

# MARITIME REPORTER

AND  
ENGINEERING NEWS



## FISH EXPO '83

M/V Grand Republic

**Largest Addition To  
McAllister Brothers Fleet  
Delivered By Offshore Shipbuilding**

(SEE PAGE 4)

**Fish Expo '83  
— A Preview —  
(SEE PAGE 4)**

**OCTOBER 1, 1983**



**NOW from PENCO . . .**

**NIIKURA KOGYO**

# DECK SWEEPER DECK WASHING MACHINE

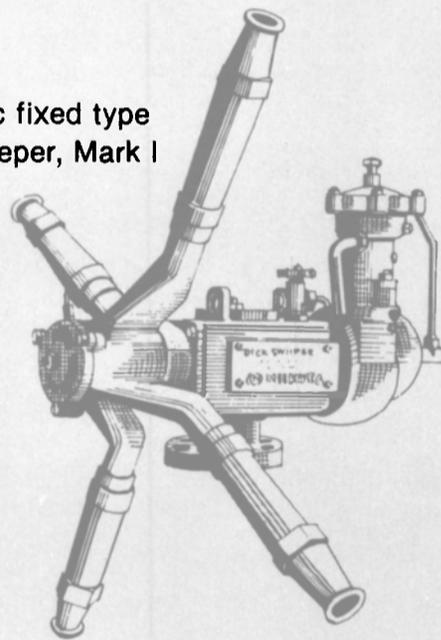
## **POWERFUL WATER JET CLEANER FOR ORE/COAL AND OBO CARRIERS**

The Niikura Kogyo Deck Sweeper reduces crew fatigue from handling a washing nozzle attached to a heavy hose under pressure, and performs the deck washing operation quickly and efficiently.

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The Deck Sweeper is available in either automatic or manual/portable types. The automatic fixed type, Mark I, is mounted on towers installed at optimum locations on the deck.

Automatic fixed type  
Deck Sweeper, Mark I



## **FEATURES OF THE DECK SWEEPER**

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- Easy Maintenance
- High Reliability
- Economical Operation
- Fixed or Portable Types
- Proven Driving Unit



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## ON THE COVER

**Grand Republic  
Largest Addition To  
McAllisters Brothers  
Fleet Delivered**  
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**FishExpo 83  
— A Preview —**  
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### American President Lines Reorganization Approved By Maritime Subsidy Board

The Maritime Subsidy Board has approved a "Plan and Agreement of Reorganization" providing, among other things, for the formation of a new corporation as the owner of the subsidized American President Lines, Ltd. (APL).

The new firm is American President Companies, Ltd. (APC).

Under the plan, submitted to the board on behalf of APL last month, all capital stock in Natomas Transportation Co., the sole shareholder of APL, will be distributed to APC, after which all capital stock in APC will be distributed to the existing Natomas Company shareholders.

The reorganization stems from the proposed purchase of Natomas by Diamond Shamrock Corp.

### Huge Increase In Shipbuilding Orders For Japan Yards

New orders for Japanese shipyards for the month of July increased dramatically (almost 500 percent) over the same month in 1982. A July orderbook value at around \$888 million was recorded bringing the total backlog for Japanese yards to over 11 million gwt for the first time in two years, according to the Japan Ship Exporters Association.

### Maritime Protection A/S Installs Washing Systems On Texaco Tank Ships

Maritime Protection A/S, in Norway recently completed the installation of crude oil tank washing systems, an inert gas system and a "Cargomaster Level System" on the M/T Texaco Florida and accepted an order for a second system for the M/T Texaco Connecticut. The combined orders amount to NOK 11 million.

## MARITIME REPORTER and Engineering News

Editorial and Executive Offices  
107 East 31st Street, New York, N.Y. 10016  
(212) 689-3266  
ITT Telex: 424768 MARINTI

### PUBLISHERS

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

### VICE PRESIDENT

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### EDITORIAL DIRECTOR

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### SALES OFFICES

#### New York, New York

Maritime Reporter & Engineering News  
107 East 31st Street  
New York, NY 10016  
Telephone: (212) 689-3266

#### Houston, Texas

Robert Hawley  
Gary Lindenberger  
Mike Sullivan  
11777 Katy Freeway, Suite 155  
Houston, TX 77079  
Telephone: (713) 870-0470

#### Italy

Mr. Vittorio F. Negrone  
Ediconsult Internazionale  
Piazza Fontane Marose  
3-16123 Genova, Italy  
Telex: 211197 EDINT 1  
Telephone: (010) 543.659-268.334-268.513

#### Scandinavia

Mr. Stephan R G Orn  
Ab Stephan R G Orn  
Box 184, S-271 00 Ystad, Sweden  
Telex: 33335 ORN S  
Telephone: 0411-184 00

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## Tacoma Boat Completes \$143-Million Financing To Build Two Thai Corvettes

Tacoma Boatbuilding Co., Tacoma, Wash., reported today that all outstanding conditions have been met to finalize the award of a \$143-million contract for the design and construction of two 252-foot corvettes for Thailand. The contract had previously been signed subject to obtaining a weapons export license and letters of credit equal to progress payments, noted **B. James Lowe**, company president. The weapons export license was granted on July 8, and on August 24 the requisite letters of credit were issued. The Thai ships include design similarities to four 245-foot patrol-chaser (PCG) ships completed this year under a U.S. Navy contract for an allied nation.

This contract establishes the company's backlog, as of June 30, 1983, at \$219 million compared to \$174 million as of June 30, 1982 Mr. Lowe said.

In addition to naval combat and patrol vessels and incineration ships, Tacoma Boat designs and constructs cyclodial-propulsion tugs, tuna purse seiners, barges, off-shore drill rigs, ice-class ships, and other vessels.

## EDO Receives \$6-Million Naval Sonar Contract

EDO Corporation's government systems division, College Point, N.Y., has announced the receipt of a \$6-million contract from a foreign navy for two EDO Model-786 hull-mounted sonar systems with associated spare parts and services.

According to **Frank Fariello**, president of the EDO division, the new contract also provides an option, exercisable through June of 1984, for various training courses and technical assistance amounting to an additional \$1,037,000. Mr. Fariello said that delivery of the sonar systems will be completed in 30 months and that all work on the order will be done at the company's College Point facility. He added that the Model-786 is part of a family of high performance sonars specifically designed for the international market.

## Blue Star Line To Add Four New Reefer Ships

The Blue Star Line has announced the placement of an order for four new Reefer ships to be built at the Harland & Wolff Yard in Belfast.

The four ships will be of similar layout and will incorporate the latest technical developments in Reefer vessel design. The 463,000-cubic-foot-capacity vessels have been designed with particular emphasis on fuel efficiency. The cargo

spaces are designed to be pallet efficient and will have minimum clear heights in the 'tween decks of 2.20 meters. Banana side ports and elevator hatches will be incorporated, as will electric cranes.

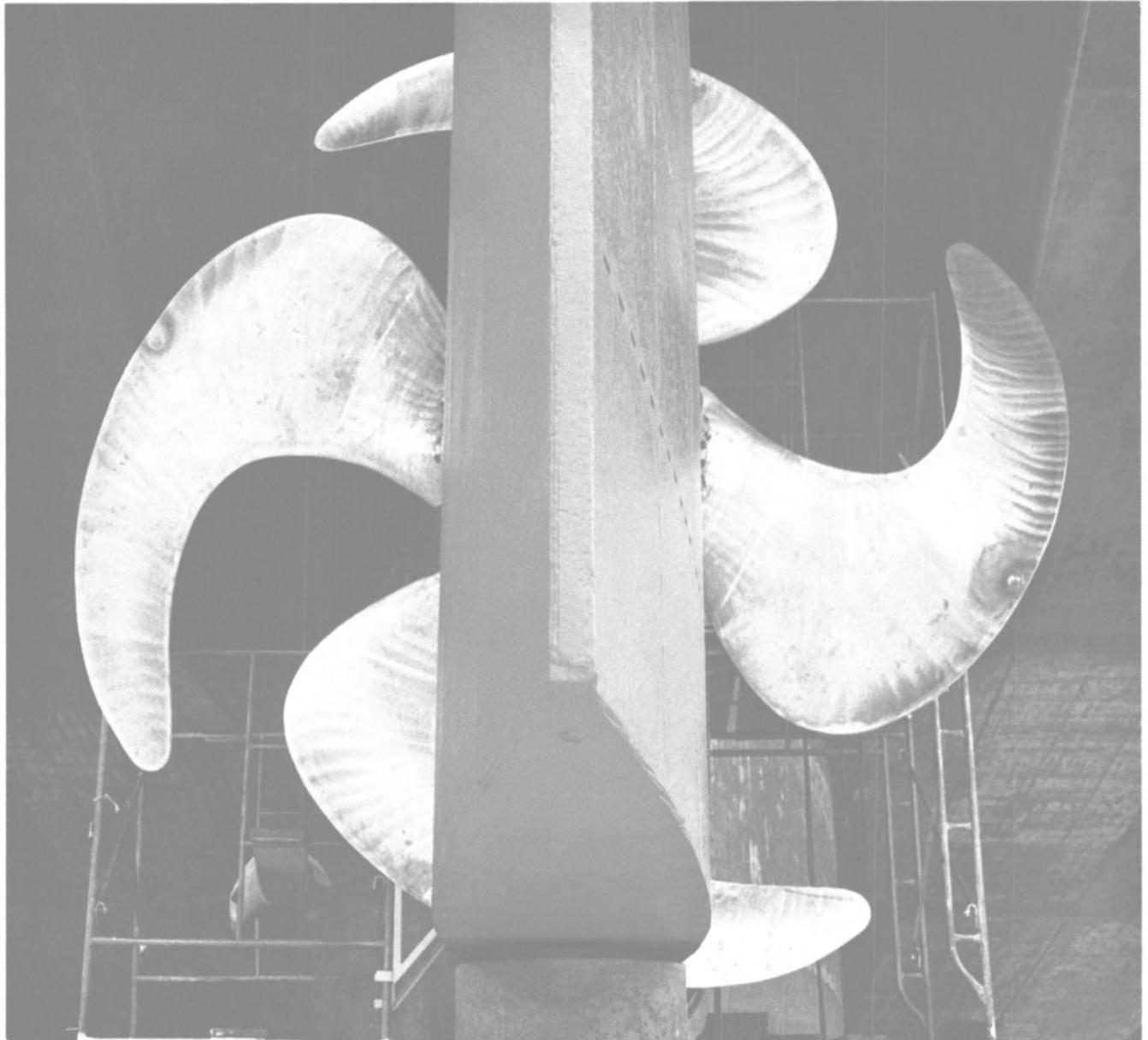
The ships are expected to enter service in 1985 and will supplement the existing fleet in Blue Star Line's Reefer Trading Division which operates about 20 vessels carrying all types of Refrigerated cargoes in its worldwide operations.

## Marine Safety Offers Seaway Simulator Training For 180 Ships Masters

Marine Safety International, New York, N.Y., in cooperation with the Dominion Marine Association, Ottawa, Ontario, have developed a master's training program which simulates actual traffic and environmental conditions on the St. Lawrence Seaway. Selected sections of the 121-mile seaway

round trip are simulated. Four categories of courses are offered for different classes of officers and training on two types of laker vessels: wheelhouse forward and wheelhouse aft. Actual situations are simulated such as in strong winds, strange currents, passing, lock transiting, fog and night operations, etc. The course is planned to train 180 men in three years. For free literature on simulator training,

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## Success Story

When American Steamship Company selected B-JCo highly skewed propeller blades for their MV CHARLES E. WILSON, they expected a solution to vibration problems. Measurements were recorded before and after the 1980 blade retrofit. Results have been documented: Reduced cavitation and reduced vibration—in ballast and full load conditions... in shallow and deep waters... at every power level. Greatly improved crew comfort—with low noise and vibration in ship's accommodations. Peak propulsive efficiency and superior maneuverability—because skewed propeller technology is uniquely suited to CP propellers.

Photograph courtesy of American Steamship Company

For over a decade, 75 US Navy warships have been demonstrating success at sea with B-JCo skewed CP propellers. We've applied that naval propeller manufacturing technology and experience to commercial ships. Highly skewed propellers can minimize vibration on large ships designed to maximize cargo capacity. They provide the low noise and vibration levels essential to research and fishing vessels.

