors are being designed by John McNeece, London, and are expected to give the ferry a cruise ship ambience.

According to Swath Ocean Inter-

(continued on page 48)

#### CAPTAIN HENRY LEE Equipment List

Main engine.....	Caterpillar
Reduction gear.....	Twin Disc
Propeller.....	Rice
Steering.....	Tenford
Generators.....	Detroit Diesel
Shafting.....	Aquamet

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47



(continued from page 47)  
national chairman **Timothy D. Kelly**, "The TF-40's, in combination with very good design products from IAC, Philadelphia Gear, and given KaMeWa's excellent-as-usual product, represent very favorable footprint and weight profiles. We are particularly impressed by and appreciate the technical support to date from KaMeWa and Textron-Lycoming." Mr. Kelly added, "We are very pleased to work with Nichols

Brothers to execute these builds. We are certain that their extensive fast craft aluminum ferry experience will enhance the end-products."

A U.K.-based company announced its intentions to clear contingencies and fund a contract for Swath Ocean's SOLAS 4000 luxury cruise vessel.

The craft would be built at the Bromborough, Merseyside, U.K., facility of John Mowlem Construction PLC. The contract is for 5.195

million U.K. Pound Sterling (\$8.1 million), with delivery scheduled for Autumn 1993.

The passenger cruiser will have a 108.3-foot length, a beam of 52.5 feet and a draft of 9.5 feet. She will be Bahamian-flagged and fitted with two Caterpillar 3406 diesels in a direct-drive arrangement to twin fixed pitch propellers via conventional Twin Disc reduction gears, generating a service cruising speed of 12 knots with six days endurance.

Two Caterpillar 3306B 60-hz generator sets will provide power at ABB Flakt will supply a tailored HVAC system.

The prospective owner intends to employ the 36-passenger, 14-crew SOLAS 4000 cruiser for summer operations in Europe and over the winter in the Caribbean. Shipboard amenities include: 18 luxury cabins; a dining room; panoramic lounge library/conservatory; and a stern mounted watersport float platform.

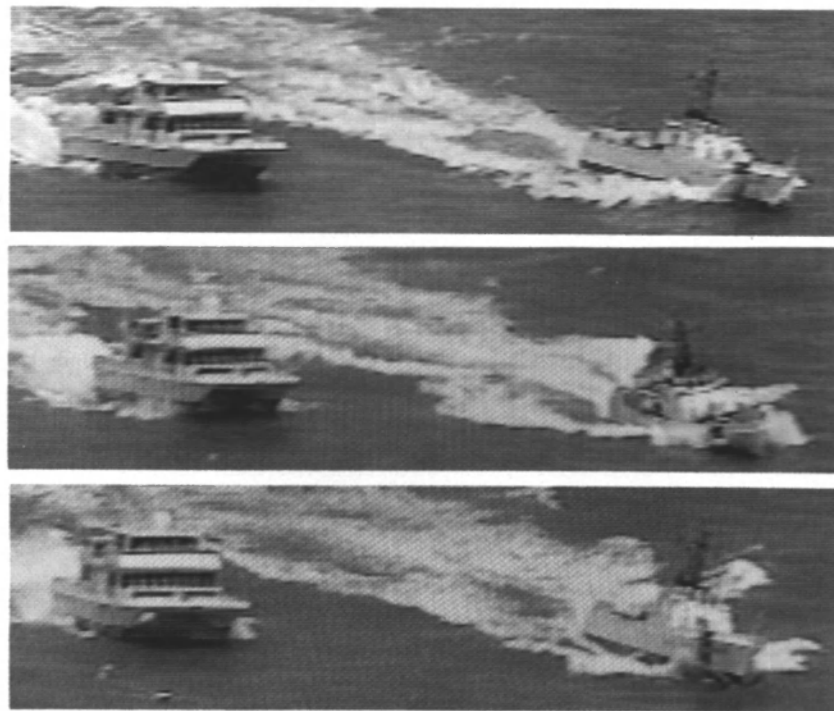
The design authorities within Swath Ocean for the Super 4000 Class newbuildings are Swath Ocean's chief of technology and naval architect **G. Robert Lamb**, and the overall design authority for the 4000 Class and naval architect **Stephen J. Phillips**.

For additional information about Swath Ocean's 4000-class vessels or other current buildings,

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Sequence of VHS footage taken during sea trials off San Francisco Harbor entrance. Full video available upon request.



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### MHI's Super Shuttle Breaks Speed Record During Trials

Mitsubishi Heavy Industries, Ltd. (MHI) has announced that its Mitsubishi Super Shuttle 400, the Rainbow, reportedly the world's first super high-speed fully submerged hydrofoil catamaran powered by diesel engines, has achieved a record-breaking maximum speed of 45.4 knots during its sea trials. MHI claims that this is the fastest speed ever obtained by a large-size, fully



MHI's 'Rainbow,' reportedly the first high-speed, diesel-powered, submerged hydrofoil catamaran.

submerged, hydrofoil passenger ship.

The 310-ton Rainbow is equipped with four high-speed Mitsubishi S16R-MKT-S diesel engines generating 2,850 hp and two Mitsubishi MWJ-5000A waterjet propulsion units with double-cascade type impellers, both of which were newly developed by MHI to be high-powered and lightweight. MHI launched the hydrofoil at its Shimomoseki Shipyard & Machinery Works in September 1992.

The Rainbow is 109.25 feet in length, has a beam of 43.3 feet and a 13.8-foot depth. The hydrofoil's deep v-shaped hull bottom sections allow the vessel to take-off and land smoothly, even in rough seas.

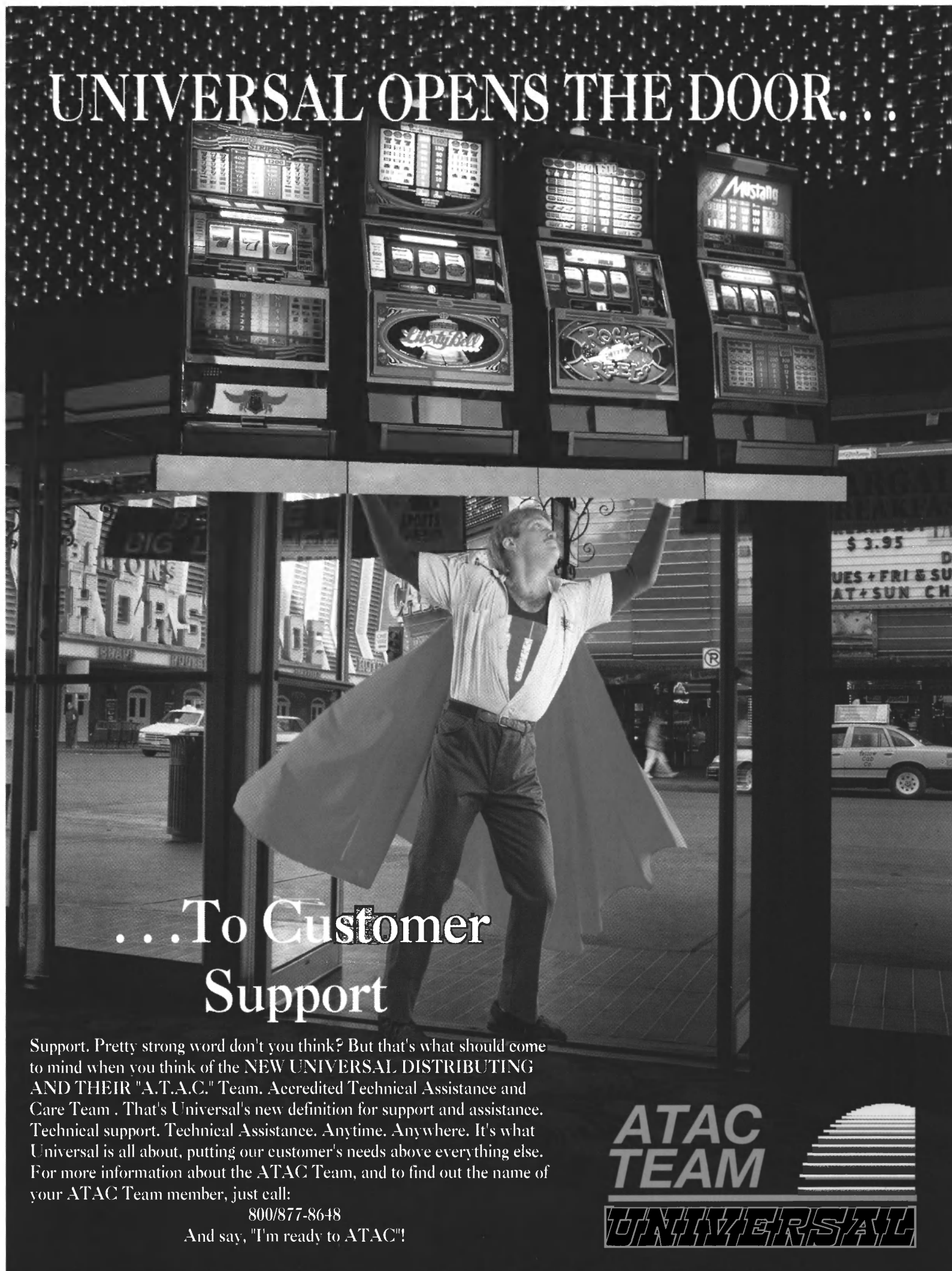
After the completion of her sea trials and the adjustment of some onboard equipment, including the Auto Pilot on Foils (APF) system, the 341-passenger Rainbow will be delivered to Oki Shinkoh.

For more information on MHI,

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Maritime Reporter/Engineering News

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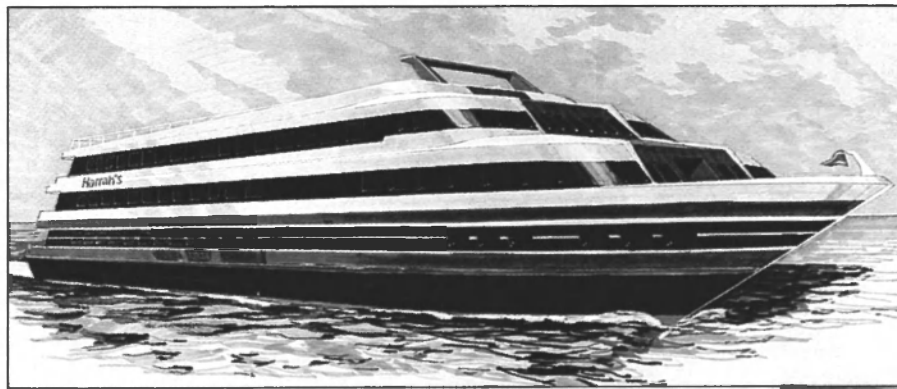
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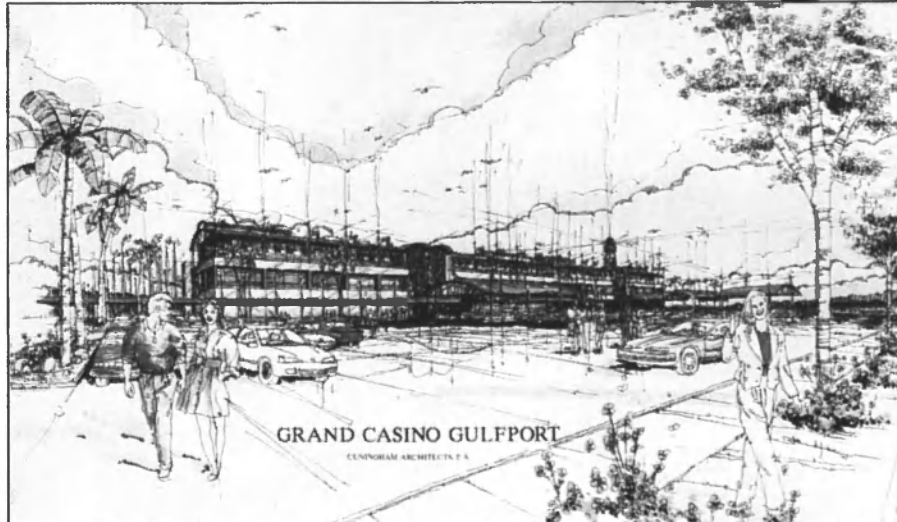
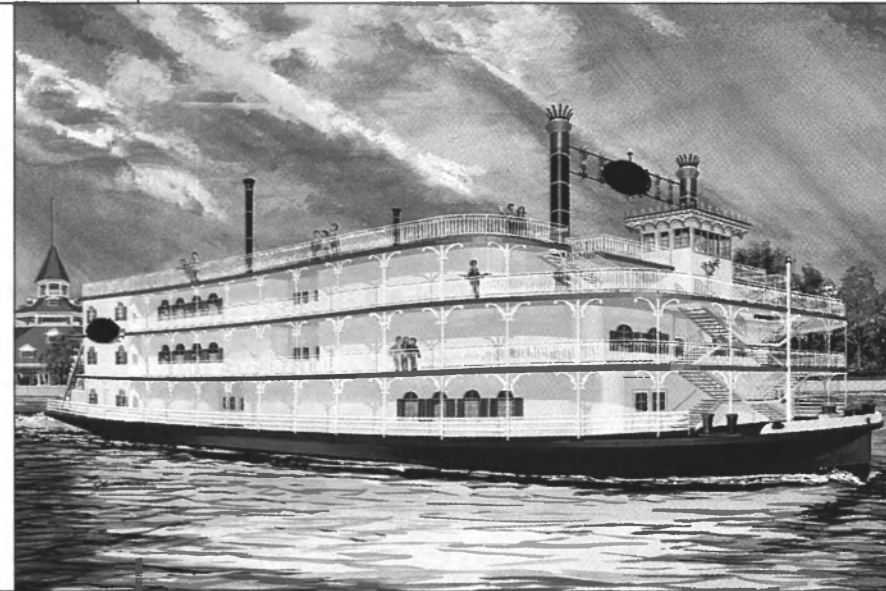
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Insight

## -OIL-

### Middle East To Provide A Growing Share Of World Oil Exports

A new annual report on the outlook for the world oil industry and its effect on tanker demand, "Oil Trades, Secondary Transportation Modes and Tanker Demand" concludes that the Middle East is set to become still more significant as a source of world oil trade.

The report looks at the prospects for oil transport from the perspective of an unusual period in the market: the historical pattern of trade has not recovered from the disruption caused by the Gulf war of 1990/91, and the economic recession in the OECD countries has severely curtailed demand growth. Furthermore, the collapse of the Communist bloc has led to a decline in both production and consumption of oil in the former Soviet Union, as well as leaving former satellites—such as Cuba—at the mercy of the oil market for their supplies.

The fall in oil production in the former Soviet Union, together with the slide in output in North America, and the likelihood that other oil provinces in consumer areas will begin to show declining production profiles from the middle of the decade onwards, is leading to a growing call on Opec oil. This could be compounded by the effects of the anticipated economic recovery in the developed world, to lead to a rapidly rising requirement for crude oil imports into North America, Europe and Japan. The only regions which have the spare capacity to supply this demand are the Middle East and, to a lesser extent, North and West Africa.

As well as being responsible for making up much of the global shortfall in crude supplies, the Middle East looks the most likely region to be called upon to fulfill additional requirements for refined products on the open market. While the rapid increase in refinery capacity in the Far East will change the nature of regional shipping requirements, in other areas the rationalization of the refinery sector, and increasing levels of investment by crude exporters in downstream facilities, looks set to boost demand for products

from the Middle East.

Between 1991 and 1997, the report forecasts a 16 percent rise in the volume of seaborne crude oil trade, and a massive 29 percent hike in movements of refined products by tanker. In both cases, this growth is expected to be concentrated in the post-1994 period, provided that some degree of economic recovery is forthcoming. This additional demand should see exports from the Middle East rise by almost 30 percent.

On the basis of these forecasts, demand for oil

tankers will rise by 13 percent between 1991 and 1997, again concentrated in the period after 1994. This is expected to impact primarily on vessels in the 90-175,000 dwt range, but this is partly because demand for such tankers has been depressed while Iraq exports into the eastern Mediterranean have been curtailed. However, assuming the Iraqi exports resume within the next two years, additional throughput via the Sumed pipeline, the expansion of the Suez Canal, and additional exports from West Africa, will all put greater demands on the Suezmax fleet.