Why accept a compromise solution when the B-JCo highly skewed CP propeller can work for your ship (retrofit or new construction), the way it worked for the WILSON? Contact our Marine Sales Department.

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## Joint Venture Receives Title XI For \$109-Million Chemical Carrier

The Maritime Administration has approved in principle an application for a Title XI guarantee to aid in financing the construction of the Chemical Pioneer, a 35,000-deadweight-ton chemical carrier being built by Newport News

Shipbuilding and Drydock Co., Newport News, Va.

The approved guarantee will not exceed \$82,264,000 or 75 percent of the vessel's estimated actual cost of \$109,686,024.

Union Carbide Corp. (UCC) of Danbury, Conn., and Marine Transport Lines, Inc. (MTL) of New York, N.Y., filed the application on behalf of Union Marine Transport Co., a joint venture

partnership to be formed by UCC and MTL subsidiaries.

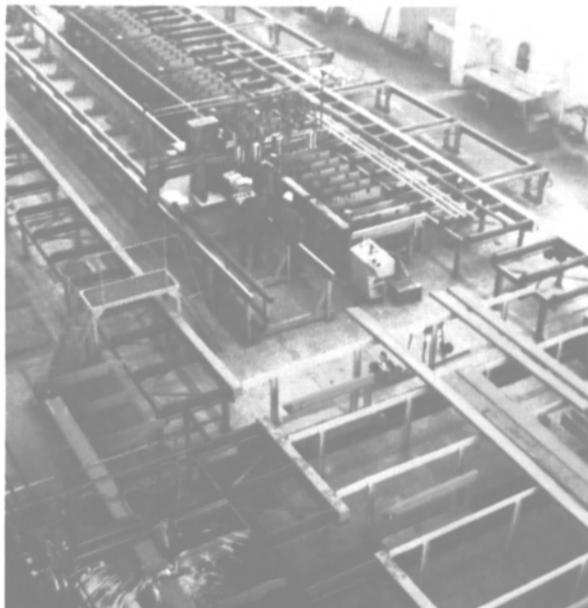
Scheduled to be delivered in September, the Chemical Pioneer will be the first chemical carrier built in the United States since 1970. The vessel was designed to meet the requirements of various UCC business departments for parcel liftings of varied nature and size. The vessel's cargo tanks consist of 48 fully supported sys-

tems, each with submerged hydraulic driven centrifugal pumps and nitrogen inerting systems.

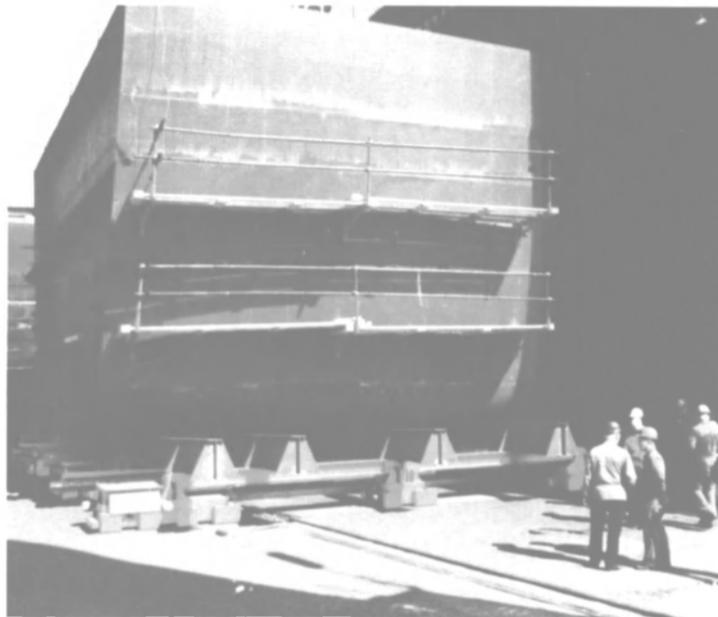
Bankers Trust Company, New York, N.Y., is expected to serve as owner trustee of the vessel under a leveraged lease financing arrangement. Union Marine Transport Co. would then enter into a long-term bareboat charter of the vessel, which will be operated by Marine Transport Management, a wholly owned MTL subsidiary.

The Chemical Pioneer is expected to be used primarily for the carriage of UCC cargoes between plants and terminals on the Gulf of Mexico, East Coast, and in Puerto Rico.

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## Zenisek Named VP Of Manufacturing Operations At COMSAT TeleSystems

COMSAT TeleSystems, Inc., Fairfax, Va., named **Robert F. Zenisek** as the company's new vice president of manufacturing operations. In this position, Mr. Zenisek will be responsible for all phases of the manufacture of TeleSystems' telecommunications products.

Mr. Zenisek comes to TeleSystems with more than 20 years of experience in the field of telecommunications equipment manufacturing. Most recently he was vice president-operations for GTE Lenkurt in San Carlos, Calif. He holds a BS in management and a BSEE from the University of Illinois.

## Sulzer Engines For Two Container Ships

Sulzer 6RTA76 low-speed diesel engines will power two 1210TCU container ships being built for Lloyd Brasileiro. Each engine has a continuous rating of 16,500 bhp at 90 rpm giving the 590-foot, 24,400-ton ships a service speed of 18.25 knots with a daily fuel consumption of 44 tons. The engines are being built under license by Ishibras in Brazil and IHI in Japan.

## \$1.2-Million Contract Award To Debeg

Debeg Private Limited has recently signed a contract with a major shipyard in the Peoples Republic of China.

Worth S\$1.25 million, the contract covers the supply of Radio Communications and Navigation equipment for three 12,300-dwt container vessels being built for Chinese owners and includes an option for three further vessels.

Installation supervision and commissioning will be carried out by technicians from DPL's Singapore facility. DPL is a member of the West German DEBEG groups of companies.

## Rockwell International Wins \$7.7-Million Contract For Acoustic Processors

A \$7.7-million preproduction contract from the United States Navy for an upgraded acoustic signal processor has been awarded to Rockwell International Corporation's Autonetics Marine Systems Division in Anaheim, Calif.

The equipment, called Fast Time Analyzer System (FTAS), is designed to support the latest Navy antisubmarine warfare craft and assist in locating, identifying and tracking submarines.

The FTAS upgrade enhances present capability through increased real-time and time-accelerated signal processing and the expanded use of video displays.

The systems are being installed around the globe in aircraft carrier and land-based Tactical Support Centers to provide both real-time and post-time analysis of acoustic data.

## Cali & Associates Elect Schulze To Presidency

Filippo Cali, chairman of the board of directors of Cali & Associates, Inc., consultants, New Orleans, La., announced the election of Albrecht Schulze to president of the company. In this capacity, he will be responsible for the entire operation of Cali & Associates, Inc. Prior to his election, Mr. Schulze has served as vice president for data processing and has been a member of the board of directors since the company was founded in 1973.

## COMSAT World Systems Division Announces Three Vice Presidential Changes

COMSAT World Systems Division, Washington, D.C., recently announced three vice presidential appointments.

Edward J. Martin has been named to the position of vice president, international operations. In his new capacity, Mr. Martin will be responsible for the operation and planning of COMSAT's international satellite communications system and the direction of COMSAT's 17 earth stations which operate with the INTELSAT system. He will also assume the role of U.S. Governor on the INTELSAT Board of Governors.

David E. Gourley has been appointed to the newly created position of vice president, business development, with responsibility for the establishment of business plans, new communications services, and market development for COMSAT's international communications services.

George J. Tellmann assumes the position of vice president, maritime services. In this capacity, he is responsible for the management of COMSAT's maritime satellite communications business and will

serve as the principal U.S. representative on the INMARSAT Council.

Mr. Martin most recently served as vice president, maritime services. As such, he represented COMSAT, the U.S. Signatory to INMARSAT, on the INMARSAT Council and served as chairman of that council from 1982-83.

Mr. Gourley joined COMSAT in

1976 and has served as director of sales and market development for COMSAT World Systems Division since 1981.

Mr. Tellmann, until recently senior director, international systems operations and planning of COMSAT World Systems Division, joined COMSAT in 1968.

COMSAT World Systems Division is responsible for the manage-

ment of COMSAT's participation in the INTELSAT (International Telecommunications Satellite Organization) and INMARSAT (International Maritime Satellite Organization) global communications satellite systems. COMSAT, with headquarters in Washington, D.C., is an industry leader in satellite communications services and products.

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## Title XI Approved On \$24-Million Package For Puget Sound Tug & Barge

The Maritime Administration has approved in principle an application from Puget Sound Tug & Barge Co., One Market Plaza, San Francisco, Calif., a wholly owned subsidiary of Crowley Maritime Corp., for a Title XI guarantee to aid in financing or refinancing one ice-strengthened oil/deck cargo

barge and four deck cargo barges. The MarAd guarantee is designed to assist the company in obtaining favorable commercial financing for the project.

All the vessels were built by FMC Corp., Portland, Ore. The 205-foot icebreaking barge Arctic Endeavor was delivered in July 1982. It is expected to be used by oil companies in support of Arctic offshore energy exploration. The four ocean deck barges are each

400 feet long. They will be used to provide contract barge transportation between the U.S. Pacific Northwest and Alaska. One was delivered in December 1982 and others in May 1983.

The approved guarantee is for \$16.7 million. This total does not exceed 75 percent of the total depreciated actual cost of the five vessels which has been determined to be \$24,143,768 (as of September 30, 1983).

## Davis Named President Of EDO Int'l Division

Gerald Albert, president of EDO Corporation, College Point, N.Y., has announced the appointment of Charles S. Davis as president of the EDO International Division.

He also will serve as assistant to the president of EDO for acquisition and corporate development.

Mr. Davis has extensive service in the United States Navy and Naval Reserve where he continues to serve. EDO Corporation designs and manufactures advanced electronic and specialized equipment for military applications and for marine, and other commercial markets.

## Robin Hood Fleeting Appoints Two Managers

Joe Hines, vice president of Robin Hood Fleeting Services of Baton Rouge, La., has announced the appointments of Glenn C. Gardner as account executive and Gerald A. Schilling as operations manager.

Mr. Gardner will handle transportation and freight brokerage sales for Robin Hood Fleet over the entire inland waterway system. Mr. Schilling will also assist in the development of a major repair facility as the owners representative at United States Coast Guard and ABS inspections.

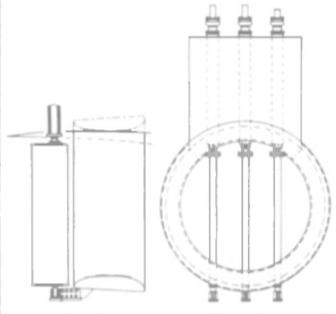
## Lamberts Point Barge Title XI Approved For \$20-Million Coal Barge

The Maritime Administration has approved in principle an application from Lamberts Point Barge Co. of One Commercial Place, Norfolk, Va., for a Title XI guarantee to aid in the financing of a 35,000-deadweight-ton self-discharging coal barge to be used in export coal top-off operations in Delaware Bay. The MarAd guarantee is designed to assist the company in obtaining favorable commercial financing for the project. Lamberts Point Barge is a wholly owned subsidiary of Norfolk Southern Corp., a major rail transporter of export coal. The approved guarantee is for \$15,650,000 or 75 percent of the vessel's estimated actual cost of \$20,865,050.

Bay Shipbuilding Corp. at Sturgeon Bay, Wisc., will be the builder. It will have an overall length of 550 feet, a molded beam of 78 feet and a full-load molded draft of 34 feet 7 inches. The estimated delivery date is April 1984. It will be equipped with two clam bucket cranes for use in topping off large bulk carriers. Due to draft restrictions, these oceangoing colliers will have been only partially loaded in Norfolk, Baltimore or Philadelphia.

The barge will be operated by Coastal Barge Corp. and Coal Logistics Corp. will serve as manager and sales agent.

# Michigan Wheel rudder system: The state of the art.



Now that Michigan Wheel Corp. (an industry innovator for over 75 years) possesses the exclusive domestic sales and design rights to the Towmaster System, North American ship operators can take advantage of the combined technological expertise of Michigan Wheel and BCP.

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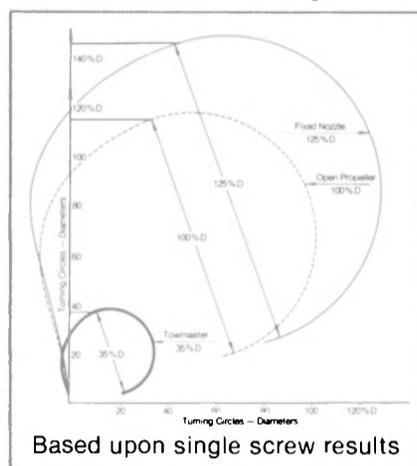
## Michigan Wheel Corporation

When increased maneuverability and station keeping capability can lower operational costs and increase vessel profitability and safety, the logic of installing a Michigan Wheel Towmaster Rudder System becomes clear.

The original Towmaster System was introduced in 1967 by the respected marine design firm Burness, Corlett & Partners, Ltd. (BCP).

Virtually any vessel operating with a ducted propeller system can realize impressive gains in overall turning efficiency and maneuvering with a Michigan Wheel Towmaster Rudder System.

The heart of every Towmaster System involves the utilization of three high aspect ratio rudders. Individually, each Towmaster rudder produces a higher lift to drag ratio than conventional center-line rudders. Collectively,



Towmaster's triple rudders create flow variations on themselves—a cascade effect—which permits 60° helm angles before rudder stall occurs. The result is impressive. Research documents that when a Towmaster System is compared with fixed nozzle and open propeller systems, turning diameters are routinely reduced by 90% and 65%, respectively.



### Butterworth Appoints Sciullo To Southwest Region Sales Position

Butterworth Inc., Kenner, La., has expanded its marine services with the appointment of **Charles A. Sciullo III** as Southeast Regional Sales Representative. He will be based at Butterworth Inc.'s New Orleans (Kenner) office. He will be responsible for sales and service in the marine industry for the Gulf Coast, Florida, and Mississippi River markets. Butterworth Systems provides equipment for water washing and crude oil washing oil/water separation, pumps, LIQUA-BLASTER® High Pressure Water Jetting, and SCAMP® Underwater Hull Cleaning Services.

Prior to joining Butterworth Inc., Mr. Sciullo was ship superintendent, tanker department, Exxon International Company. He graduated with a B.S. degree in marine engineering from the U.S. Merchant Marine Academy at Kings Point, New York.

For more information on Butterworth products,

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### Seacor Appoints New Division Vice Presidents

**Jack A. Apperson**, president of Systems Engineering Associates (SEACOR) of Cherry Hill, N.J., has announced a major reorganization aimed at providing more effective professional services in key locations throughout the country.

All field activity has been divided into three geographical divisions under the direction of senior vice presidents. The Northern division will be directed by **Dallas M. Wolf**, the Southern division by **Virgil F. McCaleb** and the Western division by **Thomas G. Dacus**. All three will report to **Jeff J. Noonan**, who has been named executive VP-operations.

Mr. Apperson pointed out that these organizational changes will be accompanied by major programs to enhance SEACOR's leadership in the field of fleet support requirements.

### MARCO Pacific Shipbuilding Formed In Taiwan

MARCO Seattle and Campbell Industries, well-known fishing vessel builders, have announced the formation of MARCO Pacific Shipbuilding Corporation. The Taiwan-based MARCO subsidiary will specialize in the construction of tuna purse seiners for both local and world markets.

The first vessel to be put into production at MARCO Pacific will be a 192-foot (58m), 700-metric-ton-capacity Campbell-design seiner. In addition to this design, MARCO Pacific will, in the future, produce a full line of modern tuna seiners with capacities from 200 to 2,000 metric tons.

"Our purpose in forming MARCO Pacific," said MARCO president **Peter Schmidt**, "is to meet the expanding demand in existing and developing world fisheries for high-quality purse seine vessels at very competitive prices."

Parent company MARCO Seattle is best known for its development of the Puretic Power Block, a net hauling device that revolutionized purse seine fishing worldwide.

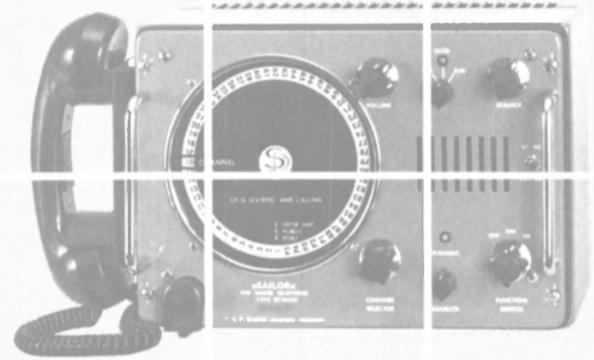
Campbell Industries, founded in 1906, is a MARCO subsidiary located in San Diego, Calif. Campbell pioneered the tuna "super-seiner" concept and has delivered more than 70 of these vessels. In recent years, many of Campbell's vessels have been exported.

MARCO Pacific will utilize the facilities of existing large Taiwan shipbuilding companies for hull construction. As hulls are finished, they will be towed to the

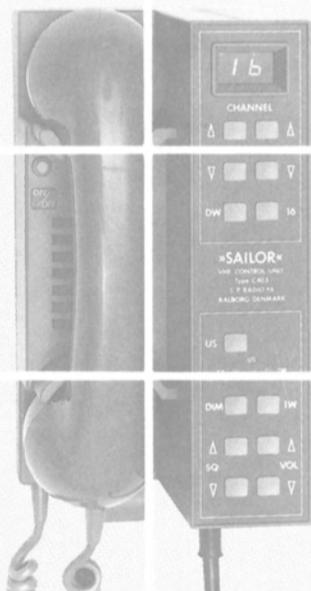
MARCO Pacific facility in Kaohsiung for completion and outfitting. This will include installation of piping, electrical, hydraulic, refrigeration, and mechanical systems. Final carpentry and painting will put the finishing touches on the vessels.

MARCO Pacific's offices are presently located in Taipei, where **Tom Hutton** has been appointed vice president and general manager of the company.

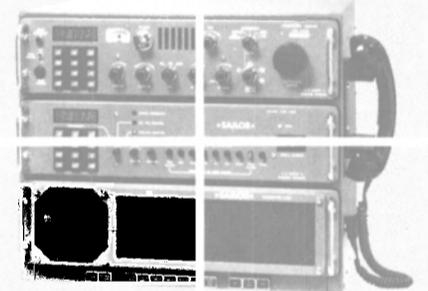
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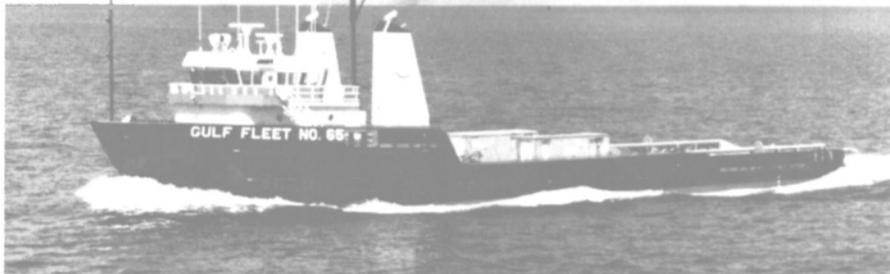
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Gulf Fleet Marine's towing/supply vessel powered by GM EMD12-645 E7C main, and DD 12V-71 bow-thruster engines.

## St. Louis Ship Delivers 6,000-HP Towing/Supply Boat To Gulf Fleet Marine

Richard M. Currence, president of Gulf Fleet Marine Corporation, New Orleans, La., has announced the addition of Gulf Fleet No. 65, a 190-foot by 40-foot by 16-foot 6,000-hp class towing/supply vessel, which is powered by twin EMD 12 645-E7C diesel engines through twin Reinjes WAV 2740, 4:1 ratio reduction gears. The vessel is equipped with two 100.75-inch I.D. Kort Nozzles with twin four-bladed stainless-steel 100-inch-diameter wheels. She is equipped with a bow thruster powered by a 500 horsepower GM 12V-71 engine.

The vessel's towing/anchor-handling package consists of an Intercon DW200 double drum Waterfall towing winch with a 350,000-pound line pull at stall with capacity for 3,000 feet of 2-inch towing cable

on each drum. Her stern roller has a 5-foot diameter with an 8-foot live section and center line groove. Her bollard pull is certified at 150,000 pounds.

The Gulf Fleet No. 65 has a 100-foot by 31-foot clear deck area with maximum capacity for deck cargo at 670 long tons. Her under-deck capacities include drill water at 128,515 U.S. gallons, fuel oil at 139,290 U.S. gallons, potable water at 10,555 U.S. gallons and lube oil at 3,030 U.S. gallons.

The vessel has six bulk tanks with maximum capacity of 6,320 cubic feet and she may carry drilling fluids including liquid mud, calcium chloride and calcium bromide up to 1,524 barrels.

The Gulf Fleet No. 65 was built by St. Louis Ship, a division of

Pott Industries, and represents the first of four vessels in this class to be delivered to Gulf Fleet by St. Louis Ship within the next 10 months.

### Doran Company/Lips Doran Becomes Lips Propellers

A spokesman for Doran Company, Chesapeake, Va., has announced that the company is now operating under the name Lips Propellers. Lips Propellers is the U.S. subsidiary of Lips United, a Netherlands-based international organization specializing in the manufacture and repair of large fixed and controllable-pitch propellers and propulsion equipment.

According to Robert F. Kress, president of Lips Propellers, operating and administrative functions will be relocated to the company's East Coast facility and new headquarters at 3617 Koppens Way in Chesapeake. West Coast operations remain in Oakland, Calif., and Portland, Ore. Gregory V. Cole is the newly appointed general manager for the West Coast operations.

### Milwee Associates Inc. Opens Office In Portland

William I. Milwee has announced the founding of Milwee Associates, Inc. to provide consulting services in marine casualties, ocean engineering, underwater work and specialty operations.

Mr. Milwee has had more than 20 years of experience worldwide as an ocean engineer and casualty specialist. He is supported by

highly qualified operational and technical associates.

Milwee Associates, Inc.'s address is: 4019 S.W. 55th Drive, Portland, Ore. 97221; the telephone number is: (503) 297-7474. The telex is 360-823 HQ PTL.

### ASEA Names Spens Vice President



Claes G. Spens

Claes G. Spens has been named a vice president of ASEA Inc., White Plains, N.Y., a U.S. manufacturer of high technology electronics, electrical and hydraulic equipment and systems, including industrial robots.

Mr. Spens is general manager of the company's Hagglund Products Division, The Woodlands, Texas, a principal supplier of hydraulic drive systems to the United States Armed Forces and to a range of industries, including pulp and paper, marine, mining, food, construction, materials handling, metals and others. It also services merchant marine and United States Navy hydraulic deck cranes in North America and the Caribbean.

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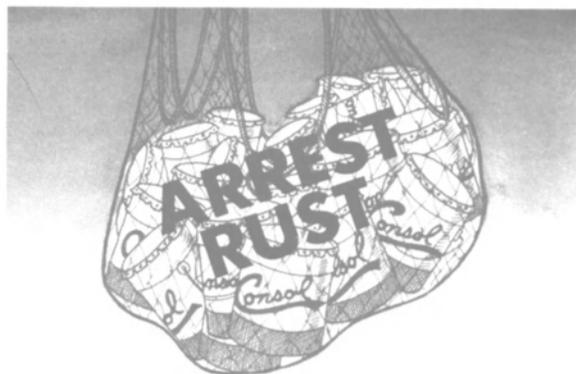
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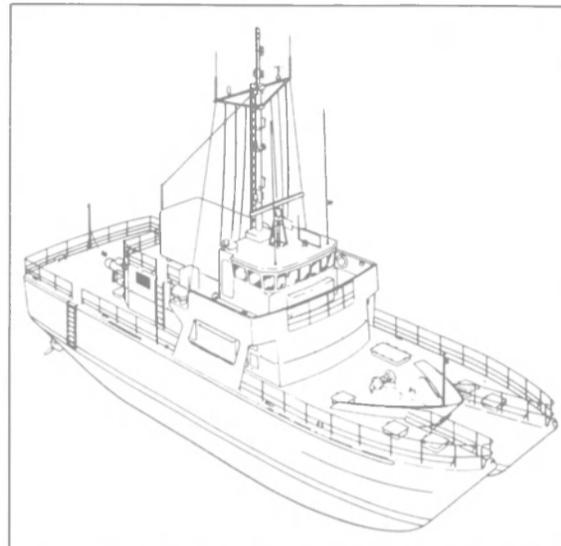
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**Construction Of Two RAN  
Minehunters Progressing  
At Carrington Slipways**



Minehunter features catamaran hull, fiberglass and foam sandwich construction, and weapons systems by Krupp Atlas Elektronik.