In the current depressed freight market, operating inefficiencies have increased significantly. With any increase in tanker demand, the first thing to happen will be a reduction in efficiency, and thus there will be a lag before any demand for additional tonnage becomes apparent.

This could coincide with a fall in supply, caused by the aging fleet profile and increasingly stringent inspection and insurance criteria, but it could equally well be the case that the time lag before any recovery in demand will persist for so long that depressed freight rates will see some major operators depart the market.

For further information regarding "Oil Trades, Secondary Transportation Modes and Tanker Demand", or any inquiries regarding the report, please contact: Drewry Shipping Consultants Ltd., 11 Heron Quay, London E14 4JF.

#### Forecast Crude Oil Trades (Major Routes, 1991-97)

(Million Tons)

	'91	'92	'93	'94	'95	'96	'97
AG-Japan	140	142	150	153	156	159	166
AG-S.E. Asia	94	100	114	117	123	131	141
AG-USES	94	94	94	91	82	83	90
AG-N. Europe	73	83	80	82	77	83	87
AG-S. Europe	45	51	50	20	20	25	25
E. Med.-S. Europe	36	36	36	66	72	72	76
Caribs-USES	100	101	98	98	98	100	100
W. Africa-USES	59	60	66	69	71	72	71
W. Africa-S. Europe	36	36	40	44	46	47	45
N. Africa-S. Europe	79	78	78	80	82	82	84
S.E. Asia-Japan	34	38	38	38	39	40	35

Source: Drewry Shipping Consultants Ltd.

#### Forecast Main Products Trades (Major Routes, 1991-97)

(Million Tons)

	'91	'92	'93	'94	'95	'96	'97
AG/RS-S.E. Asia	18	17	18	16	12	10	7
AG/RS-Japan	12	14	17	19	21	22	25
AG/RS-Indian S.C.	13	14	15	15	18	20	23
AG/RS-USES	2	2	3	11	14	16	16
AG/RS-S. Europe	5	5	6	11	13	13	14
E. Europe-N. Europe	19	17	18	18	21	22	24
Caribs-USES	29	30	32	32	33	34	34
USGC-USEC	19	19	18	18	16	16	17
S.E. Asia-Japan	15	15	15	15	15	16	15

Source: Drewry Shipping Consultants Ltd.

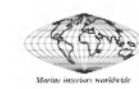
January, 1993

## INTERIORS

MARINE INTERIORS WORLDWIDE

### MSC

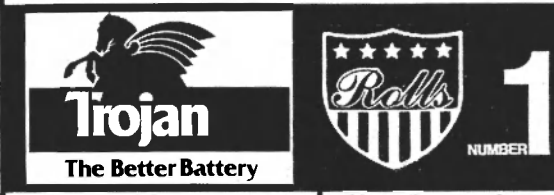
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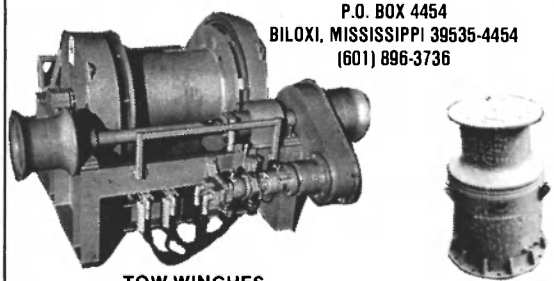
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**COMSAT Announces Digital Service To Lower Rates**

COMSAT Mobile Communications has announced a new digital service, Inmarsat-B, which offers extensive voice, data, fax and telex communications options for ships at sea and land transportable terminals. The rate for Inmarsat-B voice services has been set at \$6.95 per minute—30 percent less than cur-

rent Inmarsat-A charges.

According to **Ronald J. Mario**, president of COMSAT Mobile Communications, Inmarsat-B is the digital replacement for Inmarsat-A services. The use of efficient digital technology allows the satellite signal to be compressed, using less bandwidth and satellite power, which reduces the cost of the service.

"Inmarsat-B will be the new standard for high quality and large vol-

ume communications in the maritime and land mobile markets," said **Mr. Mario**. "We expect that in the future, all new vessels and land mobile users will purchase Inmarsat-B equipment and that many current Inmarsat-A users will replace their systems with the new, less expensive digital service."

COMSAT projects that the largest interest for Inmarsat-B services will be from large passenger and shipping vessels, or businesses in

remote areas.

COMSAT Mobile Communications, a division of the Washington, D.C.-based COMSAT corporation, provides maritime, aeronautical and international land mobile services to customers around the world. COMSAT Corp. represents the U.S. in the 65-member Inmarsat and the 124-member Intelsat.

For further information on the new digital service,

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**ABS Introduces Publication For Quality, Environment And Safety Management**

The American Bureau of Shipping (ABS) and its affiliates have introduced a new periodical, "ABS Quest." The periodical addresses subjects dealing with the management of quality, environment and safety that relate to the maritime industry.

ABS Quest was published as a result of the new Comprehensive Safety Compliance Services program (CSCS), first announced by ABS in June. Its purpose is to integrate criteria dealing with quality, environment and safety management into one approach to regulatory compliance. CSCS covers both safety certification and safety enhancement services. Certification services include ship classification and statutory work, as well as certification to other standards. Safety enhancement services cover risk analysis, reliability, performance, monitoring, contingency planning and consultancy among others that provide technical support.

**ECO To Deliver Ship Handling Simulator To Texas A&M University**

Engineering Computer Optecnomics, Inc. (ECO), of Annapolis, Md., was recently awarded a contract from Texas A&M University for a real-time, ship bridge training simulator. The Captains™ III training simulator will allow for training in ship handling, wind and currents effects, radar and visual piloting, auxiliary propulsion unit operation and restricted waterway maneuvering.

The flexible design of the simulator allows for a variety of options to be integrated within the system. Additional ports and/or mathematical ship models can be easily added to the system's software. Additional bridges can also be networked into the existing system to provide multiple bridge configurations.

The Captains™ III being provided to Texas A&M is one of a series of real-time, ship bridge simulators offered by ECO. All of ECO's Captains™ models are available for operation utilizing any ship type within any port or geographical region.

For further information on ECO, Inc. and Captains™ training simulators,

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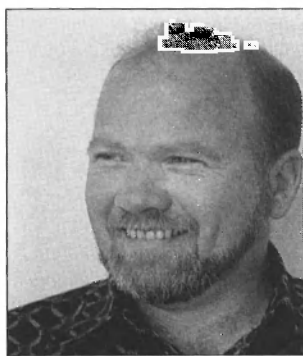
Maritime Reporter/Engineering News

**Alan Jones Returns To West State, Inc. As Project Manager**

Alan Jones, who was among the handful of people who helped Doug Watson launch West State, Inc. (WSI) of Portland, Ore., six years ago, has returned to WSI as a project manager after a four-year absence.

Mr. Jones started in the ship repair industry in Portland as a machinist's helper in 1972. For the next 14 years he advanced through several positions with two Portland-based companies.

He participated in the founding of WSI in 1986 and remained there until 1988. For the past four years he was with Cascade General of Portland.



Alan Jones

West State, Inc. is one of the world's fastest-growing ship repair companies. It is equipped to perform repairs, overhauls and conversions on tankers, dry cargo vessels, cruise ships, military vessels and others. According to WSI, its facilities include the largest floating drydock on the Pacific Rim.

**Databases Improve Alfa-Laval's Customer Service**

Alfa-Laval, a Swedish marine supplier, is increasingly focusing on preventive maintenance and total economy for the shipowner throughout the lifecycle of the ship.

A central component of this approach will be the compilation of market and customer databases. Used in conjunction with Alfa-Laval's worldwide sales and service network, the databases enable Alfa-Laval engineers to monitor the performance and spare parts consumption of installed equipment throughout the ship's lifetime.

The databases will assist Alfa-Laval engineers in determining when maintenance, repairs, upgrading and replacement programs are required, thus helping customers to eliminate unnecessary downtime. Customers can also be warned against unusually high spare parts consumption and remedial action can be suggested.

For more information describing the customer databases from Alfa-Laval,

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January, 1993

**Schelde Gears Produces Bullgear For VLCC**

Turbine blade damage occurred onboard a VLCC powered by 36,000-shp, cross-compound steam turbines, as she was accelerating away from a buoy in the Middle East. Inspection revealed that fatigue fractures of a number of teeth on one helix of the main gear wheel had occurred across

85 percent of the facewidth, with damage to all four secondary pinions. The classification society inspector recommended that the gearing should not be operated until all the secondary rotating elements had been repaired or replaced.

Schelde Gears Vlissingen offered to supply a new main gear wheel and four secondary pinions in 30 weeks after receipt of the order and drawings, or 20 weeks after receipt

of materials.

Upon completion, the parts were shipped to the Middle East, where the gearing was re-assembled and successful sea trials were conducted. The ship returned to service seven months after the order was placed.

For free literature on the services of Schelde Gears Vlissingen,

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## Schichau Seebeckwerft Launches Eighth BV 1600-Type Containership For Conti Reederei

The Contship France, the eighth container vessel of the BV 1600-class ordered by Conti Reederei from the Vulkan Group, was recently launched by Schichau Seebeckwerft AG, of Bremerhaven, Germany, a member of the group.

The 23,094-dwt containership is 535.8 feet in length, has a 90.2-foot breadth and a maximum draught of 35 feet.

A BV/MAN B&W 6L60MC diesel engine, generating 10,440 kW, will drive the Contship France at a speed of 18.3 knots. The vessel's design container capacity will be 1,597 teu.

After the ship's scheduled delivery in mid-February, 1993, she will be the sixth vessel in Conti Reederei's

### CONTSHIP FRANCE Equipment List

Main engines.....	MAN B&W
Propeller.....	Ostermann
Shafting.....	Simplex
Bowthruster.....	Jastram
Thruster engines.....	Wartsila
Generators.....	Siemens
Engine controls.....	Stein Sohn
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VHF and SSB radios.....	Hagenuk
Radar.....	Atlas Elektronik
Loran.....	Hagenuk
Compass and Autopilot.....	Anschutz
Pumps.....	KSB

fleet to be longterm chartered to Contship Container Lines, Ipswich, U.K.

The Contship France will be operating within the frame of the Contship Group for Eagle Container Lines on the Europe to Australia and Far East route. The ship is to be managed by NSB Niederelbe Schiffahrtsgesellschaft

GmbH & Company, KG, Buxtehude, Germany, a subsidiary of Bremer Vulkan Verbund AG.

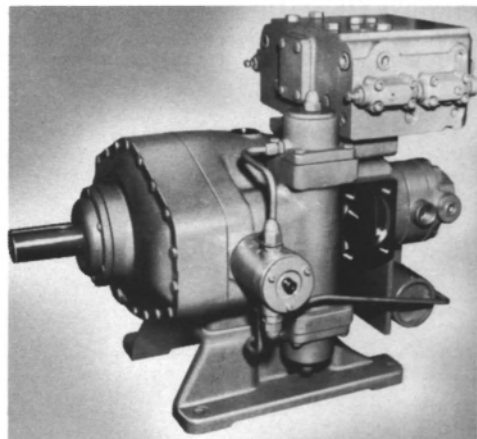
For additional information about the yard services and facilities available from Schichau Seebeckwerft,

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## Assistance with U.S. Oil Pollution Act OPA '90

The U.S. Oil Pollution Act of 1990 (OPA '90) imposes many regulations upon tank vessels regarding design, operation, spill response, and equipment. Determining which of these complex regulations apply, their interpretation and implications is difficult enough. But when the requirements of local jurisdictions are factored into the equation, the situation can become bewildering.

ABS, through its subsidiary ABS Marine Services, Inc. (ABS MSI), has a dedicated consulting service available to owners and operators for helping them understand their position. ABS MSI can also assist in taking necessary actions such as preparing contingency and response plans, preparing environmental audits, and organizing rapid response teams.

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### Vesta Responds To Regulations For Shipboard Incinerators

A sub-committee on Ship Design Equipment under the IMO has issued a draft for standards for shipboard incinerators for disposal of ship-generated waste. Delegates from Denmark, Germany, Norway, Sweden and the U.K. participated under the chairmanship of the U.S.

A/S Vesta, founded in 1914, and which now manufactures two main products, heat exchangers and incinerators, received a copy of the draft a couple of months ago for evaluation purposes. With environmental protection on the top of everyone's list, A/S Vesta customers, shipyards and shipowners, have been increasingly questioning the company about the expected new rules for incinerators and the company's ability to comply with these.

The company reports that the most important features in the new rules are already a part of the design and working principle of A/S Vesta products.

Three measures taken to tighten the rules focus on quality control within the producing company, requirements for obtaining a Type Approval Certificate from the IMO and requirements for emissions.

From A/S Vesta's viewpoint, it is surprising that no "after burner" or secondary combustion chamber has been recommended. For fuels with a high content of volatile matter, like waste, secondary air is very important in the destruction of organic carbon.

It is known that, even after a good burn-out, carbon-containing species of low molecular weight (such as CO) will be able to recombine on particle surfaces under the influence of chlorine and catalytically active metal salts present in the fly ash. This mechanism will form dioxins at temperatures between 250- and 400-degrees Centigrade. To prevent secondary formation of harmful species, the flue gas should be cooled to 250 degrees Centigrade, not 350 degrees as suggested.

A/S Vesta has more than 50 years of experience in the marine market. In 1987 A/S Vesta took up the production of incinerators, when it acquired the rights to the design, production and sales of the ASI/ASWI models from Atlas Danmark. In 1988 the rights to the Combi Turbon-incinerator were purchased from Ildolet. Since the autumn of 1991, A/S Vesta has been a member of the Aalborg Ciseriv International Group. The objective of A/S Vesta is to supply incinerators which can meet the demands made to environmental protection both at sea and on land.

For additional information on A/S Vesta products and services,

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January, 1993

### Norcontrol Reaped Numerous Vessel Traffic Surveillance Contracts In 1992

Norcontrol, in its 11th year as a supplier of advanced Vessel Traffic Surveillance Systems for harbor, coastal, offshore and para military

applications, has been awarded a series of major contracts in 1992 for its fifth generation VOC 5000 system.

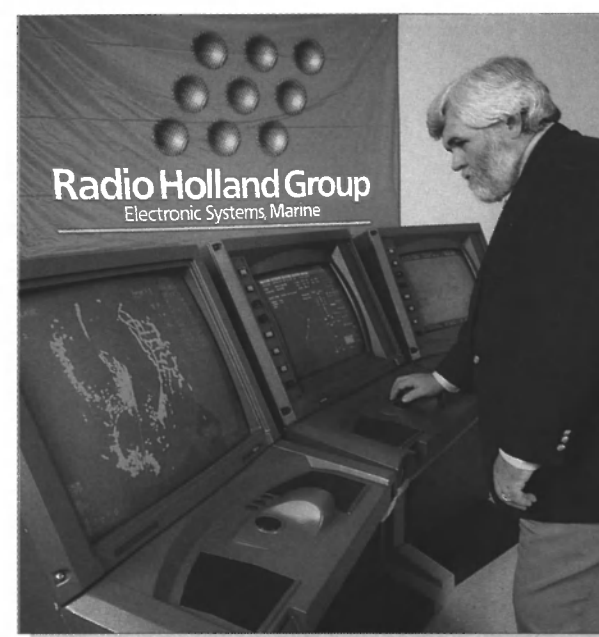
The Suez Canal Authority has contracted Norcontrol for the supply of a system for the surveillance of the complete Suez Canal. The Peoples Republic of China has contracted two systems during the year, one for the port of Ningbo and the

other for the Yangtze river.

In the offshore sector, Statoil has contracted for a system to be supplied to the Troll field in the North Sea as has Shell for the Nelson oil field.

For additional information on the products and services offered by Norcontrol,

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## nucleus - the new definition of modern radar!

The Kelvin Hughes NUCLEUS Series Color ARPA Radars are redefining the modern radar for the shipping industry.