Earlier this year, after intensive design investigation and development, the Commonwealth of Australia Department of Defense placed a contract with Carrington Slipways Pty Ltd. for the construction of two prototype catamaran minehunters for the Royal Australian Navy. Each is 31 meters in length, 9 meters abeam, displaces 170 tons and has a speed of approximately 10 knots.

The catamaran design for a minehunter allows a unique combination of proven concepts to be used which include: (1) A catamaran hull form which provides a large stable working area, reduces pressure signature and allows machinery to be placed high in the ship to reduce magnetic and acoustic signatures, minimizing the risk of mine activation. (2) Foam sandwich construction which further reduces the noise signature, provides good thermal insulation, requires a minimum of maintenance and provides improved shock resistance. (3) Use of twin diesel engines of a single type, each simultaneously driving a generator for ship power and a hydraulic pump for transmission of power to the propulsion steering units, all mounted well above the water line. (4) A containerized weapons control system which utilizes the functions of the navigational sensors, the sonar and the precision navigation equipment to control a recoverable submersible mine disposal vehicle.

The vessels are being built in a special purpose facility. The storage areas for GRP materials and the construction areas are environmentally controlled within strict limits to provide optimum conditions for applications and curing.

The hull core is made up of high density PVC foam which is glued together on a male mold. The outer skin is then laminated and the shell turned and put into a cradle for lamination of the inner skin and installation of internal bulkheads, decks and other substructure.

The main deck core is laid up on a concave mold and the concave side of the foam laminated. The mold with the deck attached is then lifted, inverted, placed in position over the hull structure and secured. The deck mold is then removed and the upper side of the deck laminated and overlaid to the sides. The whole hull is then rotated through 180° to allow the lamination of the underside of both No. 1 and No. 2 decks. On completion of this

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The listed cables are the most common types utilized by the Navy. Delco Wire & Cable stocks numerous others that have been specially designed and can build any design that would be required.

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operation the hull is turned again to the upright position.

The superstructure is assembled separately in the component area and installed as a unit following construction of the hull and upper deck.

GRP and foam sandwich components for construction and outfitting are manufactured in the component fabrication area. The hull is constructed in a 4-meter-deep construction dock which is fitted with lifting platform and turning mechanism to ensure that the hull can be lifted and rotated as necessary to achieve the best attitude for laminating activities.

A comprehensive quality program to the standard of AS1822 is utilized to ensure that the strict requirements for structural strength reproducibility and magnetic cleanliness are met.

The weapons containers, designed as part of the weapon system by Krupp Atlas Elektronik, are also manufactured from foam sandwich in the facility using the same standards as are applied to the Minehunter.

### Henric Merger Expands Marine Chemical Service —Literature Available



Left to right: Rein Breeman, Vecom, B.V., director of finance; Andrew H. Franzo Sr., Henric Chemical Ltd., president; Hein Van de Meer, Vecom B.V., director; Andrew H. Franzo Jr., Henric Chemical Ltd. vice president.

Henric Chemical Ltd. of New Orleans, La., has entered into a joint-venture agreement with VECOM B.V., Maassluis, Holland.

Both companies manufacture and distribute specialized chemical products for marine and industrial applications.

Free literature is now available from Henric describing the firms' full line of chemical products for marine and offshore applications. These include special formulations for cleaning tanks or parcel tankers, chemicals for boiler water treatment, general de-greasers, and special engine room de-greasers.

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Henric Chemical Ltd., which began its U.S. operation only 18 months ago, has already gained a significant position in the U.S. marine market.

Vecom, with its 30 years of maritime involvement, brings to Henric Chemical Ltd. a worldwide organization, experience, product technology and chemo-technical cleaning service capability, which includes a new 2.0-million dollar metal treatment plant which came into operation March of this year. The major function of this new facility is the pickling of metals for nuclear applications.

Vecom is a member of the Benckiser Group, of Ludwigshafen, Germany. Benckiser is known worldwide for its industrial and consumer products, principally the Calgon line of detergents, water softeners, etc.

For free copies of the Hendric marine chemicals literature,

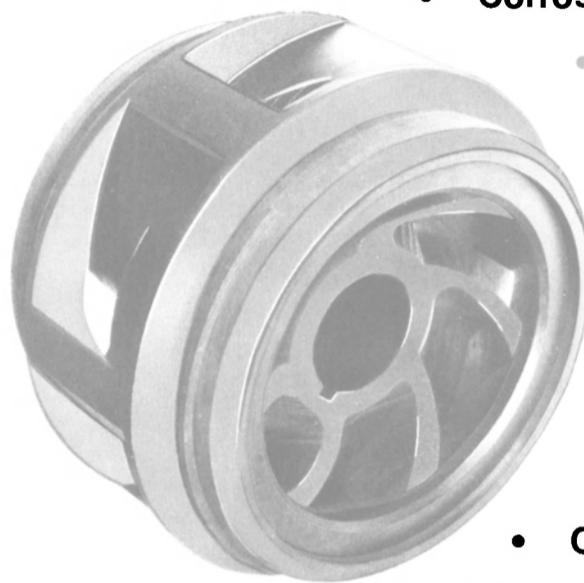
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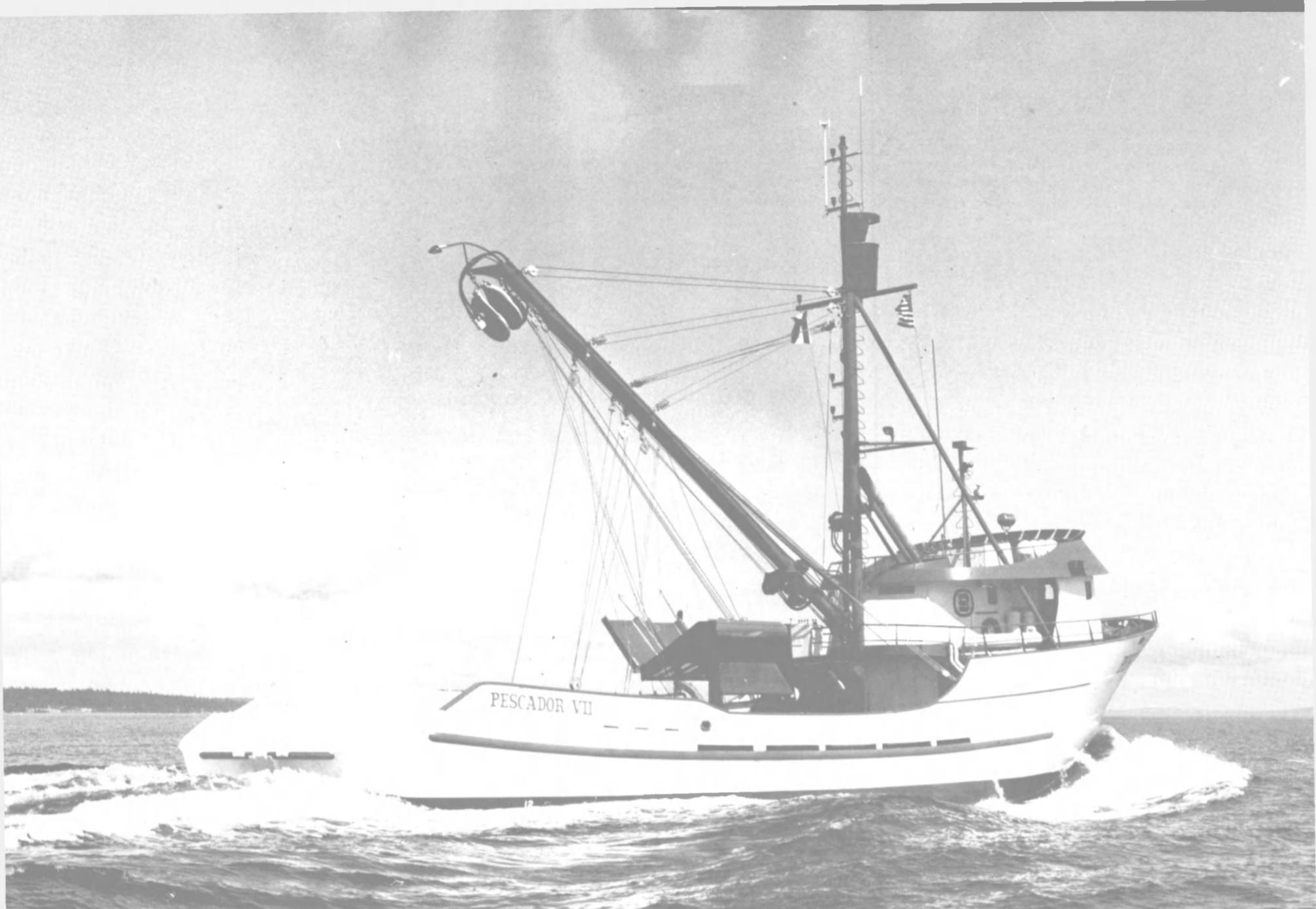
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# FISH EXPO '83

Over 550 companies will have exhibits at Fish Expo from October 26-29, 1983, at The Seattle Center in Seattle, Wash. This will make for the largest Fish Expo ever, topping the 535 companies that exhibited when the show was last in Seattle in 1981. Fish Expo

alternates annually between Boston, Mass., and Seattle.

"After a drop in exhibitors in 1982, sales have come back strong for this year's show," said **Jon Stamell**, general manager of National Fisherman Expositions, Inc., which runs the show with Na-

tional Fisherman Magazine's sponsorship. "Suppliers have begun to speak with optimism. It seems that the economic recovery is beginning to find its way to the commercial fishing industry," Mr. **Stamell** said.

Fish Expo has become an out-

standing educational opportunity for fishermen, processors and industry suppliers, and the 1983 program is also the largest ever. Thirty-one seminars will take place at the Mercer Forum adjacent to the Exhibition Hall, the show's second largest exhibit area. The



seminars will feature over 72 speakers from all facets of the commercial fishing and seafood processing industries.

Highlighting this year's seminars program is the Inshore Fisheries Conference, co-sponsored by National Fisherman and Pacific College Sea Grant. The Conference which takes place in the mornings will present 21 sessions covering four major areas of concern to fishermen who work within 200 miles of the coast: direct marketing; underutilized resources; vessels and gear; handling, packaging and on-board quality control. The remaining 10 sessions held in the afternoons will cover topics of interest to offshore fishermen as well as processors, fish farmers and politicians.

New to this year's show are four exhibitor seminars and a film series to be held in Room V, Wednesday through Friday, from 9:00 am to 4:00 pm. Exhibitors were asked to submit seminars of their own for presentation outside of the regular program. The four seminars being presented cover fish detection, vessel insurance, safety and Scottish seining. The film series will be ongoing during Fish Expo and includes a Norwegian fish-farming film.

At the last Seattle show 16,623 attended and to get them into the show faster and provide more service, a new registration system has been introduced. The emphasis is on preregistration which is free to all who complete and mail the appropriate preregistration form which is available in Fish Expo advertisements, from exhibitors or from one of the Fish Expo offices. To those who register at the door, there will be a \$5 registration fee.

Attendees at this year's show will receive name badges identifying their occupation which should result in better presentations from exhibitors. Other services new to the show include large discounts on airfare, airport transportation and tours while in Seattle.

The most visible new service will be the Fish Expo Visitor Information Center which will help with restaurant, theater, Seattle tour and Fish Expo banquet reservations. The Information Center will also house the message desk, and messages will be provided to show visitors and exhibitors on five television monitors located around the show.

Fish Expo will close with two popular events. On Friday, October 28, the Fish Expo Banquet will take place at the Westin Hotel. Seattle's top seafood restaurants and the executive chef of the Westin are working together to put on a banquet that will be an expression of the best seafood city in the country. On Saturday, October 29 the Trawl Crawl will be

held. This five-mile fun run attracted over 1,000 runners in 1981. It begins and finishes at Fishermen's Terminal in Seattle.

More information on the entire week of events can be obtained by contacting National Fisherman Expositions, Inc. at (207) 774-5981, 5 Milk Street, Portland, Me. 04112, or (206) 283-1150, 4215 21st Avenue West, Seattle, Wash. 98199.

### Seminars Program Wednesday, October 26

9:00 am—Introductory remarks, Rooms III and IV

9:05 am—General Session—Rooms III and IV. "Direct Marketing," presented by **Brian Paust**, Alaska Sea Grant marine advisory agent, and **Richard Wilson**, seafood marketing consultant.

9:30 am—Concurrent Workshops  
1-1 "Expanding Domestic Markets," Rooms I and II, presented by **Joseph Ciliberto**, Seattle seafood broker, **Douglas Humes**, marketing specialist, Bering Sea Fishermen's Association, **John Maher**, Sitka, bottom-fish, longline fisherman, and **Terry**

(continued on page 16)

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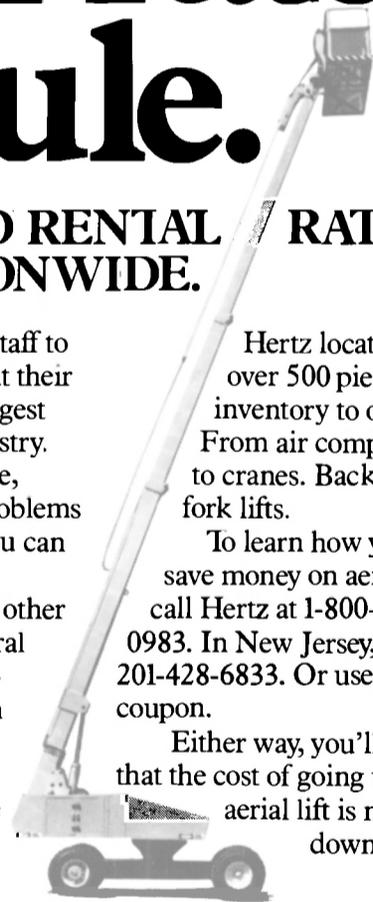
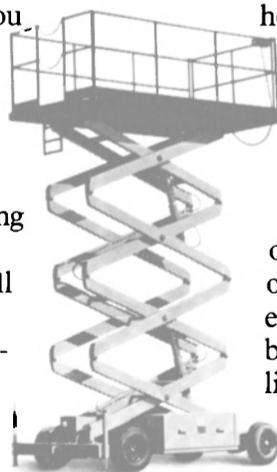
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## Fish Expo '83

(continued from page 15)

Reeve, marketing consultant with Kyokko Suisan.

1-2 "Direct to the Public Sales," Rooms III and IV, presented by **Tom Maloney**, Alaska shrimp fisherman, and **Bill Murtha** and **Stan Long**, Moss Landing albacore trollers.

1-3 "Co-Ops," Room VI, presented by **Don Reinhardt**, a manager of the Halibut Producers' Co-op (now Seafood Producers' Co-op), **Paul Peyton**, manager, Southeast Alaska Salmon Gillnetters Co-op, and **Lawrence Boz-anich**, manager, San Pedro Seineboat Co-op.

1-4 "Direct Restaurant Sales," Room VII, presented by **Jon Rowley**, seafood consultant.

10:30 am—Coffee break.

10:45 am—Repeat of preceding workshops

### Exhibitor Seminars

1:30 pm—(A) "Trawl Net Development," Rooms III and IV.

Moderator—**Barry Fisher**, president, Yankee Fisheries.

Speakers—**Cliff Goudey**, Massachusetts Institute of Technology, Sea Grant Program, **Gary Lover-**

**ich**, president, Nor'eastern Trawl, **Duncan Amos**, commercial fisheries specialist, University of Rhode Island, and **Dennis Lodge**, owner, Fishinform.

1:30 pm—(B) "Packaging for Higher Profits," Room VI.

Moderator—**Bruce Cole**, publisher, Seafood Business Report.

Speakers—**Eric Melton**, vice president, Pacific Seafoods, Inc.; **John Sakton**, project coordinator, New England Fisheries Development Foundation, and **Michael T. Selders**, manager-sales and marketing, Royal Alaskan Seafoods, Inc.

2:45 pm—(C) "Stability," Rooms I and II, presented by **Bruce Adee**, director, Ocean Engineering Program, University of Washington, Seattle, Wash.

### Thursday, October 27

9:00 am—General Session—Rooms III and IV. "Underutilized Species"

9:30 am—Concurrent Workshops

2-1 "Shark," Rooms I and II, presented by **Mike Wagner**, manager, Seafood Specialties of Santa Barbara; **Bob Dvorak**, manager, Hawaii Shark Processors; **Ken Bates**, and **Bobby Reid**.

2-2 "Squid," Rooms III and IV, presented by **Pierre Mercurio**, a squid highliner; **Gerald Sweeney**, experimental fisherman, and **Roger Mercer**, fisheries scientist, National Marine Fisheries Service.

2-3 "Octopus," Room VI, presented by **Brian Paust**, Sea Grant marine advisory agent, Petersburg, Alaska; **Dr. Brian Hartwick**, University of British Columbia, and **Chris Toole**, California Sea Grant marine advisory agent.

2-4 "Underutilized Mollusks," Room VII, presented by **Sus Kato**, fishery development specialist, National Marine Fisheries Service, and **Daniel Hancock**, marine ecologist, Oregon State University.

10:30 am—Coffee break.

10:45 am—Repeat of preceding workshops.

### Exhibitors Seminar

1:30 pm—(D) "The Wheelhouse of the Future: Integrated Electronics," Rooms III and IV.

Moderator—**Bruce Buls**, associate Pacific editor, National Fisherman Magazine.

1:30 pm—(E) "Future Directions in Seafood Exports," Room VI, presented by **Robert G. Haves**, director, Office of Industry Development, National Marine Fisheries Service.

2:45 pm—(F) "The Political Scene and Fishermen," Rooms I and II.

Moderator—**A.D. Chandler**, Pacific editor, National Fisherman Magazine.

Speakers—**Carmen Blondin**, deputy assistant administrator, Fisheries Resource Management, National Marine Fisheries Service; **Zeke Grader**, Pacific Coast Fed-



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eration of Fishermen; **Denis Phe-lun**, U.S. Senate Sub-Committee on Fisheries, Washington, D.C., and **Lucy Sloan**, National Federation of Fishermen.

#### Friday, October 28

**9:00 am**—General Session—Rooms III and IV. "Vessels & Gear" by **Dennis Lodge**.

**9:30 am**—Concurrent Workshops

3-1 "Hook and Line Fisheries," Rooms I and II, presented by **Paul Heikkila**, Oregon salmon troller and Oregon Sea Grant marine advisory agent; **John Enge Jr.**, Petersburg, Alaska; **Gerald Sweeney**, and **Richard Rosenthal**, biologist.

3-2 "Pots and Traps," Room VII, presented by **Bill High**, gear development specialist, National Marine Fisheries Service; **Brian Paust**, Alaska Sea Grant marine advisory agent, and **Kyle Vanderpool**, a Coos Bay, Oregon, fisherman.

3-3 "Small Scale Trawling," Rooms III and IV, presented by **William Oehrle**, retired Massachusetts dragger skipper; **Hank Pennington**, Sea Grant marine advisory agent, Kodiak, Alaska; **Bob McIlwaine**, Canadian fisheries development specialist; **Paul Smith**, Toledo, Oregon fisherman, and **Scott Harrington**, Washington Sea Grant marine advisory agent.

3-4 "Small Combination Boats," Room VI, presented by **Sig Jaeger**, fisheries development consultant.

**10:30 am**—Coffee break.

**10:45 am**—Repeat of preceding workshops.

#### Exhibitors Seminar

**1:30 pm**—(G) "Salmon Enhancement—A Key to Future Survival," Rooms III and IV.

Moderator—**Nat Bingham**, president, Pacific Coast Federation of Fishermen's Associations.

Speakers—**Richard Herrig**, coordinator, Oregon Salmon and Trout Enhancement Program; Dr. **Ernest Brannon**, School of Fisheries, University of Washington; **Fred Green**, chairman, Enhancement Committee of the Pacific Trollers Association, and **Ladd Macaulay**, president, Douglas Island Pink and Chum, Inc.

**1:30 pm**—(H) "The Washington Scene," Room VI, by **Lucy Sloan**, National Federation of Fishermen.

**2:45 pm**—(I) "Sea Survival," Rooms I and II, by **Hank Pennington**, Alaska Sea Grant marine advisory agent.

#### Saturday, October 29

**9:00 am**—General Session, Rooms III and IV. "Handling, Packaging and On-Board Quality Control" by **John Sakton**, project coordinator, New England Fisheries Development Foundation.

**9:30 am**—Concurrent Workshops.

4-1 "The New Bedford Project," Rooms I and II, presented by **John Sakton**, project coordinator, New England Fisheries Development Foundation.

4-2 "Containers and Packaging," Room V, presented by **Kevin Katona**, Daco, Inc., and **Tony Kopay**, Western Kraft Corp.

4-3 "Value Added/Custom Processing," Rooms III and

IV, presented by **Marti Castle**, Transfresh; **Arne Lindstrom**, manager, Port Chatham; **Terry Gardner**, manager, Silver Lining Seafoods, and **Ken Hildebrand**, an Oregon State University seafood scientist.

4-4 (A) "On-Board Quality Control—Freezing," Room VI, presented by **Jon Rawley**, Seattle seafood consultant; **Bruce Gore**, salmon freezer boat opera-

tor, and **Glen Gibbard**, seafood technical specialist, Canadian Department of Fisheries and Oceans.

4-4 (B) "On-Board Quality Control—Icing," Room VII, presented by **Hugh Smith**, a gill-netter; **Bruce Wyatt/Edward Melvin**, California Sea Grant marine extension agents; **Klaus Schallie**, Canadian Fisheries Inspection Agency, and **William** (continued on page 18)

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## Fish Expo '83

(continued from page 17)

**Nelson**, fisheries development specialist.

**10:30 am**—Coffee break.

**10:45 am**—Repeat of preceding workshops.

**12:30 pm–2:30 pm**—(J) "Wonderful Ways to Prepare Seafood," Rooms III and IV, presented by **Pansy Bray**, seafood consultant, and **Steve Harbell**, Washington Sea Grant marine advisory agent.

### FISH EXPO List of Exhibitors

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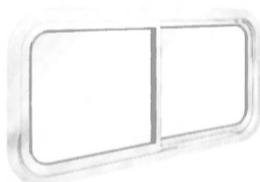
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## Managerial Changes Announced By Dover

The Norris Division of Butterfly Valve Group of Dover Corporation, Tulsa, Okla., announced the appointment of **Frank G. Davanon** as Central Gulf Coast district sales manager. Mr. **Davanon** will be based out of the company's Houston facility.

At the same time, it was an-

nounced that **Keith Lehman** has been promoted to Midwest area sales manager. Mr. **Lehman** was previously the sales representative for butterfly valves in Oklahoma, Kansas and the Texas panhandle.

Norris is a Tulsa-based manufacturer of butterfly valves, sucker rods, pumps and controls used extensively in shipbuilding and oil production.

## National Marine Opens New Facility In Norfolk

National Marine Service Incorporated, St. Louis, Mo., a recognized leader in shipyard and diesel engine repairs, announces the opening of its new East Coast diesel engine parts and service facility at 4580 Village Avenue, Norfolk, Va. (804) 855-9277.

National Marine indicates the

Norfolk facility, the result of much research and assistance from the Greater Hampton Road Organization, is Phase I in the continuing plan to expand service to its East Coast customers. The facility's strategic location will reduce response time and costs for East Coast customers who have previously been served from National Marine's St. Louis base. Service crews will travel to job locations along the East Coast and overseas from the Norfolk location, which will also carry a substantial inventory of new and remanufactured diesel engine parts.