The NUCLEUS Color ARPA combines innovative target tracking/plotting and integrated data acquisition capabilities with speed, accuracy, screen definition, ease of operation, and highest reliability. To overcome rows of confusing buttons and controls, this ergonomically designed, color ARPA utilizes a simple tracker ball and three push buttons for all operations, making it one of the fastest, most user-friendly navigational radars on the market today.

Functions are selected by simply clicking a button after moving the pointer with the tracker ball through the easy-to-use, on-screen menus. The high definition display provides a superior color radar picture with very sharp target contrast. The data displays clearly show operating functions, warnings, target information, and integrated own-ship navigational data.

The NUCLEUS Series offers five choices of displays, NUCLEUS 6000 A (ARPA), 6000 T (true motion) and 6000 R (relative motion) Color Radars with 26 inch display; and NUCLEUS 5000 T (true motion) and 5000 R (relative motion) Color Radars with 20 inch display. NUCLEUS features powerful X-Band and S-Band transmitters in different configurations.



Other standard features include interswitching, dual preset

Guard Zones; the NAVCARD for extended, customized map creation, storage, and retrieval; and an improved plotting facility. The ARPA also features a simulator for training and maintenance tasks.

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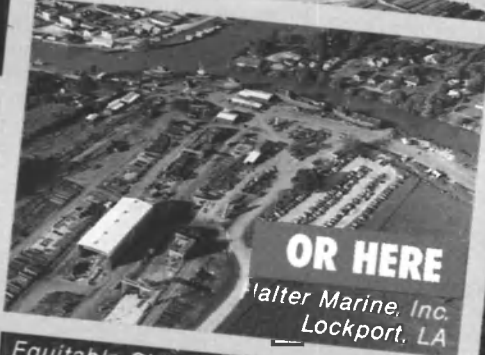
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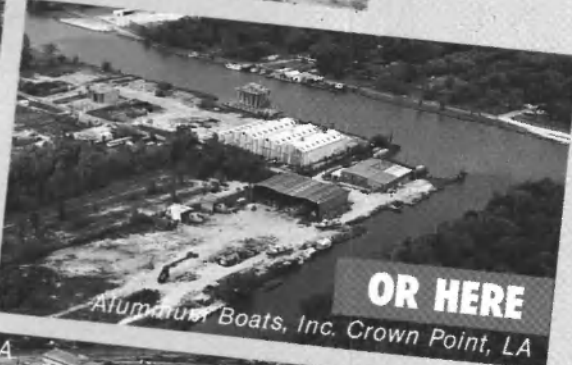
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MARINE DIESEL ENGINE

## NAVY CONTRACTING

Cost Growth Continues On Ship Construction Contracts

About 90 percent of the dollar value of the Navy ships under construction as of July 1991 can be accounted for in fixed-price incentive contracts with commercial shipyards. A fixed-price incentive contract establishes a target cost and profit, a ceiling price, and a share formula that is used to determine the cost to the Navy and the profit earned by the shipyard. The target cost—a negotiated estimate of the ship's actual cost—and target profit—the profit the shipyard should earn if the contract is completed at the target cost—can be adjusted by mutual agreement as work progresses, in which case the Navy is responsible for any additional expense. The target price is the sum of the target cost and the target profit. The ceiling price—generally 120 to 135 percent of the target cost—is the maximum amount the Navy will pay on the contract. The Navy and the shipyard share any "over-target" costs that exceed current target costs up to the ceiling price based on a formula that is negotiated as part of the contract.

Generally, the Navy and the shipyard share this increase equally. However, all costs above the ceiling price are borne by the shipyard. Thus, the shipyard's profit is determined by how well it meets the target cost. Firm fixed-price or fixed-price with escalation contracts were used for the remaining 10 percent of the remaining ships under construction in July 1991. These contracts generally contain no provisions for adjusting the price after the award of the contracts.

The Navy conducts annual ship cost adjustment reviews to develop updated cost estimates for each ship under construction. The information is used to establish a financial baseline for managing ongoing shipbuilding programs and for budget preparation and is provided to all Navy management levels for those purposes.

The potential total cost for completing construction of the 165 ships under the Navy's 54 ship construction contracts that were open at the end of fiscal year 1991 was about \$6.4 billion (24 percent) higher than the contracts' initial target costs of about \$27.1 billion. The Navy's share of that increase is about \$4 billion; the shipyards are liable for the remainder.

Cost growth has increased over the years. When last reported on cost growth in 1990, the potential cost for completing the 62 ship construction contracts that were open at that time was about \$5.5 billion

(20 percent) higher than those contracts' initial target costs of \$27.3 billion.

In the past, the Navy, with congressional approval, has made up funding shortages in individual ship construction accounts by transferring funds to those programs from other shipbuilding and procurement programs that were reduced, canceled, or were of a lower priority. However, for fiscal year 1992, in addition to the transfer of \$1.5 billion among programs, Congress provided \$463.6 million in new funding to make up existing funding shortages. The overall increasing cost growth and a potential decline in the number of ships under construction will reduce the total funds available for shipbuilding. Thus, the Navy will find it increasingly difficult to make up shipbuilding funding shortages through transfers among programs as it has done in the past. As a result, it may have to request additional funds from Congress, as it did in fiscal year 1992.

Because of increased costs, the Navy has had to provide substantially more funds to the shipbuilding programs that were originally appropriated. Generally, the programs funded in fiscal year 1987 and earlier received more appropriations than have been needed to date and thus have served as a source of funds for other ship construction programs experiencing cost growth. Programs begun since fiscal year 1988 originally received less appropriations than have been needed and have required additional funding. The fiscal year 1992 Defense Appropriations Act redressed shipbuilding funding shortfalls by providing \$463.6 million in new budget authority for increased inflation on existing contracts and by approving the Navy's proposal to transfer about \$1.496 billion from existing Navy and Marine Corps programs to shipbuilding programs to cover the remaining cost growth.

As acknowledged by a Navy official in an April 1992 congressional testimony, the Navy will face increasing difficulty in completing its ship construction programs within the appropriated funding levels because costs continue to increase while the number of ships under construction is likely to decline. If fewer ships are built, the total available shipbuilding funds will be reduced, and funds potentially available for transfer to programs experiencing cost growth will be limited.

The Navy's actual cost and the shipyard's actual profit, which depends on how well the shipyard meets the target cost, are determined after all work is completed on the contract. During the course of the contract, the Navy periodically develops an estimated completion cost

for the contract (estimate at completion, or EAC) based on contractor-provided and Navy-developed information. These estimates are used to measure contract performance and are the basis of our discussion on cost growth.

The following contract illustrates cost sharing on a current FPI contract. The original target price was \$225.4 million (the target cost of \$193.8 million plus the target profit of \$31.6 million). Because of agreed-upon contract changes, the target price increased to \$244.8 million, which included a target cost of \$210.5 million and a target profit of \$34.3 million. The Navy is responsible for the \$19.4 million increase—\$16.7 million for the target cost and \$2.7 million for the target profit.

However, the July 1991 estimated cost to complete the contract was \$221.7 million, an \$11.2 million increase over the current target cost, which the Navy and contractor will share equally. The Navy and the contractor will share any additional cost increases up to the ceiling price of \$263.1 million. At that point the contractor will absorb any additional

costs.

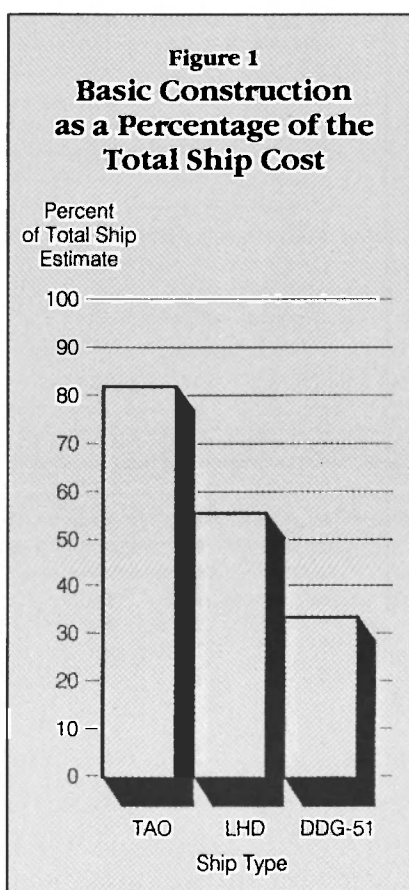
The costs incurred by the Navy through its contracts with the shipyards are for the ships' basic construction and are only a portion of the total cost of those ships. Funds budgeted for basic construction provide for shipyard contract costs of (1) labor to construct the ships, (2) material obtained by the shipyards for the ships' construction, (3) shipboard installation of government-furnished equipment such as guns, (4) allowable shipyard overhead costs, and (5) the shipyards' profit. Overall, basic construction accounted for about 47 percent of the total budgeted estimated cost of \$76.1 billion for the ships under construction in July 1991.

Additional costs may be incurred, for example, to (1) purchase electronics systems, weapon systems, and other government-furnished equipment installed on the ships; (2) conduct tests and provide various services related to the ships' construction; and (3) reimburse the shipyards for subsequent changes made in the ship designs.

The cost of basic construction varies significantly depending on the type of ship and its complexity. Figure 1 illustrates the variation in the cost of basic construction for three types of vessels—fleet oilers (TAO), amphibious assault ships (LHD), and guided missile destroyers (DDG-51).

If a shipyard incurs additional costs, it can request that the Navy adjust the contract to recognize those costs. If the Navy agrees to an adjustment, it is liable for the additional costs. If the Navy does not agree to the request, the shipyard may file a claim against the Navy. Since July 1991, the Navy has agreed to settle adjustments and claims of about \$309.8 million. These settlements represent about 59 percent of the amounts originally submitted. The AOE-6 fast combat support ship program accounted for about \$239 million of the total settlements. As of February 1992, about \$349.7 million in additional claims and adjustments were pending resolution.

It is true that larger initial appropriations could lessen the future need for additional funding for contract cost growth and that the additional funding required has declined from the fiscal year 1989 program to that required for the 1991 program. It is believed that, because of the long term of shipbuilding contracts, it will require several years to determine if any such change is successful in reducing the need for additional funds.





# MARINE DIESEL ENGINE DIRECTORY

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For further information on any of the products, equipment, or services of the companies listed in this guide, circle the appropriate Reader Service number on the postpaid card bound into the back of the issue.

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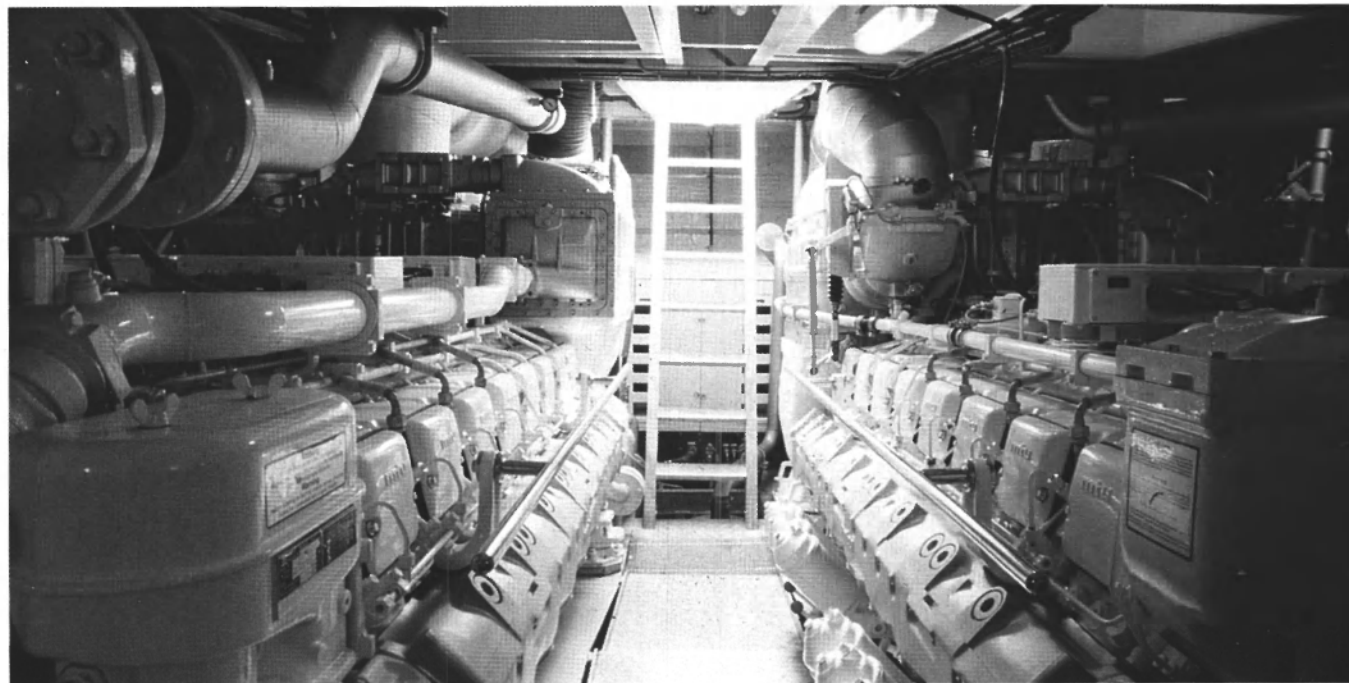
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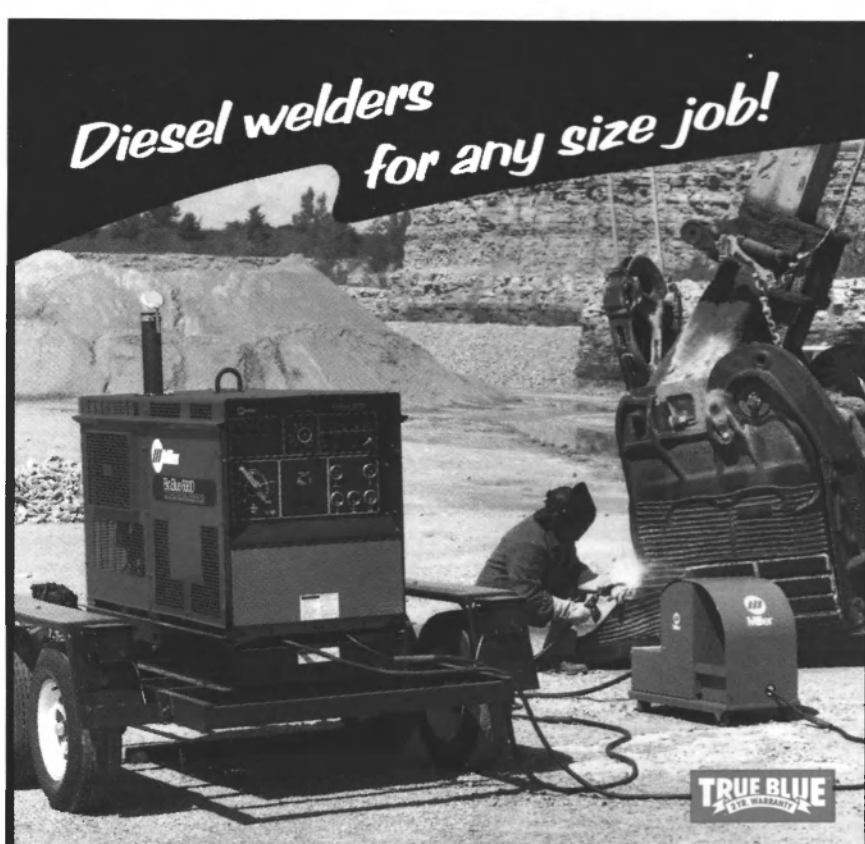
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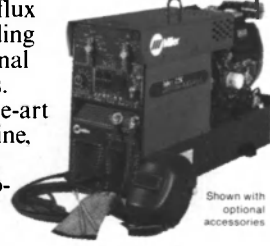
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**Publisher's Note:** Although every effort has been made to ensure the accuracy of the information contained in this report, the publisher does not accept responsibility for any errors or omissions.