National Marine offers shipyard services as well as diesel engine parts and service to Inland, Gulf and East Coast customers through its full service shipyards in St. Louis, Mo., New Orleans, La., and Grafton, II. For over 50 years the Transport Division of National Marine has provided contract bulk liquid transportation on the Inland and Gulf waterways.

National Marine Service Incorporated is one of the NICOR basic energy companies.

## \$19.9-Million Contract Awarded Tracor By Navy

Tracor, Inc., Austin, Texas, has received a multiyear contract from the U.S. Navy Electronic Systems Engineering Activity, St. Inigoes, Md., to provide engineering support services for test and evaluation programs.

**William C. Moyer**, Ph.D., group vice president of Tracor Applied Sciences, said the work represents significant new involvement of the company in the integration, test, and evaluation of new and refurbished communications systems for combatant and auxiliary ships, as well as for U.S. Marine Corps applications.

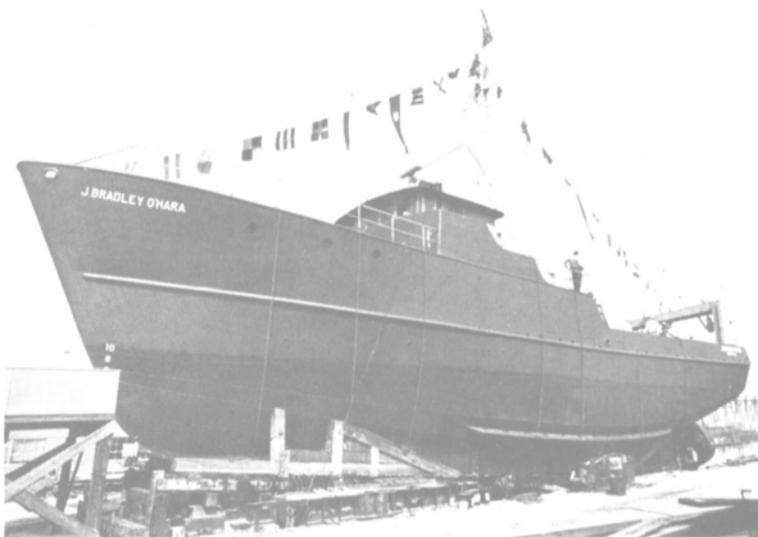
The one-year contract includes two one-year options and has a total potential value of \$19,985,000.

Dr. **Moyer** said the work will be performed by Tracor's Electronics Systems Division from its operations in St. Inigoes, Md.; Falls Church and Norfolk, Va.; and San Diego, Calif. The division is under the general management of **Robert G. Shuster**, division vice president.

Mr. **Shuster** announced that **Ara Sagerian** will serve as project manager, and that a 50,000 square-foot building now under construction at California, Md., will be the principal operating site for the project. With the completion of the new building in December 1983, Tracor will occupy some 95,000 square feet of office and laboratory space in Southern Maryland and employ 425 engineers, technicians, and support personnel devoted to support of U.S. Navy programs.

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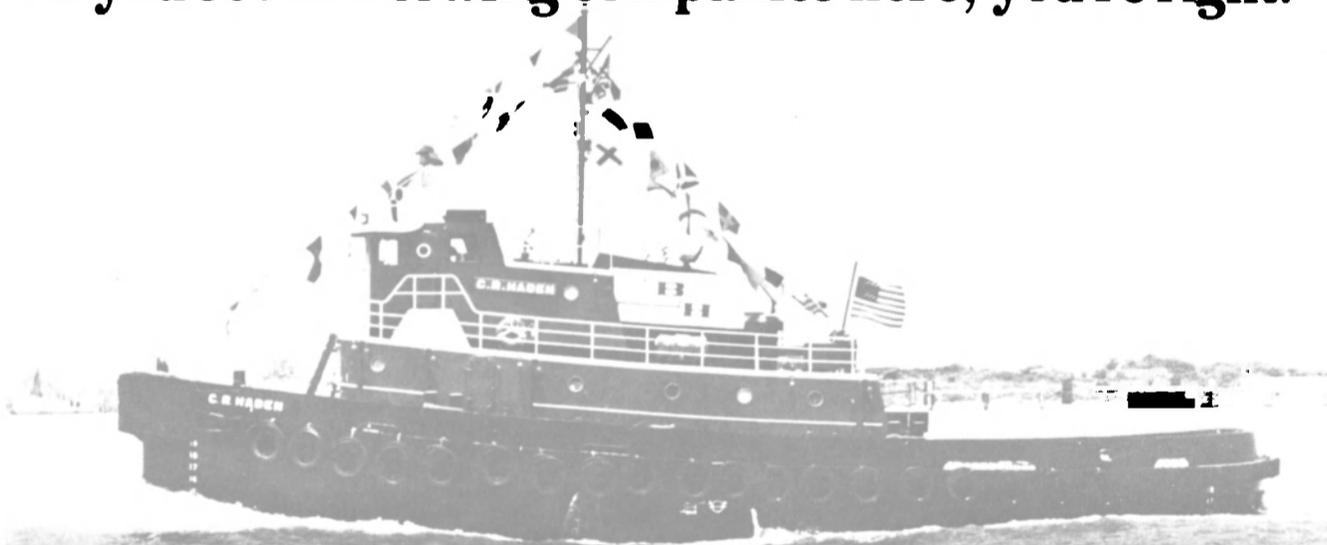
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**Terry To Manufacture And Sell AEG-Kanis Steam Turbines In North America —Literature Available**

Terry Steam Turbine Company, of Windsor, Conn., and AEG-KANIS, a German manufacturer of steam turbines, gas turbines, and electrical control systems, have

signed an agreement granting Terry the rights to sell, manufacture, and service AEG-KANIS reaction steam turbines within the U.S., Mexico, and Canada, according to **William L. Wathen**, president of Terry.

Terry's marketing efforts will employ the company's North American network of sales offices. The Terry Service organization will also provide a full range of

support services, both for the AEG-KANIS machines already operating in North America and the turbines sold in the future. The AEG-KANIS product line includes three basic multistage machines—condensing, backpressure, and topping backpressure turbines in sizes to 70,000 bhp or 50,000 kw.

For free literature describing the entire line of Terry Equipment, **Write 65 on Reader Service Card**

**Benjamin A. Bailey Named President Of Bailey Refrigeration**



Benjamin A. Bailey

**Sigurd Nilsen**, former president of Bailey Refrigeration, and current president of Bailey Distributors, Inc., announced recently that **Benjamin A. Bailey** has been named president of the Bailey Refrigeration Company, Inc. of Brooklyn, N.Y.

Mr. **Bailey**, after serving in the U.S. Navy, received his engineering degree from Lehigh University, graduating cum laude. He has been employed at Bailey Refrigeration in the engineering and production department for the past eight years. In addition to being in charge of engineering and new product introduction, one of Mr. **Bailey's** most important new duties will be to increase the already great amount of personal service that Bailey offers its customers.

For complete information on Bailey Refrigeration's line of products and service,

**Write 69 on Reader Service Card**

**S. W. Dick Named General Manager of Gulf Fleet Cairo, Egypt Office**

Gulf Fleet Marine Corporation, New Orleans, La., has named **Stephen W. Dick** general manager of Gulf Fleet Egypt, a division of Gulf Fleet Marine Operations, Inc. Mr. **Dick** has management responsibility for Gulf Fleet's operations in Egypt and is located in Garden City, Cairo. He has 12 years of experience in the marine transportation service industry and has served as a port captain, area manager and regional manager in West Africa, the Mediterranean, South America and the Middle East. Mr. **Dick** received a B.S. in Nautical Science and Marine Transportation from Maine Maritime Academy. He will report to **Garry D. Pope**, senior vice president at Gulf Fleet's corporate headquarters in New Orleans.

Gulf Fleet Marine Corporation, is one of the Houston Natural Gas Corporation (HNG) group of companies and operates 150 vessels worldwide in support of the offshore petroleum and construction industries.

**Write 143 on Reader Service Card**

ADVANCED LABORATORY ANALYSIS SERVICE FROM THE LEADERS IN MARINE CHEMISTRY

**Find Out Within 24 Hours If Your Bunker Fuels Are Safe To Use**

The cost savings you realize today by using lower quality fuel can cost you considerably more in engine damage and downtime. Magnus Maritec is now offering their ten years of laboratory fuel analysis experience to all shipowners.

**The Fastest, Most Advanced Testing Procedures Available**

You need to know what the quality level of your fuel oil is before you burn it. Magnus Maritec's experienced scientists and technicians, through the use of state-of-the-art equipment, can send a complete fuel oil analysis report within 24 hours of receipt of a sample.

**The Most Useful Analysis Available**

Magnus Maritec's experts advise you not only if there are any potential problem causing properties in the fuel oil, but more importantly make recommendations for immediate remedies. You will also know if the fuel oil meets the grade level which you have specified to your supplier.

**Reduce Maintenance And Repair Costs**

The complete laboratory analysis, combined with Magnus Maritec's onboard testing available in the unique FOCUS program, provides a total service designed to insure that you have all the necessary facts to reduce costly maintenance and repairs. Call or write today for all the information you need.



Atomic Absorption Machine.



Scanning Electron Microscope.

**M**  
**MAGNUS MARITEC**  
INTERNATIONAL INC.  
**Leaders in the Science of Marine Chemistry**  
A Subsidiary of **EI** ECONOMICS LABORATORY INTERNATIONAL LTD.

# On the Decks Human Life is as Fragile as an Eggshell. Protect it with American.

When mooring lines part a deck can be the most dangerous place in the world. During snap-back the energy released is enormous—easily enough to injure, maim, or kill.

American, as you'd expect, has the answer. New reduced snap-back lines that are so different we've even applied for a patent. The unique design greatly reduces snap-back\*, and is available in almost any size or configuration you'd want: 4, 6, or 9 strand, and square braid.

If all this sounds expensive, it's not! Replacing with American reduced snap-back mooring lines is very cost-effective; any small additional cost is more than offset by increased safety and personnel protection.

Moor with American brand reduced snap-back rope. You'll protect more than your investment.



**AMERICAN**  
MANUFACTURING COMPANY, INC.  
CORDAGE DIVISION

206 Willow Avenue  
Honesdale, PA 18431  
Tel. 717-253-5860

200 Southpark Road  
Lafayette, LA 70117  
Tel. 318-837-9241

SERVICE CENTERS: Boston • Chicago • Cleveland • Emeryville • Houston • Jacksonville • Los Angeles  
New Orleans • Norfolk • Philadelphia • Pittsburgh • St. Louis • Seattle • Savannah • Tampa



\*If lines have not been misused or damaged so as to neutralize or negate their reduced backlash features. Normal safety precautions should be used at all times.



Photo—Morgan Kaolian

# M/V GRAND REPUBLIC

## Largest Addition To McAllister Brothers Fleet Delivered By Offshore Shipbuilding

The Bridgeport & Port Jefferson Steamboat Company of Port Jefferson, Long Island, New York, highlighted the celebration of its 100th anniversary recently with the introduction of its new passenger/auto ferry, the M/V Grand Republic.

McAllister Brothers, Inc., the towing and transportation company headquartered in New York, is the parent company of the Bridgeport & Port Jefferson Steamboat Company. **Brian A. McAllister** is president of the Steamboat company.

McAllister's interest in the ferry and excursion business goes back to the turn of the century when **James McAllister** formed the McAllister Steamboat Company some thirty years after he founded the McAllister Tugboat Company. The company prospered and became one of New York's foremost excursion boat operators with a

fleet in excess of 20 vessels. The queen of the fleet was the majestic steamboat, the Grand Republic, which flew the McAllister colors. For years, McAllister was one of the principal owners of the Bridgeport & Port Jefferson Steamboat Company and subsequently purchased all remaining stock bringing the steamboat company 100% into the growing McAllister organization.

There is little physical similarity between the old and the new Grand Republic except the name. The original vessel was a coal-fired steamboat with a walking beam engine driving side wheels. Although her hull was iron, all of her superstructure was wood.