#### Morgan Marine's Line Now Includes Effer Marine Cranes

Morgan Marine, the HIAB Seacrane distributor, announced the addition of the Effer Marine Crane Line. Effer Marine Cranes, manufactured by Effer, SPA of Italy, are available in capacities from one- to more than 100-tons. Fully marinated and most with continuous rotation, the Effer Marine Crane line will augment the HIAB Seacranes which Morgan has distributed for 12 years.

For additional information on Morgan Marine,

Circle 159 on Reader Service Card

#### Pelmatic Expanding Services In North America, Europe And The Far East

Pelmatic AB of Sweden is a firm of consulting engineers specializing in design projects for the offshore, shipbuilding and aircraft industries. The company has a staff of 90 engineers with considerable experience from the Swedish Shipbuilding and Offshore Industry, which utilize the company's computer system for computer-aided design and structural analysis.

In recent months the company has been following an expansion policy, especially in Europe, North America and the Far East.

Apart from pure designing, the company also specializes in stress analysis, fatigue and fractures, production technology and product development, while also offering a wide range of engineering services. Design work is mainly carried out using Catia, Autocad or Cadmatic PMS software.

For additional information on the capabilities of Pelmatic AB,

Circle 161 on Reader Service Card

#### RevCar Adds To Its Line Of Marine Fasteners

RevCar Fasteners, Inc. of Roanoke and Richmond, Va., has added an unthreaded monel round bar to its complete line of Domestic Monel, Stainless and Silicon Bronze fasteners for the marine industry. All items are manufactured in accordance with all applicable specifications and are available with full test reports at no additional charge.

RevCar, in its 25th year of service, currently handles numerous stocking programs for naval and commercial contractors. Its full line of hex bolts, studs, nuts/locknuts, washers and rivets is complimented by several lines including: Huck Mfg.; ESNA; SPS Technologies; SPS Flexloc; Cherry Textron; AVK; TRW; and Tinnerman.

RevCar received Newport News Shipbuilding's Level One product quality rating in 1988.

RevCar also offers metric fasteners per all DIN specification in a variety of materials for marine application.

For free literature on RevCar products and services,

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**STOLT-NIELSEN TAKES DELIVERY OF 29,999-DWT M/T STOLT VESTLAND**



With the delivery of the M/T Stolt Vestland, Greenwich, Ct.-based Stolt-Nielsen, Inc., has completed a three-year building program with Kvaerner Kleven Floro A/S Shipbuilding, Norway, of four 29,999-dwt parcel tankers for inter-continental service. These new parcel tankers are specially designed to handle multi-grades of chemicals, or single-grade cargoes such as sulphuric and phosphoric acid. The four vessels each have 41 fully segregated cargo tanks and are built to the highest IMO safety standards with double bottoms and transverse cofferdams. The M/T Stolt Vestland was named at a formal ceremony in Norway by **Maria Fecher**, wife of Stolt-Nielsen, Inc.'s senior vice president and chartering manager, **Philip Fecher**.

**Nordic Prince In N.Y. For Repairs**



Royal Caribbean's M/V Nordic Prince, which sails from New York to Bermuda during the summer, made a call at New York Shipyard, Red Hook, Brooklyn, before repositioning to the Caribbean for her winter schedule. Work included: hull coatings, stabilizer seals, ground tackle, sea valves, and propeller and shaft refurbishing. The shipyard also supported more than 300 subcontractors who performed alterations to public areas and lounges. Due to the extent of the work, N.Y. Shipyard provided on-shore berthing for 300 personnel in its Navy berthing area.

**PORT ROYAL (CG 73) CHRISTENED AT INGALLS**



The U.S. Navy's newest Aegis guided-missile cruiser, Port Royal, was recently christened at Ingalls Shipbuilding division of Litton, in Pascagoula, Miss. The ship's sponsor was Mrs. **Susan G. Baker**, wife of senior counselor and chief of staff to the President, **James A. Baker, III**, who delivered the principal address. CG 73's keel was laid at Ingalls on October 18, 1991, and the cruiser was launched on November 20. The 9,500-ton Port Royal is the 19th Aegis cruiser to be built for the Navy at the shipyard, and the second U.S. warship named to commemorate one of the sea islands in Beaufort County, South Carolina, where major battles were fought during both the Revolutionary and Civil Wars.

**N.Y. Metropolitan SNAME Section Celebrates 50th Anniversary**

The New York Metropolitan section of the Society of Naval Architects and Marine Engineers opened its 1992/93 season at the Downtown Athletic Club in Manhattan with a gala celebration of its 50th Anniversary and Past Chairman's Night.

The evening started with an extended social hour sponsored by the employers of the Section's Executive Committee, including: C.R. Cushing & Co., Inc.; Francis A. Martin & Ottaway, Inc.; John J. McMullen Associates, Inc.; M. Rosenblatt & Son, Inc.; George G. Sharp, Inc.; and Wheeler Associates, Inc.

New section chairman **Philip B. Kimball** began his tenure by thanking outgoing chairman, **Richard Gilmore**, for his work during the past season. Mr. Gilmore was presented with a plaque signed by Executive Committee members, a diamond chairman's pin and a plaque from SNAME headquarters.

The highlight of the evening was a paper and slide show presented by **John Higginbotham**

and **Bruce Rosenblatt** entitled "50 Years of Excellence—The N.Y. Marine Community."



Pictured at the New York Metropolitan section of SNAME are (from left): **Richard C. Rodi**, section secretary; **Alfred A. Bozzuffi**, section vice chairman; **Bruce S. Rosenblatt**, author; **Philip B. Kimball**, section chairman; **John H. Higginbotham**, author; **Rik van Hemmen**, section papers chairman; and **Wesley D. Wheeler**, section treasurer.

**NEVA '93: International Shipping Expo Builds On Past Success**

The successful NEVA '91 and NEVA '92 Conferences have brought increases in the size and scope of NEVA '93. The Shipping Exhibition and Conference is scheduled to be held in St. Petersburg, Russia, September 14-18, 1993.

The size of the international exhibition with products, technology and services for the shipping and shipbuilding industries is expected to increase by more than 50 percent. NEVA '93 will accommodate more exhibition space for several new industry sectors associated with maritime development, including: offshore construction, equipment and services for oil, gas and mineral extraction; sea/inland waterway vessels and equipment; and small craft for commercial, support and leisure activities.

The week-long event is also extended to include a symposium program. These symposia will focus on information exchange and technology transfer for maritime and offshore sectors. Already six symposia are scheduled, involving technology specialists from Russia, the Republics, and around the world.

The co-organizers, Dolphin Exhibitions in the U.K., expect NEVA '93 to provide a showcase of modern industrial technology, and create a center for shipping business between the massive Eurasian continent and its worldwide trading partners.

For more information on NEVA '93,

Circle 182 on Reader Service Card

**HMS Marine Introduces New Safety Product**

HMS Marine Hardware, Inc., of Valley Stream, N.Y., the makers of smoke-containment curtains for joiner doors, announced a new product for fire safety aboard ships.

HMS now offers quick-release, stow-in-place, smoke-containment curtains for Quick-Acting Water-Tight (QAWT) doors aboard ships.

The new design curtain assemblies are attached to the QAWT door frames using powerful magnets which adhere firmly to the door frame without any hardware penetrations being required.

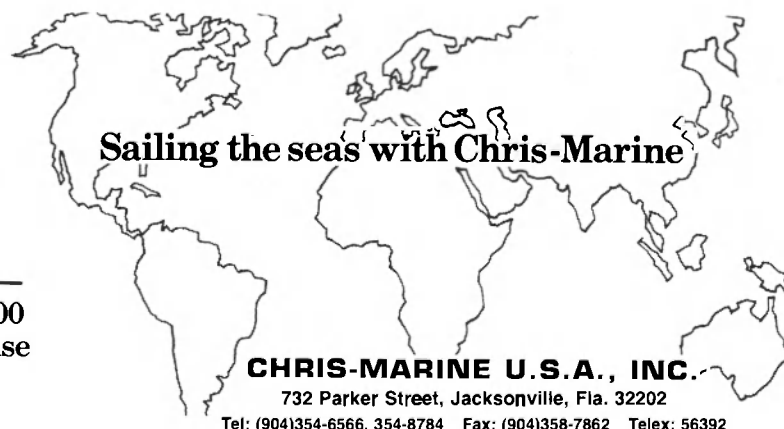
The rolled curtain assembly stows in place above the door, and is deployed with a single pull of the curtain's cover. The curtain deploys in less than two seconds. A special pocket is provided to accept the door's dog-activating handle, thereby allowing the curtain to position itself closely to the door frame. Velcro strips are provided on the curtain's special side-flaps for sealing the curtain to the door's framework.

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### Stolt Names Final Two 5,000-Ton Parcel Tankers for Inter Europe Service

The last two of four new 5,000-twt parcel tankers for use by the Stolt-Nielsen Inter Europe Service (SNIES) were recently named in formal ceremonies at Fukuoka Shipbuilding Co., Ltd. in Fukuoka, Japan. The two ships, M/T Stolt Kestrel and M/T Stolt Puffin, will be marketed by Stolt-Nielsen UK Limited, a subsidiary of Stolt Tankers and Terminals (Holdings) S.A.

These ships, together with two delivered in March of last year, will further strengthen Stolt-Nielsen's position in the European regional distribution trade. They feature one of the most advanced tanker designs, including a double hull with all cargo tanks of the highest grade solid stainless steel, each served by an individual deepwell pump. The ships meet all requirements to carry the full range of bulk liquid cargoes with maximum safety and environmental care. The addition of these ships provides SNIES with one of the most modern coastal parcel tanker fleets in Europe.

Stolt Tankers and Terminals provides distribution services worldwide for bulk liquids by employing a fleet of transoceanic and coastal parcel tankers; intermodal tank containers; storage terminals in the U.S., Northwest Europe and Brazil; as well as barges, rail cars and tank trucks.

### Magellan Helps GPS Accuracy With New Products

Magellan Systems Corp. has expanded the utility of GPS navigation, improving GPS accuracy a reported 10-fold with the company's new NAV 5000D and NAV 5200D receivers.

"The NAV 5000D and NAV 5200D are no longer restricted to



Magellan increases GPS accuracy with the differential-ready NAV 5000D and NAV 5200D, and the Magellan Differential Beacon Receiver.

the 100-meter accuracy limit imposed by the U.S. government's policy of Selective Availability," said Marc Rubenstein, Magellan's sales and marketing manager. "In fact, they will give the user an incredible 10-meter accuracy."

Magellan receivers use differentially corrected GPS (DGPS) information broadcast by the USCG's

radiobeacon transmitters. The USCG calculates the amount of error in the GPS signal by comparing raw GPS position data with a known position point. This error correction factor is picked up by Magellan's differential broadcast receiver (DBR) and relayed to the differential-capable NAV 5000D and NAV 5200D. In overcoming the signal position error caused by Selective Availability, Magellan processes the correction data using its proprietary

TRUFIX differential technology. Magellan's TRUFIX differential technology, a spin-off of the company's work in developing GPS receivers for the U.S. military, incorporates complex algorithms which allows the receivers to differentially calculate a precise position while maintaining dynamic performance characteristics which result in a one-second update rate and improved velocity accuracy. The dataport simultaneously receives the DGPS correction signal from the

DBR and transmits NMEA 0180/0183 output to marine electronics devices.

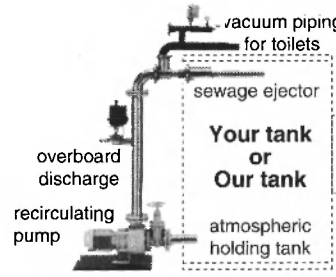
Magellan's differential-ready receivers, the portable NAV 5000D and the panel-mounted NAV 5200D, also include new features such as a graphical cross-track deviation indicator and a man-overboard key.

For additional information on the NAV 5000D or NAV 5200D receivers,

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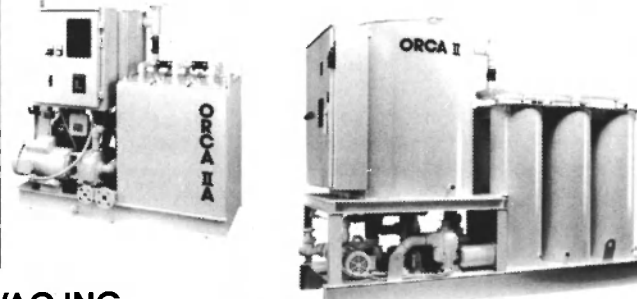
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## CALENDAR

### JANUARY

**National Association of Passenger Vessel Owners (NAPVO):** January 16-19, Seattle, Wash. Sheraton Seattle Hotel & Towers. Contact: **Juana Hopkins**, NAPVO, 808 17th St., N.W., Suite 200, Washington, D.C. 20006; tel: (202) 785-0510; fax: (202) 785-0540.

**Underwater Intervention '93:** January 18-20, New Orleans, La. Contact: **Cavett Hughes**, H. Cavett Hughes Public Relations, 3900 Essex, Suite 1015, Houston, Texas 77027; tel: (713) 780-4380.

**Society of Marine Consultants Seminar: Who Is Liable To Whom For What Under OPA '90?:** January 20, New York City Whitehall Club, New York, N.Y. Contact: **Alfred E. Stanford**, Society of Marine Consultants, 629 Stephanie Drive, N. Caldwell, N.J. 07006; tel: (201) 882-9492; fax: (201) 890-0103.

**Petro Safe '93:** January 26-28, Houston, Texas George R. Brown Convention Center. Contact: **Petro Safe '93**, 3050 Post Oak Blvd., Suite 200, Houston, Texas 77056-6524; tel: (713) 621-9720; fax: (713) 963-6284.

**Energy-Sources Technology Conference/Offshore Operations Technical Symposium:** January 31 to February 3, Houston, Texas

Adams Mark Hotel. Contact: **ASME Petroleum Division**, 1950 Stemmons Freeway, Suite 5037C, Dallas, Texas; tel: (214) 746-4901; fax: (214) 746-4902.

### FEBRUARY

**Canadian Shipbuilding & Offshore Exhibition '93 (CSOE):** February 15-16, Ottawa, Ontario Ottawa Congress Center. Contact: **Joy MacPherson**, Canadian Maritime Industries Association, P.O. Box 1429, Station B, Ottawa, Ontario K1P 5R4; tel: (613) 232-7127; fax: (613) 232-2490.

**Gastech '93: The 15th International LNG/LPG Conference & Exhibition:** February 16-19, Paris Contact: **John Gwynn-Jones**, Gastech '93 Secretariat, Suite 508, Glen House, 200/208 Tottenham Court Road, London W1P 9LA, England; tel: 071 436 9774; fax: 071 436 9774.

### MARCH

**Metalfarm '93:** March 14-17, Rosemont, Ill. Rosemont/O'Hare Exposition Center. Contact: **Precision Metalforming Association**, 27027 Chardon Road, Richmond Heights, Ohio 44143; tel: (216) 585-8800; fax: (216) 585-3126.

**Seatrade Cruise Shipping '93 Conference & Exhibition:** March 16-20, Miami Beach, Fla. Miami Beach Convention Center. Contact: **Michael Kazakoff**, The

Seatrade Organization, 125 Village Blvd., Suite 220, Princeton, N.J. 08540-5703; tel: (609) 452-9414; fax: (609) 452-9374.

**ASNE Logistics Symposium '93:** March 17-18, Seattle, Wash. Contact: **Don Eason**, exhibits chairman, tel: (206) 479-8828; fax: (206) 479-8563.

**Coastal Ocean Space Utilization (COSU III):** March 30-April 2, Santa Margherita Ligure, Portofino, Italy Contact: In Italy: **Dr. Mario Petrillo**, COSU III coordinator, Istituto Di Scienze Ambientali Marine, University di Genoa, C.P. 79-Corso Rainusso, 14, 16038 Santa Margherita Ligure (GE); tel: 0039 (0) 185-286195; fax: 0039 (0) 185-281089. In the U.S.: **Joan Sheridan**, vice president, New Jersey Marine Science Consortium, Fort Hancock, N.J. 07732; tel: (908) 872-1300; fax: (908) 291-4483.

### APRIL

**Safety at Sea and Marine Electronics Conference & Exhibition (SASMEX) International '93:** April 6-9, Miami, Fla. Sheraton Bel Harbour Hotel. Contact: **Gillian Jones**, in the U.K.: tel: +44 (0) 737 768611; fax: +44 (0) 737 760564; or **Kristina Hagman-Goldfield** in the U.S., fax: (215) 564-2175.

**AWO Annual Meeting:** April 7-8, Washington, D.C. Contact: **Jeffrey Smith**, AWO,

1600 Wilson Blvd., Suite 1000, Arlington, Va. 22209; tel: (703) 841-9300; fax: (703) 841-0398.

### MAY

**OTC '93:** May 3-7, Houston, Texas Contact: **Fred Herbst**, Offshore Technology Conference, 222 Paliades Creek Drive, Richardson Texas 75080; tel: (214) 952-9494 fax: (214) 952-9435.

**ASNE Day 1993:** May 6-7, Washington, D.C. Contact: **Rick Ottinger**, ASNE, 1452 Duke St., Alexandria, Va., 22314; tel: (703) 836-6727; fax: (703) 836-7491.

**Forest Products Transpo '93:** May 9-11, Portland, Ore. Portland Marriott. Contact: **Sheldon Meyer**, Journal of Commerce Conference Program director; tel: (212) 837-7145; **Mark Stone**, Maclean Hunter Presentations, Inc.; tel: (303) 696-6100.

### JUNE

**Nor-Shipping '93:** June 8-11, Oslo, Norway Sjolyst Exhibition Center. Contact: **Norwegian Trade Fair Foundation**, P.O. Box 130 Skoyen, N-0212, Oslo, Norway; tel: +47 243 9100; fax: +47 243 1914. (After January 28, 1993: tel: +47 22 43 9100; fax: +47 22 43 1914).

**NAVSEA International Logistics Symposium:** June 29-30, Arlington, Va. Contact: **Carol Hardee**; tel: (703) 836-6727.

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### Report States Substantial Spill Risk With Mid-Deck Tankers

In a recently released report from Pyramid Systems, an engineering computing firm in Denville, N.J., found that tankers with mid-deck bulkheads could cause a major oil spill during many grounding incidents where no spillage would occur with the same grounding of a double-hull tanker.

The firm conducted the study for the Tanker Advisory Center, New York, N.Y., as part of a review of several reports which have evaluated the effect of the tanker design on an oil spill. In the study, Pyramid Systems focused on the question of "How much oil would spill from a mid-deck tanker in grounding incidents that would cause no oil losses from a double-hull vessel of equal size?" Pyramid used the report "Probabilistic Oil Outflow of Alternative Tanker Designs," which was recently released by Herbert Engineering Corp. under contract to the USCG.

Pyramid calculated that the mean outflow for a 272,000-dwt mid-deck tanker would be about 12,600 barrels, about 1.4 percent of the total capacity of the tanks.

According to the report, "The Mid-deck tanker—as a proposed design competing with the double hull—should not be considered equivalent" to the double-hull, because substantial amounts of oil could be spilled in 75 to 80 percent of all grounding incidents in which a double-hull tanker would lose none. The report did note that by combining the two designs into a single ship—a double-hull tanker with a mid-deck bulkhead—could be "very useful" in preventing or reducing the magnitude of oil spills.

For further information on the report, contact: **Arthur McKenzie**, Tanker Advisory Center, Inc., 217 East 85th St., Suite 259, New York, N.Y. 10028; Tel: (212) 628-7686; Fax: (212) 744-2703.

### ASTM Group To Develop Tanker Escort Criteria

Based on a Coast Guard (CG) request, the American Society for Testing and Materials (ASTM) will establish a task group to develop and publish national consensus guidelines on selection criteria for escorting tank vessels.

Under the Oil Pollution Act of 1990 (OPA 90), the CG is required to establish a regulation requiring tug escorts for oil tankers over 5,000 gt on Puget Sound, Washington, and Prince William Sound, Alaska, and to consider other areas of the country where a tanker escort may be beneficial.

The ASTM guidelines will be used to complement the Coast Guard's regulatory requirements for tug escorts and to assist companies in making the selection of suitable tugs. The ASTM task group will be provided with a draft of proposed CG suitability criteria as a baseline for discussion.

Some of the organizations ap-

pointed by ASTM to serve on the task group are: the American Waterways Operators; Crowley Maritime Corp.; Turecamo Maritime; Foss Maritime; and Texaco Marine Services. Seats have also been provided for: the American Institute of Merchant Shipping, the American Pilots Association; the CG; state officials; academics; and classification societies.

The group is scheduled to provide

the CG with a final proposal for review by June 1993.

### WSF Names Robert Jones Vessel Engineering Head

Washington State Ferries (WSF) recently announced the appointment of **Robert 'Bob' Jones** as manager of vessel engineering.

Mr. **Jones**, formerly vice-president of marketing for Cherokee Data Systems in Boulder, Colo., will be responsible for both new ferry construction and the renovation of existing ferries.

A graduate of the U.S. Naval Academy, Mr. **Jones** spent over 24 years in the Navy and served in a variety of positions including the commanding officer of two destroyers.



### NavTracXL GPS

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The new NavTrac XL gives you six channels of GPS and a new high-contrast display, exclusive to Trimble, that's easier to read in both direct sun and total darkness. And with its new slim-line shape, it looks as good as it works.

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**Magnavox Introduces Enhanced Inmarsat-A Marine Satcom**

Magnavox has introduced an enhanced version of its MX 2400 Inmarsat-A marine satellite communications system, which provides ship-shore high-speed data transmission at speeds up to 64,000 bps, and other advanced features for modern fleet management.

The high-speed data option will

mean lower communications costs for ships and offshore oil rigs exchanging large amounts of data between ship and shore. At 64,000 bps, a ship can send computer files at speeds of 16 pages per second. The high-speed data channel can be used to send compressed video, as well as data files.

The MX2400 Plus offers enhanced voice quality, as well as fax and telex capability. The system's dual ID capability permits incoming fax and data calls to be routed auto-

matically without any action by the shipboard radio operator.

For more information on the MX 2400 Plus,

Circle 8 on Reader Service Card

**Ak-Wa Converts Container Ship Into One Of The Largest Floating Processors**

The Stellar Sea, one of the biggest floating processors in the North

Pacific fleet, was transformed from a container ship to its present configuration for the Stellar Seafood Co., by Ak-Wa, Inc., of Tacoma, Wa.

The conversion performed for Stellar Seafood, which is a subsidiary of Seattle's Seven Seas Fishing Company, included the widening of the vessel's aft section, and the addition of a large new deckhouse, a new bow, a processing deck and a refrigeration system. In all, Ak-Wa added more than 680 tons of steel to the ship.



Ak-Wa, Inc. transformed a container ship into this seafood processor.

Flohr Metal Fabricators supplied the fish and crab processing lines, and the fish transfer pumps are from Rycu. Ak-Wa added a 10,000 gallons-per-day water maker and two large boilers.

The Stellar Sea's generating capacity is approximately 2,590 kW (3,470 hp). Twin 845-kW Caterpillar 5312-based sets augment the vessel's existing two 379-type units, each rated at 400 kW.

Two 300-hp and two 150-hp, ammonia-based compressors were added, as well as a 225-hp Freon compressor for the vessel's refrigerated hold.

W.E. Stone and Co. installed the refrigeration system, and Harris Electric was subcontracted for electrical work.

Three 12-ton knuckleboom cargo cranes on the foredeck were supplied by Seattle Crane and Equipment.

For additional information on the services available from Ak-Wa, Inc.,

Circle 121 on Reader Service Card

**Willard Marine Delivers SEA FORCE To Catalina Ocean**

Willard Marine, Inc., of Anaheim, Calif., has delivered a SEA FORCE 730 Rigid Inflatable Boat (R.I.B.) to Catalina Ocean Rafting with USCG certification for passengers for hire.

This 24-foot R.I.B. is powered by a Cummins 210-hp diesel engine with a Marine Drive Systems outdrive unit. The R.I.B. has a full complement of electronics that includes radar, VHF, depthsounder and more. Willard Marine now can provide a SEA FORCE R.I.B. which can be certified by four operators.

Catalina Ocean Rafting takes up to 14 passengers on excursions around the Catalina Island.

Willard Marine, in business for more than 35 years, is the largest builder of R.I.B.'s in the U.S.

For more information on the products and services offered by Willard Marine,

Circle 181 on Reader Service Card

Maritime Reporter/Engineering News

**Bad news for everyone who's been trying to design a better radio than the Titan+.**  
**We've already done it.**

Standard's Horizon Titan+ is one of the most successful marine VHF radios of all time, and the 1991 winner of the National Marine Electronics Association's award for Design and Engineering Excellence.

But now Standard brings you something even better.

**Introducing the Horizon Omni.** Take a look at what you're getting with a Horizon Omni:

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Dangerous weather can develop in a hurry. When it does, the National Oceanographic and Atmospheric Administration, NOAA, broadcasts a signal which alerts the user to switch to the weather channel for an emergency bulletin.

Someday, all marine radios will have this life-saving feature. Today, the Omni is one of a select few.



The Omni's backlit LCD — the largest in the industry — allows it to be seen from almost anyplace in the boat, even at night.

**DSC: tomorrow's technology today.**

Digital Selective Calling (DSC) is a technology which will change marine radios forever. With this option connected to a position receiver, your Omni automatically sends a continuous

distress call with your precise location to the Coast Guard. Now, DSC technology can also be part of an overall security system which guards your boat at sea or in the slip. It's future technology. And Omni has it now.

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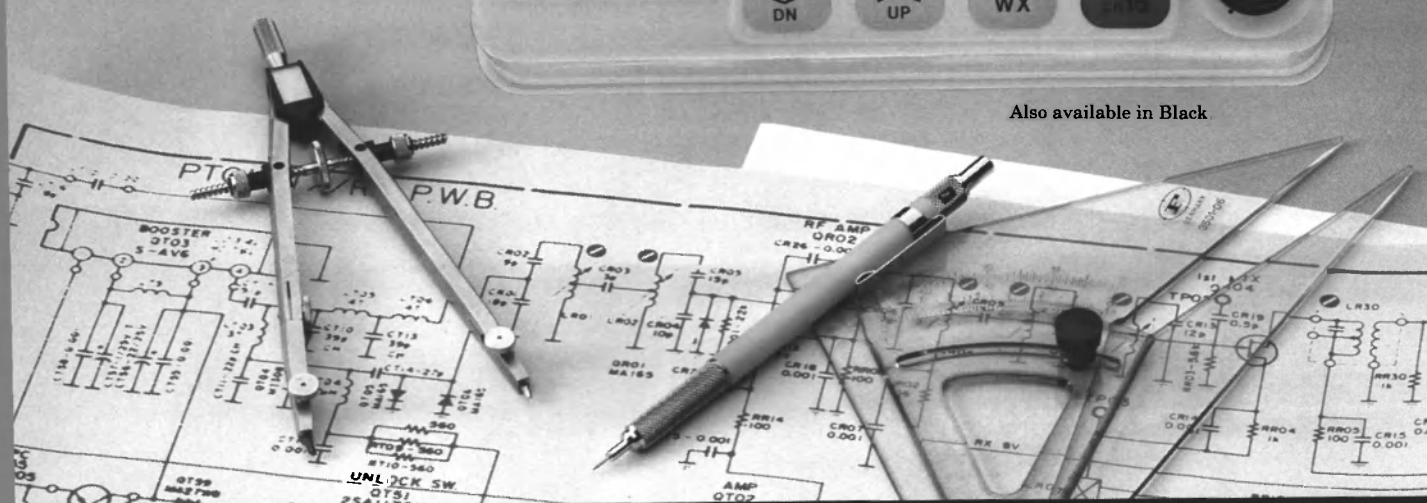
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Horizon Radios have received the prestigious National Marine Electronics Association (NMEA) Award for Design and Engineering Excellence nine of the past eleven years.



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## Boats & Barges

### Atlantic Aqua Marine Launches 23rd Aqua Truck For Spill Response



The Casco Bay Responder from Atlantic Aqua Marine.

Atlantic Aqua Marine, Inc., of Portland, Maine, launched its 23rd Aqua Truck multi-purpose steel work boat. Dubbed the Casco Bay Responder, the vessel was built for Clean Casco Bay, Inc., a local spill response group which consists of oil terminal and pipeline operators. The vessel will serve as the command vessel for training and spill response operations.

The 46-foot vessel has a breadth of 20 feet, and measures four feet from deck to bottom. Draft at the bow is just six inches, permitting routine beachings for transfer of personnel, equipment and vehicles. This vessel model can be outfitted with tankage to carry 200 barrels (approx. 10,000 gallons) of oil. The boat is powered by a Caterpillar 3208 diesel engine which drives Twin Disc reduction gears. Engine controls were supplied by Kobelt.

Its first mission was a simulated oil spill drill with Marine Spill Response Corp. (MSRC) equipment and personnel, and U.S. and Canadian authorities. Specifically for the drill equipment, a five-ton auxiliary hydraulic power pack, an eight-ton reel of 60-inch oil boom and a Desmi-250 skimmer were added.

The Aqua Truck vessel was selected by Clean Casco Bay for its heavy duty construction, its barge design, its shallow water capability, its large deck space, its ability to transport heavy deck cargo and its ample maneuverability, even with a single engine. Steering controls

for the vessel are from Jastram.

Electronic equipment on the boat includes radar from Furuno, VHF radio from Motorola, electric panels from Newmar, GPS from Magellan and compass from Si-Tex.

A sophisticated hydraulic system enables the vessel to operate two skimmers and a crane at once, at idle speeds without affecting maneuverability, a feat aided by the special rudder design from Raritan.

For additional information on the capabilities of Atlantic Aqua Marine,

Circle 154 on Reader Service Card

#### CASCO BAY RESPONDER Equipment List

Main engine.....	Caterpillar
Steering.....	Jastram
Sanitation.....	Raritan
Cabin heat.....	Red Dot
Deck crane.....	HIAB
Searchlight.....	Jabco
Deck Floods.....	IJ
Radar.....	Furuno
VHF radio.....	Motorola
Hailer.....	Standard
Reduction gear.....	Twin Disc
Engine controls.....	Kobelt
Deck hatches.....	Nabrico
Coatings.....	International
Interior light.....	Aqua Signal
Nav/Towing lights.....	Perko
Electric panels.....	Newmar
GPS.....	Magellan
Depth gauge compass.....	Si-Tex
Rudder position.....	Raritan

### Carbone Joins Wartsila As VP of Manufacturing

Wartsila Diesel, Inc. has announced that **Thomas Michael Carbone** has joined the company as vice president in charge of manufacturing. He will be located at the company's North American headquarters in Annapolis, Md.

Mr. Carbone will be responsible

for expanding and managing Wartsila Diesel's North American engine and parts manufacturing. The Finnish-based firm has traditionally concentrated its manufacturing activities in Europe, but has begun to expand its manufacturing capabilities worldwide.

In addition, Mr. Carbone will be involved in long- and short-term strategies affecting plant production systems.

### Lindenau Delivers Crude Oil/Products Tanker M/T Wels



The double-hulled tanker M/T Wels.

Lindenau GmbH has delivered the 23,400-dwt tanker the M/T Wels to its owner the Partenreederei TMS "Wels" c/o Carl Buttner GmbH & Co. The double-hulled tanker was built for the transportation of chemicals, product oils and crude oil.

The M/T Wels and her recently delivered sister vessels, the M/T Dorsch and the M/T Conger, are the largest ships which the shipyard has ever built. They are reported to be the largest tankers under the German flag and belong to the Lindenau Tanker Class 2000 developments.

The Wels was constructed under the class and supervision of Germanischer Lloyd and has received the class notation GL + 100 A5 E3 "Chemical Tanker Type I" "Oiltanker" and the GL + MC E3 AUT Inert.