The new Grand Republic, on the other hand, is built to the latest requirements of the American Bureau of Shipping and United States Coast Guard. Wood or other flammable material is not used in the construction of the vessel. The ves-



Modern wheelhouse of the Grand Republic boasts the finest equipment.

sel is fitted with all the latest (Halon) automatic fire fighting and sprinkler systems from Wormald for maximum safety.

Built by Offshore Shipbuilding of Palatka, Fla., the 16-knot, 280-foot Grand Republic is the largest addition to McAllister Brothers' fleet.

**Donald C. Hankin**, McAllister's vice president of engineering, designed the vessel, and working drawings were provided by Bold Craft Engineering of Jacksonville, Fla. In addition to carrying 1,000 passengers, eighty-five automobiles and/or a combination of trucks and recreational vehicles, the Grand Republic is fitted out with a large cocktail area and bar as well as full restaurant facilities.

The main engines for the twin screw vessel are the newest model 3516 T.A. Caterpillar diesels, fitted with 5:1 Reintjes reduction gears, delivering 1,500 h.p. per shaft. Propellers are Columbian Bronze 82-inch diameter four-blade stainless steel. Ships service generators and the emergency generator are also powered by Caterpillar diesels. The Grand Republic is equipped with a Schottel bow thruster with a 48-inch diameter propeller. This is powered by a 400 h.p. Caterpillar diesel through a Twin Disc reduction gear. All of the above Caterpillar equipment plus the Tug Mate machinery monitoring system, and the air controls with Reintjes and WABCO components were supplied by the H.O. Penn Machinery Company of Armonk, N.Y. Steering equipment consists of an S.S.I. 4-station electric-hydraulic system. The SKF O.K. shaft couplings were supplied by Bird Johnson. The shaft bearings were manufactured by Johnson Rubber and by Cooper Bearing. Radars and VHF aboard the Grand Republic are by Raytheon. The fathometer is from Datamarine.

One hundred years ago **P.T. Barnum**, of Ringling Brothers

Barnum & Bailey fame, started the Bridgeport & Port Jefferson Steamboat Company by building the first steamboat to operate across Long Island Sound between Bridgeport, Connecticut and Port Jefferson. He would be surprised at the success of his small ferry line and at the size and grandure of its newest ferry.

### Free 20-Page Diesel Catalog Available From Caterpillar Marine

The Caterpillar Engine Division, Peoria, Ill., is offering a new 20-page illustrated catalog featuring the line of Caterpillar marine diesel propulsion and generator

power systems. Data on ratings, definitions, engines, transmissions, generator sets, product features and attachments are included.

The catalog, "Caterpillar Marine Systems: Propulsion and Generator Set Power," is available at no cost. For a copy,

Write 71 on Reader Service Card



## THE NEW GRAND REPUBLIC RELIES ON

### REINTJES MARINE GEARS

Constructed by Offshore Shipbuilding of Palatka, Louisiana for the Bridgeport, Port Jefferson Steamboat Company of Port Jefferson, New York, the 280-foot Grand Republic is the largest addition to the fleet of McAllister Bros., Inc., parent corporation to the steamboat company.

Superior performance and long years of dependable service are designed into the Grand Republic.

These same qualities made Reintjes Gears first choice.

#### GRAND REPUBLIC Major Suppliers

Main engines	Caterpillar
Reduction gears	Reintjes
Generators	Caterpillar/Kato
Bow Thruster	Schottel
Shaft bearings	Johnson/Cooper
Shaft couplings	SKF
Propellers	Columbian Bronze
Machinery Monitoring System	Tug Mate
Fire Protection System	Wormald
Steering	SSI
Pumps	Viking/Goulds
Cathodic Protection	Engelhard
Sewage Treatment	Sigma-Chapman (Omnipure)
Air Controls	Reintjes/WABCO
Radars	Raytheon
VHF	Raytheon
Fathometer	Datamarine
Deck crane	Alaska Marine (Slattery)
Deck capstans	McElroy Machine
Anchor windlass	McElroy Machine
Anchor	Baldt
Searchlight	Carlisle & Finch



WEST COAST  
Mr. Richard J. Todd  
Todd Marine, P.O. Box 540  
Snoqualmie, WA 98065  
(206) 888 3859

## Karl Senner, Inc.

25 West Third Street, Kenner, LA 70062  
Mailing address: P.O. Box 10055  
New Orleans, LA 70181 • (504) 469 4000

EAST COAST  
Mr. Olof J. Wadehn  
Olof Wadehn Enterprises, Inc.  
30 Sheppard Ln., Huntington, NY 11743  
(516) 692 4548

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# PROOF...MARITIME REPORTER GET MORE AND BETT

Maritime Reporter has a circulation to thousands more buying influence readers than any other marine magazine in the entire world.

---

## HERE'S PROOF MARITIME REPORTER PRODUCES THE MOST SALES LEADS

Each figure listed below represents the number of inquiries produced for an individual advertiser by Maritime Reporter in a period of one year or less. These numbers are typical samples. Maritime Reporter, in the past year, carried the advertising of 780 different companies.

<b>Paints/Coatings/Corrosion Control</b>	<b>Diesel Engines</b>
756	737
655	734
472	730
390	620
330	596
<b>Shipbuilding/Boatbuilding/Repair</b>	<b>Navigation &amp; Communications Equipment</b>
1,258	568
613	453
466	346
432	341
389	322
<b>Deck Machinery/Cranes/Cargo Handling</b>	<b>Rope/Chains/Mooring Systems</b>
405	502
296	233
288	220
247	159
231	115
<b>Controls/Monitoring/Steering</b>	<b>Oily Water Separators</b>
398	367
271	335
260	309
246	242
233	225
<b>Propellers/Thrusters</b>	<b>Valves/Fittings/Bearings (Shaft Couplings)</b>
362	300
353	278
285	232
257	224
250	223

Your advertising belongs in the  
proves it produces

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# ADVERTISERS ER SALES LEADS

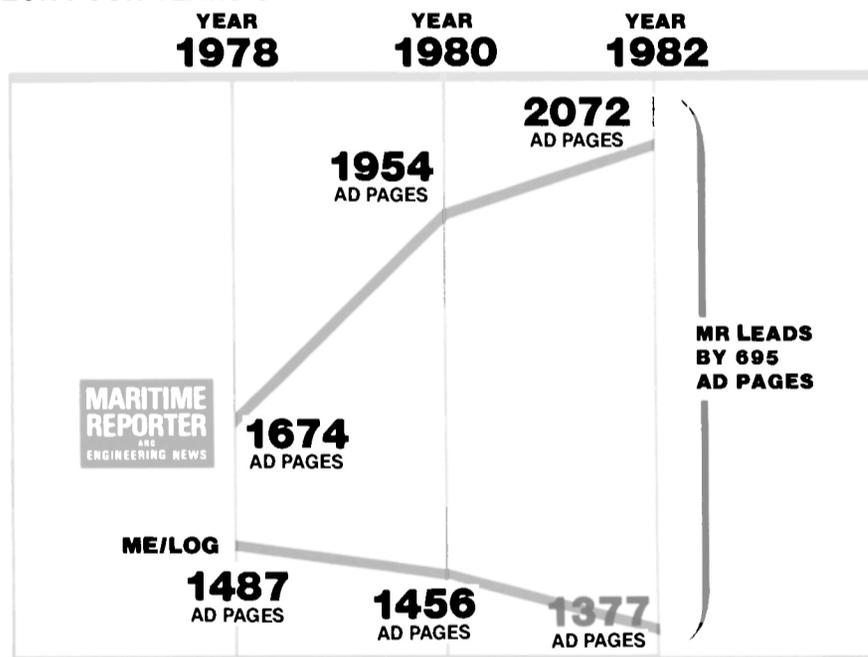
As a result, Maritime Reporter produces far more sales leads and better quality sales leads than other marine magazines.



## HERE'S WHAT LEADING MARINE ADVERTISERS ARE DOING ABOUT IT.

Year After Year...More Advertisers Get Better Results in Maritime Reporter

CHECK FOUR YEARS OF ADVERTISING GAINS BY MARITIME REPORTER



Send for a special report on the number of inquiries produced by Maritime Reporter for other advertisers in your particular product or service category.

# only magazine that the most sales leads...

**MARITIME  
REPORTER**  
AND  
ENGINEERING NEWS

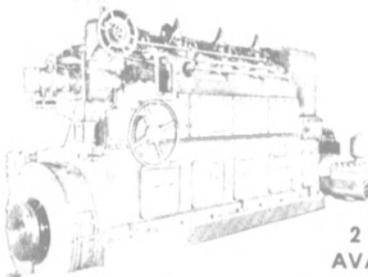
107 East 31st Street  
New York, New York 10016  
(212) 689-3266

**BRONZE HORIZONTAL  
10HLV INGERSOLL-RAND  
CARGO PUMP**



Ingersoll-Rand 10HLV — 14"x10". Bunker Fuel: 5150 GPM — 370' head — 1885 RPM. Sea Water: 6000 GPM — 352' head — 1885 RPM. Reduction Gears: G.E. type S-233 — Form AE — 700 HP — 6002/1685 RPM. TURBINE: G.E. D.P. 25 Class 4 — 700 HP — 6002 RPM — PSIG 775 lbs — 825 — inlet temp. 560° - 600° max. Exhaust pressure 179" Hg absolute.

**NEW CLARK 500BHP DIESEL  
4-CYL. — AIR STARTING**



2 UNITS  
AVAILABLE

500 BHP @ 400 RPM. 4-Cylinder straight inline type — 12½" X 16" — 2-stroke single acting — liquid cooled — direct reversible — CW rotation. With standard shaft-connected starting air compressor. 46,000 lbs., net weight—228" long—98" wide—132" high. Designed for heavy duty, rugged use, its extreme simplicity will result in lower operating and maintenance costs.

**LOUIS-ALLIS M.G. SETS**  
2.5 KW 120 Volt Single Phase 60 Cycle Output  
120 Volt D.C. Input — 1800 RPM  
or  
230 Volt D.C. Input — 1800 RPM  
NEW - UNUSED EX - U.S.N.

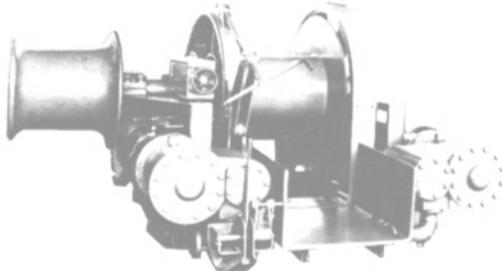


2½ KW—115 volts single phase A.C. output. GENERATOR: Type GNA—class 1G— Frame 28A—Form A—1800 RPM—5 KVA—2.5 KW 115 volts AC— 60 cycle —50% PF—43.4 amps. MOTOR: Louis Allis—Type GNA—Class E—Frame 25A—Form A—1800 RPM—115 volts DC—32 amps—shunt wound (with attached Ward-Leonard frequency regulator).

CAN FURNISH WITH 230 VOLT DC INPUT

**STEAM MOORING WINCHES**

12" x 14" — STEAM OR AIR DRIVEN  
with foot brake & declutchable gypsy head  
20,000 LBS @ 100 FPM—FIRST LAYER



ALSO HANDLES 16,000 LBS @ 150 FPM  
OR 50,000 LBS @ 8 FPM

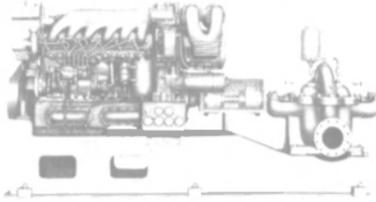
Drum will show 1500 ft of 1½" wire in 9 layers. Steam inlet 3½"-4" exhaust — 171 PSI working pressure. BASE DIMENSIONS: 6' x 6' 3½" — overall 8' 4½" wide x 9' long. Mfg. by Friedrich Kocks — Bremen, Germany. Recently removed from ARCO "Challenger." Suitable for vessels 75000/200000 tons.