The vessel has set standards on the safe and economic transport of chemicals and oils at sea by being constructed with a double hull. It also belongs in the Iceclass 1A with a special stem and an ice abrasion-resistant coating on the underside of the ship. The international tonnage measurement was also reduced by 14 percent due to the segregated ballast tank status (SBT).

The ship is powered by a MAN B&W main engine which provides a service speed of 15.5 knots at an output of 6,600 kW.

Accommodations for a crew of 28 are provided in the after deckhouse. The deckhouse was strictly separated from the funnel to avoid sound trans-

mission. Arrangement of the crew cabins was developed in cooperation with the shipping company.

Navigation and electronic equipment includes an Atlas 9600 ARPA S-Band RasterScan radar and an Atlas 9600 TM X-band RasterScan Radar, as well as Satcom, direction finder, weather fax, Satnav, Decca, Loran C, Navtex and two VHF's.

For further information on the shipbuilding capabilities of Lindenau GmbH,

Circle 166 on Reader Service Card

#### M/T WELS Equipment List

Main engines.....	MAN B&W
Reduction gear.....	Renk Tacke
Couplings.....	Vulkan
Propeller.....	KalMeWa
Emergency diesel.....	Yanmar
Steering gear.....	Frydenbo
Bowthruster.....	Jastram/ABB
Bowthruster Control.....	ABB
Steam boiler.....	Aalborg
Fresh water generator.....	Alfa-Laval
Sewage treatment plant.....	Hamworthy
Compressors.....	Sauer & Sohn
Electrical/Lighting.....	Siemens
Inert gas system.....	Kvaerner Eureka
Radar.....	Krupp Atlas Elektronik
Gyrocompass/Autopilot.....	Anschutz
Portable cargo pump.....	Frank Mohn
Whistle.....	Zollner
Stern tube seal.....	Blohm & Voss
Separators.....	Westfalia

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## ABRASIVES

Barton-Mines Corp., 1658 Cole Blvd., Golden, CO 80401  
Bourg Drydock, P.O. Box 1852, Houma, LA 70361  
Chesapeake Specialty Products, 5055 Northport Blvd., Baltimore, MD 21219  
Erwin Industries, Inc., 3893 Research Park Drive, P.O. Box 1168, Ann Arbor, MI 48106-1668

## AIR CONDITIONING AND REFRIGERATION—Repair & Installation

Bailey Group, 2323 Randolph Ave., Avenel, NJ 07001  
Carrier Transicold, P.O. Box 4805, Syracuse, NY 13221  
Maritime Services Corp., 3457 Guignard Drive, Hood River, OR 97031  
Stal Refrigeration AB, Bulangsgatan 16, S-601 87 Norrköping, SWEDEN

## BALLAST

Chesapeake Specialty Products, 5055 Northport Blvd., Baltimore, MD 21219  
Zidell Marine Corp., 3121 SW Moody Ave., Portland, OR 97201  
Mineral Research & Recovery Inc., P.O. Box 986, Sonoma, AZ 85637

## BARGE BUILDING

Conrad Industries, P.O. Box 790, Morgan City, LA 70381  
Caruthersville Shipyard Inc., D.B./A. Louis Ship, P.O. Box 134, Caruthersville, MO 63830  
Zidell Marine Corp., 3121 SW Moody Ave., Portland, OR 97201

## BARGE COVERS

Syntech Inc., FRP div. 700 Terrace Lane, Paducah, KY 42003

## BARGE—Leasing

McDonough Marine Service, 2300 Surekole Road, New Orleans, LA 70117  
Zidell Marine Corp., 3121 SW Moody Ave., Portland, OR 97201

## BASKET STRAINERS

Beard Industries, P.O. Box 31115, Shreveport, LA 71130  
B.F. Goodrich, Engineered Polymer Products, 150 Division Dr., Wilmington, NC 28401  
Kahlenberg Bros. Co., P.O. Box 358, Two Rivers, WI 54241  
Orkat Engineering, 2535 Prairie Road-Unit D, Eugene, OR 97402  
Terimat Inc., 511 Interchange Blvd., Newark, DE 19711  
Thornton Bearings Inc., 3225 Mainway, Burlington, Ont., CANADA L7M 1A6

## BOAT STORAGE

Miracle Steel, Waterford Tower, Ste. 500, 503 N. Hwy 169, Minneapolis, MN 55441

## BOILER—Manufacturers

Aalborg Ciseren (Miami) Inc., 2449 Northeast 13th Avenue, Ft. Lauderdale, FL 33305

## BROKERS

151 Maritime Services, 34062 El Encanto Rd., Dana Pt., CA 92629  
Captain Astad Company, Inc., P.O. Box 350486, Ft. Lauderdale, FL 33335  
Jack Faulkner, 2419 Caddy Lane, P.O. Box 371, Flossmoor, IL 60422  
Mowbray's Tug & Barge Sales Corp., 35 De Hart St., Morrisstown, NJ 07960

## BUNKERING

Crowley Maritime, 155 Grand Ave., Oakland, CA 94612  
Zidell Marine Corp., 3121 SW Moody Ave., Portland, OR 97201

## CABLE ASSEMBLIES

Revere Aerospace, 845 N. Colony Rd., Wallingford, CT 06492

## CARGO HANDLING EQUIPMENT

Smith Berger Marine Inc., 516 South Chicago St., Seattle, WA 98108

## CHAIN

Candall Dry Dock Engineers Inc., Marl Chain, 21 Pottery Lane, Dedham MA 02026  
Miligan Marine Supply Inc., 5832 Harvey Wilson, Houston, TX 77020  
G.J. Wortbeer Jr. B.V., Postbus 5003, 3008 AA Rotterdam, NETHERLANDS

## CHAIRS

Gasser Chair Co., 4136 Loganway, Youngstown, OH 44505

## CHEMICAL

Unitor Ships Service, Inc., 2375 W. Esther St., Long Beach, CA 90813

## CLAMPING—Pipes, Tubes, Hose

ZSI, 12749 Richfield Ct., Livonia, MI 48150

## CLASSIFICATION SOCIETY

American Bureau of Shipping, 2 World Trade Center, 106th Fl., New York, NY 10048

## COMPACTORS

A/S Vesta, Skudshavsvej 27, DK-2100 Copenhagen, DENMARK  
Sales Agents: American United Marine Corp., 5 Broadway, Rt. 1, Saugus, MA 01906

## COMPOUNDS

ITW Philadelphia Resins, 130 Commerce Dr., Montgomeryville, PA 18936

## COMPUTERIZED INFORMATION SYSTEMS

Coastdesign Inc., Unit 201, 12637 78th Avenue, Surrey, BC CANADA V3W 2V3  
TIMSCO, P.O. Box 91360, Mobile AL 36691

## CONDENSERS/SEPARATORS

Beard Industries Inc., P.O. Box 31115, Shreveport, LA 71130  
Standard Refrigeration Co., 2050 N. Ruby, Merrose Park, IL 60160  
Wright Austin Co., 3250 Franklin St., Detroit MI 48207

## CONTROL SYSTEM—Monitoring

American United Marine Corp., 5 Broadway, Rt. 1, Saugus, MA 01906  
Autronica Marine A/S, Drammensveien 126, N-0277 Oslo 2, NORWAY  
Henschel, Inc., 9 Hoyt Drive, Newburyport MA 01950  
IMO Industries, Gems Sensors Division, One Cowles Rd., Plainville CT 06062  
Lyngso-Valmet Marine A/S, P.O. Box 130, N-3430 Spikkestad, NORWAY  
MMC International, 60 Inp Dr., Inwood NY 11696  
Marine Electric RPD, Inc., 50 Carol St., P.O. Box 1135, Clifton, NJ 07014-1135  
Norcontrol A/S, P.O. Box 1024, N-3191 Horten, NORWAY  
Robertson Marine Systems, 3000 Kingman St., Suite 207, Metairie, LA 70006  
Row Technology, P.O. Box 265, Littlestown, PA 17340  
Siemens Energy & Automation, Inc., Systems Div., Marine Systems No. America (A23N), 100 Technology Drive, Alpharetta, GA 30202  
Universal Marine Electric Co., Inc., P.O. Box 266-923, Houston, TX 77027-6923

## ELECTRONIC DISPLAY

Scandinavian Micro Systems, P.O. Box 155, N-1411, Kolbotn, NORWAY

## ELECTRONIC ENCLOSURES

A&J Manufacturing, 14131 Franklin Ave., Tustin CA 92680

## ELECTRONIC INFORMATION SUPPORT

Inventory Locator Service, 3965 Mendenthal Rd. S., Suite 10, Memphis, TN 38115  
Scandinavian Micro Systems, P.O. Box 155, N-1411, Kolbotn, NORWAY

## ENGINE TEST EQUIPMENT

Amot Controls, P.O. Box 1312, Richmond, CA 94802  
General Thermodynamics Corp., P.O. Box 1105, 2105 Meadow Rd., Plymouth, MA 02360  
Instruments, Computers, & Controls, Inc., 6942 Haven Creek Dr., Katy, TX 77449

## EPROBS

ACR Electronics, Inc., 5757 Ravenswood Rd., P.O. Box 5247, Ft. Lauderdale, FL 33310-5247  
Alden Electronics, 40 Washington St., Westborough, MA 01581  
Liton Special Devices, 750 W. Sproul Road, Springfield, PA 19064

Marine Travelift, Inc., 49 E. Yew St., Sturgeon Bay, WI 54225  
J.D. Neuhaus-Hebezeuge GmbH, D-5810 Witten, GERMANY  
McElroy Machine & Mfg. Co., Inc., P.O. Box 4454, Biloxi, MS 39535-4454  
New England Trawler Equipment Co., 291 Eastern Avenue, Chelsea, MA 02150  
Pettibone-Tiffin Corp., 235 Miami St., Tiffin, OH 44883  
Smatco Industries, P.O. Box 4036, Houma, LA 70361  
Westmont Inds., 10805 Painter Ave., Santa Fe Springs, CA 90670  
Zidell Explorations, Inc., 3121 SW Moody Ave., Portland, OR 97201

## DECK MACHINERY—Cargo Handling Equipment

Braden Carco Gearmatic, P.O. Box 547, Broken Arrow, OK 74013  
MacGregor-Navire Group, 34 Bedford Rd., Clapham North, London SW47HH  
Markey Machinery Co., Inc., P.O. Box 24788, Seattle, WA 98124-0788  
McElroy Machine & Mfg. Co., Inc., P.O. Box 4454, Biloxi, MS 39535-4454  
New England Trawler Equipment Co., 291 Eastern Avenue, Chelsea, MA 02150  
Stokum Rope Master P.O. Box 280, Hubbard, OR 97032  
Smatco Industries, P.O. Box 4036, Houma, LA 70361  
Willem Potb. v., P.O. Box 29102, 3001 GC Rotterdam, The Netherlands

## DECK MACHINERY

Boatlife, 205 Sweet Hollow Road, Old Bethpage, NY 11804  
McElroy Machine & Mfg. Co., Inc., P.O. Box 4454, Biloxi, MS 39535-4454  
New England Trawler Equipment Co., 291 Eastern Avenue, Chelsea, MA 02150  
Nordic Machine Mfg., 4700 Ballard Ave., NW, Seattle, WA 98107  
Smatco Industries, P.O. Box 4036, Houma, LA 70361  
Smith Berger Marine Inc., 516 South Chicago St., Seattle, WA 98108

## DIESEL ACCESSORIES

Collec Industries Fairbanks Morse Engine Div., 701 Lawton Ave., Beloit, WI 53511  
Gearhardt's Inc., P.O. Box 10161, Jefferson, LA 70181  
General Thermodynamics Corp., 210 South Meadow Rd., P.O. Box 1105, Plymouth, MA 02360  
Kiene Diesel Accessories, 325 S. Fairbanks St., P.O. Box 386, Addison, IL 60101  
Pow-R-Quik, 5518 Mitchelldale, Houston, TX 77092

## DIESEL ENGINE—Spare Parts & Repair

Aalborg Ciseren (Miami) Inc., 2449 Northeast 13th Avenue, Ft. Lauderdale, FL 33305  
Caltax Marine Diesel B.V., Stationsweg 64, 4416 ZH Kruijning, NETHERLANDS

## DIESEL ENGINE—Spare Parts & Repair

Caterpillar, Inc., Engine Div., P.O. Box 610, Mossville, IL 61552-0610  
Collec Industries, Parts & Service Div., 701 Lawton Ave., Beloit, WI 53511  
Cummins Engine Co., Mail Code 80011, Box 3005, Columbus, IN 47202-3005  
John Deere, John Deere Rd., Moline, IL 61265  
Global Marine Services, 247 SW 33 Court, Ft. Lauderdale, FL 33315  
Gollen Marine Company Inc., 160 Van Brunt St., Brooklyn, NY 11231  
Hall-Isleto, Inc., 525 West Sophia St., Maumee, OH 43437  
Hatch & Kirk, 5111 Leary Avenue NW, Seattle, WA 98107  
Kim Holstert Mfg. Co., E. 5724 Broadway Avenue, P.O. Box 42, Spokane WA 99210  
MAN B&W Diesel AG, Stadtbachstrasse 1, D-9000 Augsburg 1, GERMANY  
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  
National Maintenance & Repair, Foot of Hawthorne, Hartford, IL 62048  
New Suizer Bros., Inc., 200 Park Ave., New York, NY 10166  
Pacific Rim Diesel, 3942 W. Marginal Way SW, Seattle, WA 98106  
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 77061  
Wierhuis Diesel, 709 Morgue Rd., Chestertown, MD 21620

## DIESEL ENGINE (volvo Penta)—Spare Parts and Repair

Atlantic Yacht Sales, P.O. Box 4010, Middletown, NJ 07748

## DIVING & SALVAGE

Bisso Marine Co., P.O. Box 4113, New Orleans, LA 70178  
H.J. Merrhue, P.O. Box 23123, New Orleans, LA 70183  
Mildson Marine Services, Inc., P.O. Box 3221, Terminal Island, CA 90731

## DRILLING & BLASTING

Marine Drilling & Blasting, PO Box 10455, Jacksonville, FL 32247-0455

## DRY DOCKS—Design

Conrad Industries, 1501 Front Street, P.O. Box 790, Morgan City, LA 70381  
Curacao Drydock (USA), PO Box 3012, Curacao, Netherlands Antilles  
Ferrostaal AG, D-4300 Essen, Hehrendammstrasse 24, GERMANY  
Marine Design Services, P.O. Box 928, Bonita CA 92002

## ELECTRICAL EQUIPMENT

Bender Inc., 400 Gordon Dr., Bldg 501, Exton, PA 19341  
L.F. Gaubert & Co., Inc., P.O. Box 50500, New Orleans, LA 70150  
MMC International, 60 Inp Dr., Inwood NY 11696  
Row Technology, P.O. Box 265, Littlestown, PA 17340  
SPD Technologies, 15500 Roosevelt Blvd., Philadelphia PA 19116  
Siemens Energy & Automation, Inc., Systems Div., Marine Systems No. America (A23N), 100 Technology Drive, Alpharetta, GA 30202  
Universal Marine Electric Co., Inc., P.O. Box 266-923, Houston, TX 77027-6923

## ELECTRONIC DISPLAY

Scandinavian Micro Systems, P.O. Box 155, N-1411, Kolbotn, NORWAY

## ELECTRONIC ENCLOSURES

A&J Manufacturing, 14131 Franklin Ave., Tustin CA 92680

## ELECTRONIC INFORMATION SUPPORT

Inventory Locator Service, 3965 Mendenthal Rd. S., Suite 10, Memphis, TN 38115  
Scandinavian Micro Systems, P.O. Box 155, N-1411, Kolbotn, NORWAY

## ENGINE TEST EQUIPMENT

Amot Controls, P.O. Box 1312, Richmond, CA 94802  
General Thermodynamics Corp., P.O. Box 1105, 2105 Meadow Rd., Plymouth, MA 02360  
Instruments, Computers, & Controls, Inc., 6942 Haven Creek Dr., Katy, TX 77449

## EPROBS

ACR Electronics, Inc., 5757 Ravenswood Rd., P.O. Box 5247, Ft. Lauderdale, FL 33310-5247  
Alden Electronics, 40 Washington St., Westborough, MA 01581  
Liton Special Devices, 750 W. Sproul Road, Springfield, PA 19064

## EQUIPMENT—Marine

Byrne, Rice & Turner, Inc., 1172 Camp St., New Orleans, LA 70130  
Maritime Power Corp., 200 Henderson Street, Jersey City, NJ 07302

## EVAPORATORS

Alfa-Laval Separation, Inc., 955 Meams Rd., Warrminster, PA 18974  
Aqua-Chem, Water Technologies Div., P.O. Box 421, Milwaukee, WI 53201  
Beard Industries Inc., P.O. Box 31115, Shreveport, LA 71130

## FANS/VENTILATORS/BLOWERS

Carling Turbine Blower Co., 8 Nebraska St., P.O. Box 15048, Worcester, MA 01615  
Jon M. Liss Associates, Inc., 411 Borel Ave., San Mateo, CA 94402

## FASTENERS

Jameson Distributors, 28 Narragansett Ave., P.O. Box 348, Jamestown, RI 02835  
Rivco Fasteners, P.O. Box 345, Round Lake, VA 24003  
Robbins Manufacturing, 1200 Airport Rd., Fall River, MA 02722

## FENDERING SYSTEMS/BUOYS—Dock & Vessel

Kahlenberg Bros. Co., P.O. Box 358, Two Rivers, WI 54241  
Miligan Marine Supply Inc., 5832 Harvey Wilson, Houston, TX 77020  
Rowe Bumpers, Conveyors & Caster Corp., 3501 Detroit Ave., Cleveland, OH 44113  
Seaward International, Inc., Clearbrook Industrial Park, P.O. Box 98, Clearbrook, VA 22624  
Standard Refrigeration Co., 2050 N. Ruby, Merrose Park, IL 60160  
Ultra Poly Inc., 2826 South Steele, Tacoma, WA 98409  
Viking Fender Co., 50 Church Street, Sea Bright, NJ 07760

## FIBER OPTICS SYSTEMS

AT&T, Cables System Fiber Optic Div., 111 Madison Ave., Morristown, NJ 07962

## FINSTABILIZERS

Bohm & Voss AG, P.O. Box 100720, D-2000 Hamburg 1, GERMANY  
U.S.A. Reqs. Simplex-Turner Inc., P.O. Box 186, Little Neck, NY 11363-0186

## FIRE DETECTION SYSTEMS

Autronica Marine A/S, Drammensveien 126, N-0277 Oslo 2, NORWAY  
Unitor Ships Service, Inc., 2375 W. Esther St., Long Beach, CA 90813

## FRESH PRODUCE

NMP, 12437 E. 60th St., Tulsa, OK 74153

## FRICTION COMPONENTS/PARTS

Champion Friction Co., 845 McKinley St., Eugene, OR 97440

## FUEL ADDITIVES/CONDITIONING

Hammonds Fuel Additives, PO Box 28114-407, Houston, TX 77238-8114

## GALLEY EQUIPMENT

Cospolich Refrigerator Co., 949 Industry Rd., Kenner, LA 70062  
Gaylord Industries, 10900 SW Avery St., P.O. Box 1149, Tualatin, OR 97062  
Lang Manufacturing, P.O. Box 905, Redmond, WA 98073  
Maritime Services Corp., 3457 Guignard Dr., Hood River, OR 97031  
Teasmaster, 1400 Teasmaster Dr., Egin, IL 60120-9272

## GANGWAYS/LADDERS

Coast Marine & Industrial Supply Inc., 398 Jefferson St., San Francisco, CA 94133  
Sea Systems Inc., 65 Avco Road, Ward Hill, MA 01835  
Wooster Products Inc., 1000 Spruce St., P.O. Box 896, Wooster, OH 44691

## GENERATORS

Tech Systems, 401 Waterborn Rd., Thomaston, CT 06787

## GROUND FAULT PROTECTION & LOCATION EQUIPMENT

Bender, Inc., 400 Gordon Drive, Bldg 501, Exton PA 19341

## HATCHES

L.S. Baker, 7527 NE 33rd Dr., Portland, OR 97211

## HEAT EXCHANGERS

Alfa-Laval Separation, Inc., 955 Meams Rd., Warrminster, PA 18974  
American United Marine Corp., 5 Broadway, Rt. 1, Saugus, MA 01906  
A/S Vesta, P.O. Box 548, DK-9100, Aalborg, DENMARK U.S. Agent: Aalborg Ciseren  
Houston, Inc., P.O. Box 906, Angleton, TX 77515  
Beard Industries Inc., P.O. Box 31115, Shreveport, LA 71130  
Tranter Inc., OK Bulk Road, Wichita Falls, TX 76707

## HORNWHISTLES

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

## HYDRAULICS

Aeroquip Corporation, 3000 Strayer, P.O. Box 631, Maumee, OH 43537-0631  
American United Marine Corp., 5 Broadway, Rt. 1, Saugus, MA 01906  
Cunningham Marine Hydraulics Co., 201 Harrison St., Hoboken, NJ 07030  
Del/Gavel Marine Hydraulics Inc., 619 Industrial Rd., Curitiba, NJ 07072

## INCINERATORS

American United Marine Corp., 5 Broadway, Rt. 1, Saugus, MA 01906  
A/S Vesta, P.O. Box 548, DK-9100 Aalborg, DENMARK U.S. Agent: Aalborg Ciseren  
Houston, Inc., P.O. Box 906, Angleton, TX 77515

## INSULATION

Branton Industries, Inc., 1101 Edwards Ave., Hanhan, LA 70123  
Soundsoal Company, 1 Burt Drive, Deer Park, NY 11729  
Maritime Services Corp., 3457 Guignard Dr., Hood River, OR 97031

## INTERIORS

Maritime Services Corp., 3457 Guignard Dr., Hood River, OR 97031

## JET PROPELLER SYSTEMS

North American Marine Jet, P.O. Box 1232, Benton, AR 72015

## JOINER—Water Tight Door—Painting—Coaling System—Decking

Branton Industries, Inc., 1101 Edwards Ave., Hanhan, LA 70123  
GEC-Marconi Electronic Systems Corp., 5505, Fulton Ave., Mt. Vernon, NJ 10550  
IMAC AB, Berga Alle 1, S-252 55 Helsingborg, SWEDEN  
U.S. Rep: Hopkins Brothers, Inc., P.O. Box 820, Waynesboro, VA 22980  
Jameson Metal Marine Sales, Inc., 4710 NW Second Ave., Boca Raton, FL 33431  
Marine Accommodations Inc., 8535 3 Baymeadows Rd., Se 140, Jacksonville, FL 32256  
Maritime Services Corp., 3457 Guignard Drive, Hood River, OR 97031

## KEEL COOLERS

R.W. Farnstrom & Co., 1716 Elventh Ave., Menominee, MI 49658  
Kahlenberg Bros. Co., P.O. Box 358, Two Rivers, WI 54241

## LEAK DETECTION

The Walter Machine Co., Inc., 84-98 Cambridge Avenue, Jersey City, NJ 07307

## LIFEBOATS/RAFTS

U.E. Systems, 12 West Main St., Elmford, NY 10523

American United Marine Corp., 5 Broadway, Rt. 1, Saugus, MA 01906  
Willard Marine Co., Inc., 1250 N. Grove St., Anaheim, CA 92806  
Zodiac of North America, P.O. Box 400, Stevensville, MD 21666

**LIGHTING EQUIPMENT—Lamps, Fixtures, Searchlights**  
ACR Electronics, Inc., 5757 Ravenswood Rd., P.O. Box 5247, Ft. Lauderdale, FL 33310-5247  
Archway Marine Lighting, 4501 Swan Ave., St. Louis, MO 63110  
The L.C. Doane Co., P.O. Box 975, Essex, CT 06426  
Nautilus Equipment Ltd., P.O. Box 66, Station M, Halifax, Nova Scotia B3J 2L4, CANADA  
Proxima Products, 6161 N 64th St., Milwaukee WI 53218

**LINE BUNDLES**  
American Piping Products, Inc., 22 S. 9th St., New Hyde Park, NY 11040  
Stacey Fetterolf, P.O. Box 103, Skippack, PA 19474

**LIQUID CARGO HEATERS**  
First Thermal Systems, Inc., P.O. Box 4756, Chattanooga, TN 37405

**LIQUID OVERFILL PROTECTION SYSTEMS**  
E. R. L. Marine Products, P.O. Box 1026, New Albany, IN 47151-1026

**LOGISTICS**  
V.L. Logistics Consultants, Inc., 3420 Bienville Blvd., Ocean Springs MS 39664  
QED, 4646 N. Wilchuck Road, Virginia Beach, VA 23455

**MACHINERY MAINTENANCE, REPAIR, OVERHAUL, AND TESTING**  
Del Gavo, 619 Industrial Rd., Carlstadt, NJ 07072  
Global Maritime Services, 247 SW 33 Court, Ft. Lauderdale, FL 33315  
Golden Marine Company, Inc., 160 Van Brunt 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., Eahway, NJ 07065

**MACHINING—On Site Repair**  
Global Maritime Services, 247 SW 33 Court, Ft. Lauderdale, FL 33315

**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 Accommodations Inc., 8635-3 Baymeadows Rd., Ste 140, Jacksonville, FL 32256  
Maritime Services Corp., 3457 Goughard Dr., Hood River, OR 97031

**MARINE FURNITURE**  
Directions in Design, 633 Emerson, Suite 100, St. Louis, MO 63141  
Jamestown Metal Marine Sales, Inc., 4710 NW Second Ave., Boca Raton, FL 33431  
Marine Accommodations Inc., 8635-3 Baymeadows Rd., Ste 140, Jacksonville, FL 32256  
Maritime Services Corp., 3457 Goughard Dr., Hood River, OR 97031  
Wilson & Hayes, 1601 Eastlake Avenue, East Seattle, WA 98102

**MARINE SHIP MANAGEMENT**  
Arkon Corp., 1810 Chapel Ave., West, Cherry Hill, NJ 08002

**METAL PRODUCTS**  
Jamestown Metal Marine Sales, Inc., 4710 NW Second Ave., Boca Raton, FL 33431  
Harrington Metal Fabrication, P.O. Box 410, 6720 M 89, Fenwick, MI 49408

**MOTORS**  
Tech Systems, 401 Watertown Rd., Thomaston, CT 06787

**MULTI-CABLE PENETRATION DEVICE**  
NMP, 12437 E. 60th St., Tulsa, OK 74153

**NAVAL ARCHITECTS, MARINE ENGINEERS, SURVEYORS**  
Advanced Marine Enterprises, Inc., 1725 Jefferson Davis Hwy., Arlington, VA 22202  
CDI Marine Co., 9487 Regency Square Blvd., Ste. 500, Jacksonville, FL 32225  
Chiles Engineering Corp., Box 333, Medfield, 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, 2000 Rockefeller Dr., Suite 403, Metairie LA 70002  
Design Associates Inc., 14360 Chef Menteur Highway, New Orleans, LA 70129  
Diversified Technologies, 812 Live Oak Dr., Chesapeake VA 23320  
Engr & Mgmt & Engineering Consultant Services, P.O. Box 7760, Beaumont, TX 77706  
GHM Inc. (Incl. Measurement Consultants), P.O. Box 1636, Newport News, VA 23601  
Gibbs & Cox, Inc., 50 West 23rd St., New York, NY 10010  
The Glosten Assoc., Inc., 600 Mutual Life Bldg., 605 First Ave., Seattle, WA 98104  
Morris Guranick 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 Lane, 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. Krogan, 1515 NW 7th St., Ste. 124, Miami FL 33125  
Rodney E. Lay & Associates, 13691 Atlantic Blvd., Jacksonville, FL 32225  
David P. Levy Enterprises, 527 Legendro Dr., Sidell, IL 70460  
MCA Engineers, Inc., 2960 Airway Ave., #A-103, Costa Mesa, CA 92626  
Alan C. McClure Associates, Inc., 2600 South Gessner, Houston, TX 77063  
John V. McCollum, Inc., 11991 Long Point Road, Mt. Pleasant, SC 29564  
McElroy Machine & Mfg. Co., Inc., P.O. Box 4454, Bloom, MS 38935-4454  
John J. McMullen Associates, Inc., 1 World Trade Ctr., Ste 3000, NY, NY 10048  
MacPherson Maritime Services, 141 Jefferson Ave., Westfield NJ 07090  
Fendall Marbury, P.O. Box 2321, Annapolis, MD 21401  
Marine Design & Operations, Inc., 226 Chestnut St., Roselle Park, NJ 07204  
Marine Management Systems Inc., 102 Hamilton Ave., Stamford CT 06902  
Marine Power Associates, 1010 Turquoise St., Ste 217, San Diego, CA 92109  
Maritech, Seacraft, Bay Road, Newmarket, NH 03857  
Maritime Design, Inc., 3023 Hartley Rd., Jacksonville, FL 32257  
P.J. McAuliffe & Co., 71 Hudson St., New York, NY 10013  
Nautical Designs, Inc., 2101 S. Andrews Ave., Suite 202, Ft. Lauderdale, FL 33316  
Northern Marine, P.O. Box 1169, Traverse City, MI 49685  
Ogden Government Services, 3211 Jermolow Rd., Fairfax, VA 22030  
Olson Marine Surveyors Co., P.O. Box 283, Port Jefferson, NY 11777  
Omega Marine Engineering Systems, Inc., 11757 Katy Freeway, Ste 1100, Houston TX 77079  
OED Systems Inc., 4646 Wilchuck Rd., Virginia Beach, VA 23455  
N. Rosenblatt & Son, Inc., 350 Broadway, New York, NY 10013 and 620 Fulson St., Ste. 301, San Francisco, CA 94107  
Sargent & Herkes, 225 Baronne St., Suite 1405, New Orleans LA 70112  
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 08008; 2 Skyline Pl., 5203 Leesburg Pike, Suite 700, Falls Church, VA 22041; 1305 Franklin St., Suite 210, Oakland, CA 94612  
George G. Sharp, Inc., 100 Church St., New York, NY 10007  
R.A. Sisson, Inc., 253 N. 1st Ave., Sturgeon Bay, WI 54235  
TIMSCO, P.O. Box 91360, Mobile, AL 36691

**NAVIGATION & COMMUNICATIONS EQUIPMENT**  
Anschutz & Company, One Madison St., East Rutherford, NJ 07073  
AT&T High Seas Dept., 412 Kemble Ave., Room C360, Morristown, NJ 07960  
Autonica Marine A/S, Drammensveien 136, N-4277 Oslo 2, NORWAY  
Collnet Corp., 400 Main St., Stamford, CT 06901-3004  
Comsat Maritime Services, 950 L. Enfant Plaza SW, Washington DC 20024  
C. Plath, 222 Severn Ave., Annapolis, MD 21403  
EDO Corporation, 2645 S. 300 West, Salt Lake City, UT 84115  
Electronic Marine Systems, 800 Fendale Pl., Rahway, NJ 07065  
Fairtide Enterprises, Inc., 2536 Sonata Dr., Columbus, OH 43209

Furuno U.S.A., 271 Harbor Way, S. San Francisco, CA 94080  
Hose McCann, 9 Smith St., Englewood, NJ 07631  
Henschel, Inc., 9 Hoyt Drive, Newburyport MA 01950  
DB Aero-Nautical Communications, 15245 Shady Grove Rd., Rockville, MD 20850  
Kenwood USA Corp., Marine Prod. Div., 220 E. Dominquez St., Long Beach, CA 90810  
Mackay Communications, 441 US Highway #1, P.O. Box 331, Elizabeth NJ 07027  
Marine Electric RPD, Inc., 50 Carol St., P.O. Box 1155, Clifton, NJ 07014-1155  
Megapulse, Inc., 8 Preston Court, Bedford MA 01730-1390  
Nautronix, 15401 Vantage Pkwy W., Houston, TX 77032  
Naval Electronics, 5417 Jetview Circle, Tampa FL 33634  
Norwegian Telecom, P.O. Box 6701, Oslo 1, NORWAY  
Novasat, 820 Commodore St., Victoria BC V8W 1R1 CANADA  
Raytheon Marine Co., 46 River Road, Hudson NH 03051  
Robertson Marine Systems, 3000 Kingman Street, Suite 207, Metairie LA 70006  
SPD Technologies, 13500 Roosevelt Blvd., Philadelphia, PA 19116  
Scandinavian Marine Systems P.O. Box 152, N-1411 Kolbotn, NORWAY  
Smarad, 19210 33rd Avenue West, Lynnwood, WA 98036  
Spary Marine Inc., 1070 Semrole Trail, Chantlesville VA 22901  
Standard Communications, P.O. Box 92151, Los Angeles, CA 90009  
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Trimble Navigation, 585 North Mary Avenue, P.O. Box 3642, Sunnyvale, CA 94086  
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Fast Systems, 8240 North Broadway, St. Louis, MO 63147  
MMC International, 60 Inp Dr., Inwood NY 11696  
National Fluid Separators, 827 Harley Industrial Ct., St. Louis, MO 63144  
Nelson Industries, Highway 51 West, Stockton, WI 53589

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The Amerson Corp., Corrosion Dynamics Div., 1100 Walnut St., Rosell, NJ 07203  
Esgard, Inc., P.O. Drawer 2698, Lafayette, LA 70502  
Graco Products, 800 Westchester St., Ste 202, Houston, TX 77042  
Jamestown Distrib., 28 Narragansett Ave., P.O. Box 348, Jamestown, RI 02835  
Hempel Coatings, Foot of Currie Avenue, Wallington, NJ 07057  
Melvin Pierce Marine Coating, Inc., P.O. Box 93, Semmes, AL 36575  
Microport, Inc., Marine Div., 452 E. Hill Rd., P.O. Box 1460, Willis, CA 95490  
Sinco Coatings, 8979 Market St., Houston, TX 77029, 330 River Rd., Harvey, LA 70059, 1100 Adams St., Hoboken, NJ 07030

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Loring, 206 Hacht Drive, Foster City, CA 94404  
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Collect Industries (Fairbanks Morse Engine Div.), 701 Lawton Ave., Beloit, WI 53511  
Cummins Engine Company, Mail Code 80011, Box 3005, Columbus, IN 47202-3005  
Engine-Motive, div. General Motors, 9301 W. 56th St., La Grange, IL 60525  
Fincantieri, Diesel Engines Div.—GMT, Bagnoli della Posadara 334, Trieste, ITALY  
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Kahlenberg Bros. Co., P.O. Box 358, Two Rivers, WI 54241  
Krupp Mak, 7555 Danbro Crescent, Mississauga, Ontario, CANADA L5N 6P9  
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Viking Marine, 300 Montour Pl., Ste 211, Oakdale, PA 15071  
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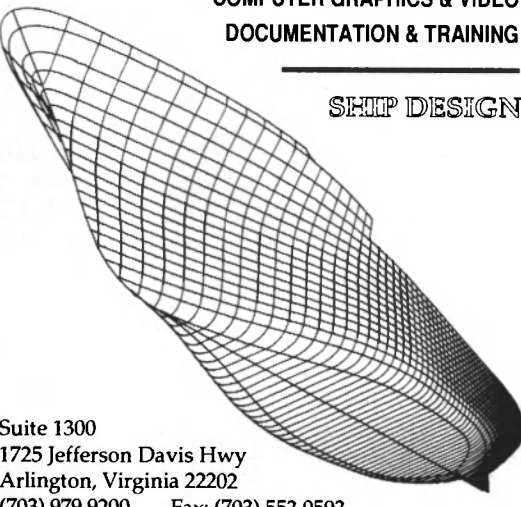
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Engineered Data Products (EDP), a designer and manufacturer of computer support equipment, and Wright Computer Products (WCP), a supplier of equipment and service to the maritime industry, have joined to offer the maritime industry computer and office furniture for shipboard use. The new line of furniture, which constructed of heavy-duty steel and aluminum, permits ship's personnel to have the same quality of office furniture used on shore. Products offered include: vertical P.C. cabinet; a TV/VCR cabinet; a line of multi-media storage bins with locking, roll-up aluminum doors; and steel desks. For information on EDP and WCP's combined effort,

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Others are reluctant to repair machinery on substandard vessels or fear that after repair, poor shipboard operating standards would only lead to further systems failure.

While addressing a conference on ship repair and conversion in London, Michael Ellis, general manager of the Salvage Association, warned shipowners that underwriters will be take a much tougher line on insurance claims or equipment failure that are caused by poor maintenance and not accidental damage.

Despite the industry's trend towards smaller crews, Lars Carlsson, president of the Swedish tanker group Concordia Marine AB, said that his fleet of 10 large tankers, all built between 1972 and 1978, are manned by crews of between 40 and 45, versus the 25 to 30 personnel carried on most VLCCs. The purpose of the additional 15 crewmen is to perform maintenance work while at sea. Mr. Carlsson cited Lloyd's Register's estimates that it costs six times as much to neglect maintenance and replace steel at a shipyard, than to undertake preventive maintenance.

**APL To Expand In Seattle, California Ports Compete To Be 2nd Terminal Site**

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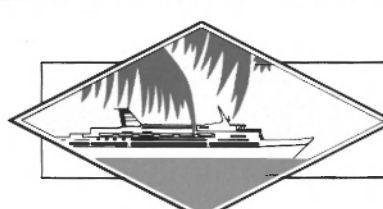
sign a final agreement with the Port of Seattle in early 1993 for a major expansion of the port's container terminal facilities and operations. This move indicated APL's decision to abandon its idea for a single "super terminal," choosing instead to develop two major load centers on the West Coast, one north and one south.

California's ports welcomed the news, believing they are at a disadvantage against the Pacific North-

west ports because of a recent state law requiring them to turn over some of their funds to city governments. In contrast, the Port of Seattle receives up to \$37 million in tax subsidy from local government.

Seattle's largest ocean carrier, APL has asked to expand its 83-acre ocean terminal to 160 acres by 1996 and incorporate on-dock rail operations. The company has also requested the option of expanding to 190 acres.

Anticipating APL's search for a southern port, Los Angeles and APL are negotiating over a section of the port's Pier 300 future development project, while Long Beach is seeking to purchase some Union Pacific Railroad property that could be used by the company. Meanwhile, Oakland is negotiating with the Navy for additional land, part of its 125-acre terminal development plan being submitted to APL.



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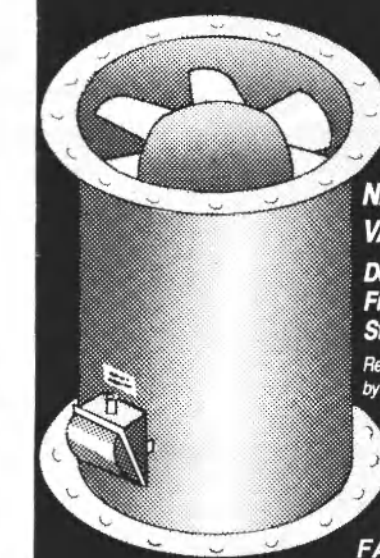
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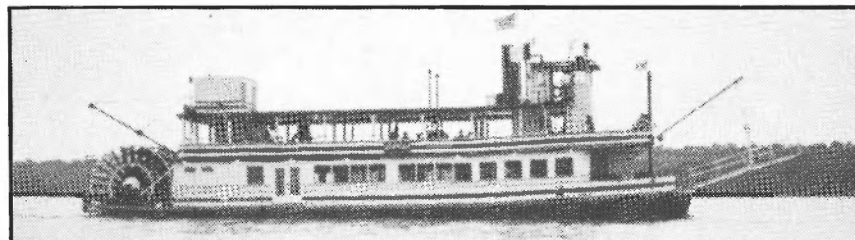


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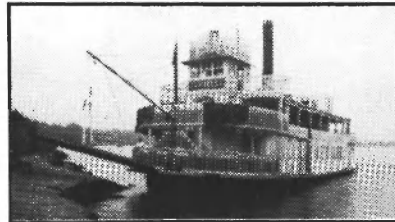
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CC-114	195'x52'x11'	Single Rake	Bad Tanks	Pressure Barge		Built 1962
USL-430	236'x52'x12'	Single Rake	6 Tanks	Atmospheric	16,333 Barrels	Built 1971
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CC-421	239'x52'x12'	Single Rake	6 Tanks	Atmospheric	15,714 Barrels	Built 1967

These barges are offered "As Is, Where Is" only. Most carry current USCG Certification.

*No brokerage agreements will be entered into, nor will any commissions be paid in connection with the sale of these units.*

Most of the barges will be on drydock in Platzer Shipyard at Houston, TX on January 18 through 20, 1993 for customer inspections. The barges will be clean and gas free.

For additional information or to make an appointment for an inspection contact:



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**Hornbeck Announces  
20 Vessel Fleet Purchase  
From Petrol Marine**

Hornbeck Offshore Services, Inc., of Galveston, Texas, has entered into agreements to acquire 20 large, offshore-supply vessels and one utility vessel from Petrol Marine Corporation and related companies, collectively known as Petrol Marine.

Petrol Marine owns and operates 19 vessels in the Gulf of Mexico and two in the North Sea from its headquarters in Houma, La. The purchase price consideration will consist of cash, notes and Hornbeck Common Stock.

**Larry D. Hornbeck**, president, chairman and chief executive officer of Hornbeck Offshore Services, Inc., and **Bruce Hunt**, executive officer of the selling corporations, stated that, "The consolidation of Petrol Marine's vessels with Hornbeck's fleet should create operating efficiencies and is expected to benefit shareholders, customers and employees. As a result of the acquisition, Hornbeck will be one of the largest supply vessel operators in the world with a fleet of 52 vessels."

Hornbeck is engaged in the worldwide offshore marine services business, primarily serving the oil and gas industry through its operation and management of a diversified fleet of vessels

**U.S. Shipbuilders  
Represented On ABS Board**

The American Bureau of Shipping (ABS) international marine classification society elected new members to its international board of managers.

Two of the new members were **W.R. Phillips Jr.**, president and chief executive officer (CEO) of Newport News Shipbuilding & Drydock Company, Newport News, Va., and **William Patrick Keene**, senior vice president of Pascagoula, Miss.-based Ingalls Shipbuilding.

ABS also elected a new president and chief operating officer (COO), **Robert D. Somerville** formerly head of ABS Europe. Mr. Somerville will be replacing **Frank J. Iarossi**, who will continue in the post of ABS chairman and CEO. **Antonio C. Lino Costa** was appointed as the new president and COO of ABS Europe.

# Steiner Built / CAT Powered

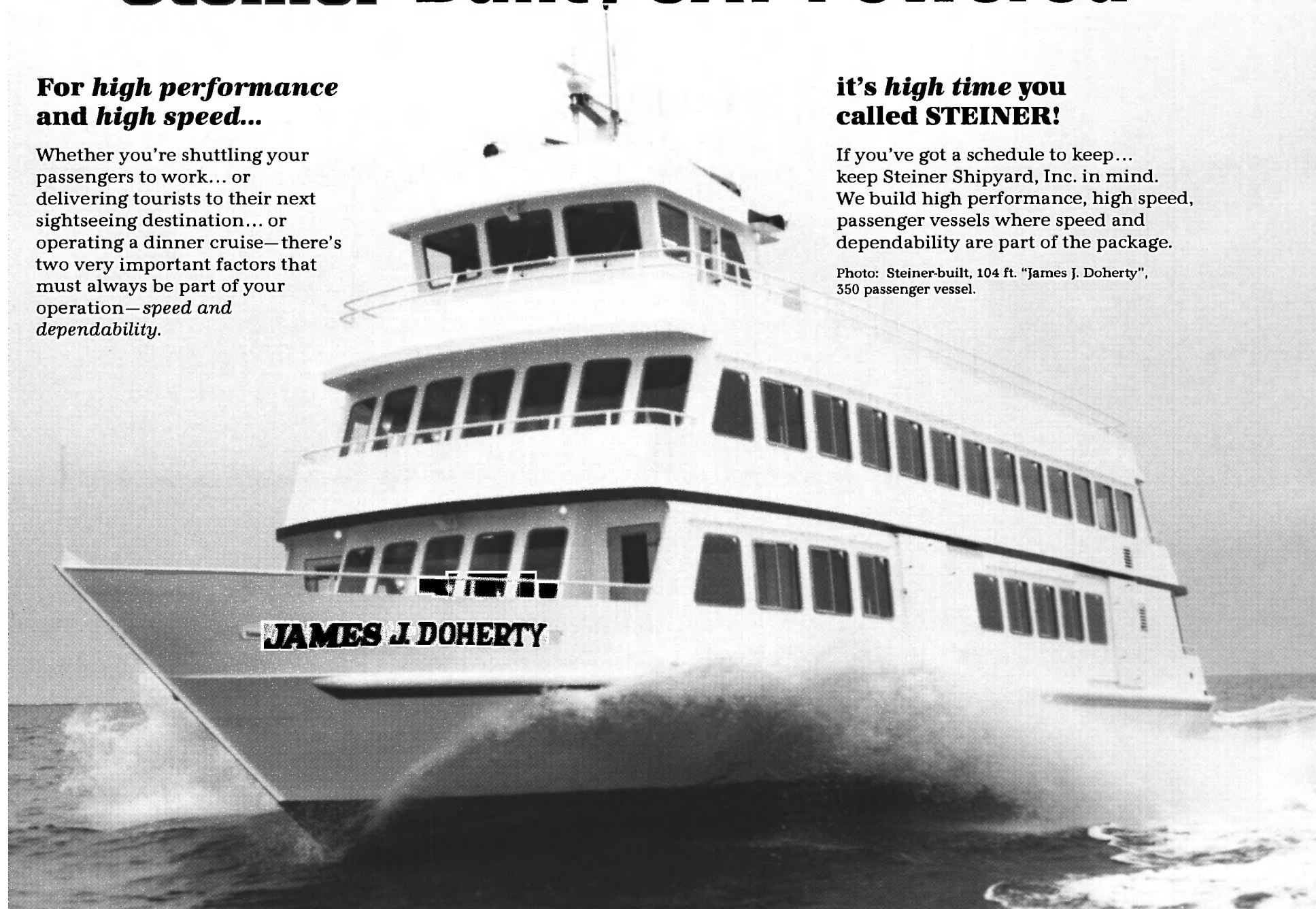
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If you've got a schedule to keep... keep Steiner Shipyard, Inc. in mind. We build high performance, high speed, passenger vessels where speed and dependability are part of the package.

Photo: Steiner-built, 104 ft. "James J. Doherty", 350 passenger vessel.

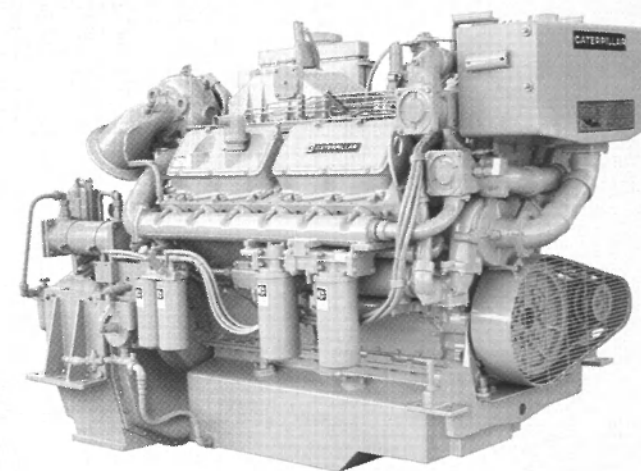


## **Thompson Power Systems/ Caterpillar**

A number of high performance passenger Ferry boats have been built by Steiner Shipyard, all powered by Caterpillar 3400 series engines.

The latest under construction for Puerto Rico, will be powered by (4) 3412 DITA engines, rated 850 hp @ 2100 rpm. Providing ships electrical power will be a CAT 3306 DINA Genset, rated 75 kw @ 1200 rpm.

For these and other marine applications, Caterpillar engines are available from 200 hp - 7200 hp, or 30 kw - 5200 kw. Call Thompson Power Systems for further information.



**Thompson**



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