**ALSO IN STOCK**

12" x 14" Double Gypsy Unit

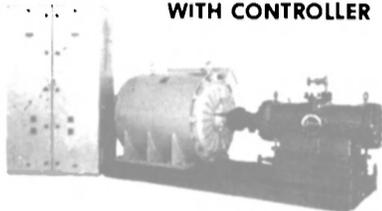
ALL UNITS CAN BE DEMONSTRATED RUNNING

**SELF-PRIMING  
1000 GPM ALLIS-CHALMERS  
BRONZE FIRE PUMP  
280' HEAD — 1800 RPM**



PUMP: Allis-Chalmers — 20' suction lift — 6" suction — 5" discharge. Complete with priming valve, Nash belt-driven priming pump and priming tank. DIESEL ENGINE: Hercules DWXD5 — 4-stroke — 150 BHP — 6-cylinder — 4¾" x 4¾" — 1800 RPM. Complete with Roots supercharger — piston displacement 404 cubic inches. Heat exchanger cooled.

**700 GPM @ 150 PSI  
NEW — EX-USN  
DE LAVAL MOTOR DRIVEN ROTARY  
HORIZONTAL PUMPS  
WITH 4-SPEED 440/3/60 MOTOR  
WITH CONTROLLER**



Inlet 8" — outlet 6". Powered by 4-speed 440/3/60 motor — 100/75/50/37.5 HP — 1200/900/600/350 RPM — with Cutler-Hammer control. Weight 10,000 lbs. Inquire for complete details.

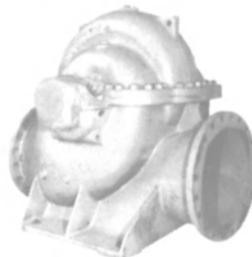
**100 GPM CIRCULATING  
PUMP**



Mfg. by Frederick Iron & Steel. Size 1½ — type N-4. 115 Ft. head — 50 PSI — 3500 RPM. MOTOR: Continental — 7½ HP — 440/3/60 — 9.5 amps — 3520 RPM. With control.

**\$2450**

**UNUSED GOULDS HORIZONTAL  
24" CIRCULATING PUMP**



Ball bearing — Figure 3080. 24 Ft. head — 460 RPM. Requires 125 HP. With 2 new spare impellers.

**ALLIS CHALMERS  
BRONZE BALLAST PUMPS**

12" x 10" — 6000 GPM — 180' head — 340 HP — 500 RPM — 775 lbs/835 lbs — max. temp 530° — reduction gear S-233 — 340 HP — 6997/1225 RPM.

**ALSO WORTHINGTON**

8LN-18 — 12" x 8" — 1775 RPM — 280' head.

**NEW STEEL HATCHES AI  
(SEE OUR CLASSIFIED AD**



**24" I.D. MAN-WAY  
3-DOG HATCHES**

18" Coaming. Available with T socket wrench or removable handwheel (can be welded in place) for top opening. Spring-loaded lid w/inside handwheel. Coaming 12mm thick, top 11mm. Bosmet drawing #67/56



**20" ROUND  
HATCH**

18" Coaming — 3 brass dog drop bolts. Coaming 12mm thick — top 11mm. Bosmet #68



**QUICK-ACTING  
4-DOG HATCHES**

Heavily constructed. Handwheel operated. Handwheels top & bottom. Size A: 27" x 21" w/12mm coaming & 11mm top. Size B: 31" x 31" w/12" coaming. For ocean-going barges, tugs, etc.

**GENERAL PURPOSE  
HATCH**



**15" X 23" X 5"  
WITH  
4 STEEL DOGS**



**TAN  
EXPANSIO**

36" Diameter — 26' drop-bolts. Drawing :



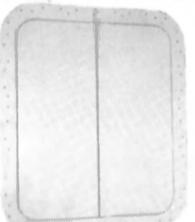
**CARGO P**

69" x 75" x 12"  
72" x 74" x 12"



**QUICK-OPENI**

Handwheel top & bot  
24" with 5" coaming.

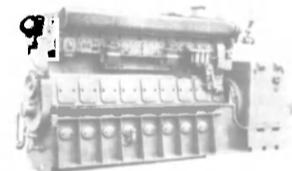


FRONT



BACK

**500 KW AC GE DIESEL GENERATOR**



G.E. ATI — 985Y — 500KW — 625 KVA — 480 volts — 800 amps—3-phase 60-cycle—720 RPM. Self-ventilated — totally enclosed — water-cooled — directly connected to Cooper-Bessemer model G.S.B. 8-cylinder diesel engine — 10½" X 13½" — four cycle — 720 RPM. Air starting — 300 PSI — with Ross water and oil coolers. Total weight 48,700 lbs.



**THE BOSTON**

313 E. BALTIMORE

Main Office: (301) 539  
CABLE: BOSIRON—BALTIMORE,

**D DOORS IN STOCK**  
(FOR MORE DOORS)



**TRUNK**

Coaming — 7-Dog  
#64/55



**HATCHES**

48" x 48" x 9"  
36" x 30" x 8"



**DOG HATCH**

4 Dogs. 16" x  
rawing #60-40

**STORES  
LOADING  
PORT**

Large side port  
suble door and  
ame. Clear open-  
g: 7'6" high X  
0" wide. 24 Dog  
fitted with bar  
ongback. Made  
3/8" steel.  
refully removed  
om Alcoa "Sea-  
obe."



**21" I.D. MAN-WAY  
3-DOG HATCHES**

10" Coaming. Available with T socket  
wrench or removable handwheel (can be  
welded in place) for top opening. Coam-  
ing 12mm thick, top 11mm. Bosmet  
#64/55



**FLUSH HATCHES**

24" x 30" 30" x 30"  
4 Dogs bottom — T-key top opener. 4"  
Maximum coaming. Coaming 8mm thick —  
top 7mm.



**25" ROUND HATCH**

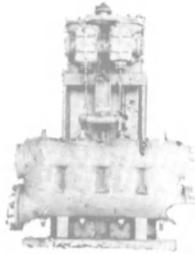
25" Diameter with 18" coaming. 4-Dog  
handwheel top and bottom. Quick-acting  
dogs. 11 mm x 12 mm steel.



**NEW 18" & 24"  
HATCH COVERS**

Flush mounting watertight hatch with  
machined steel mounting ring. T-Handle  
is recessed and hand tightens against a  
strongback across mounting ring. Approx.  
weights, including mounting ring: 18"  
60 lbs — 24" 100 lbs.

**WORTHINGTON 16" X 14" X 18"  
VERTICAL DUPLEX STRIPPING PUMP**



1400 GPM @ 110 PSI — suction  
lift 11.5 ft. — steam back pres-  
sure 15 lbs. 14" Suction — 10"  
discharge — 2 1/2" steam — 4"  
exhaust. Overall width 6'8" —  
overall height 9'1 1/2" — depth  
3'9 1/2". Wt. approx. 10,000 lbs.

**RECONDITIONED 1980  
ABS — READY TO GO**

**NEW U.S. MARAD-TYPE  
AXIAL FLOW FANS**



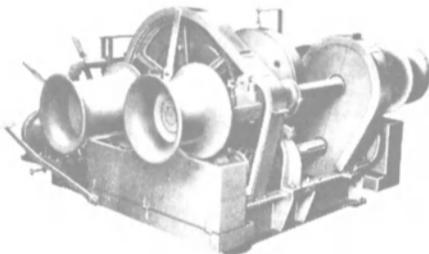
(3) 10,500 CFM Model AF-100, "Baldor" 5 HP motor —  
440/3/60 — 40° — 1750 RPM — 7 amps.

(2) 40,665 CFM — size 43AF — 60 HP Baldor Motor —  
440/3/60 — 1760 RPM — 75 amps — 50° rise — Frame  
364TZ Ins. F

**NEW NAVY 12,000 CFM  
EXPLOSION PROOF  
AXIAL FLOW FANS**

Model A12A4X6 with 10/3 HP 2 speed motor.

**7x12 10,000 LB AH&D  
CARGO WINCHES**



2-Speed — single drum — reverse throttle operation.  
LINE PULL: low gear 10,000 lbs — high gear 5,000.  
LINE SPEED: low gear 125 FPM based on 1st layer of  
7/8" diam. rope — high gear 250 FPM based on 1st  
layer of 5/8" diam. rope. DRUM: 26" diam. — 20"  
long — 26" flange diam. Rope capacity of drum: 7/8"  
diam. rope in 6 layers — 650'; 5/8" diam: rope in 8  
layers 1200'. Steam pressure at throttle 115 lbs. Oper-  
ating weight 6450 lbs.

**NEW CHOCKS - CLEATS - BITTS  
CAST STEEL**

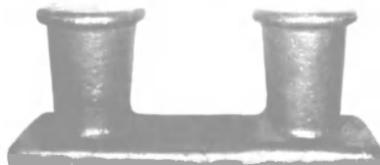


**OPEN CHOCKS**

Overall length 2' 3 3/4" — top opening 6" — width 9"



**36" - 42" - 48" KEVEL CHOCKS**

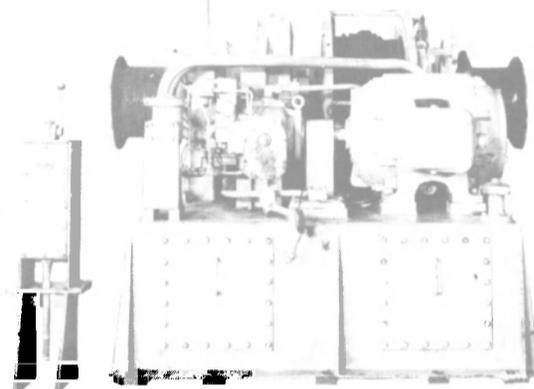


**10" DOUBLE POLE BITTS**

**50 HP VARIABLE SPEED  
ELECTRO-HYDRAULIC  
SINGLE DRUM  
CARGO WINCH**

**with deck controls**

**SELF-CONTAINED WITH PUMP  
MOTOR & RESERVOIR IN BASE**

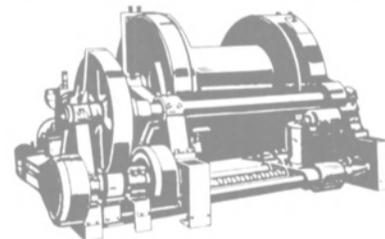


Made by Lakeshore. DUTY: 7400 lbs SLP — 220 FPM —  
drum size 24" diameter — 15" wide. Complete with  
ratchet & pawl. CAPACITY: 600 ft. of 3/4" wire. MOTOR:  
50 HP — 440 volts — 66.3 amps — 3-phase 60 cycle —  
squirrel cage — 1200 RPM constant — Frame CC-445-N  
— 1 hour duty. Motor drives Waterbury size 5 "A"  
end — size 5K heavy duty remote servo control 1150  
RPM — WP 1900# — test 3000#. "B" End motor —  
type 5K heavy duty — size 5 1150 RPM. Originally built  
for U.S. Navy refueling at sea. AVAILABILITY: Some  
with double gypsy; some with single gypsy; some with  
no gypsies. Ex-U.S.N.

**PLANS ON REQUEST**

**LARGE STEAM  
TOWING ENGINE**

**9 X 10 TWIN ENGINE DRIVE  
Air or Steam — 125/250 PSI**



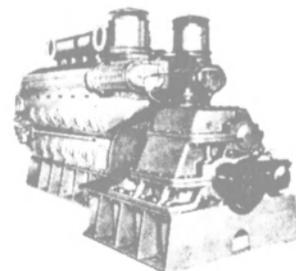
Heavy-duty Clyde with 36" diameter X 51" Face single  
drum. Flanges 68". CAPACITY: Up to 2800' of 2" wire  
rope. Normal line pull 40,000 lbs @ 50 FPM. Steam or  
air pressure required 125 to 250 PSI. Can be adapted  
to electric drive or increased steam or air pressure to  
a capacity of 82,000 lbs @ 20 FPM. Pawl holds 270,000  
lb. pull from any layer. Equipped with level wind  
device. Approximate weight 30,000. DIMENSIONS: 12'6"  
wide—6'6" high. Write for details.

**ALSO AVAILABLE**

Large towing ring — 36" I.D.

**900HP GM 12-567A  
PORT DIESEL ENGINE**

**WITH FALK  
REVERSE  
AND  
REDUCTION  
GEAR**



ENGINE: GM 12-567A—8 1/2 X 10—V-type—2-cycle—747  
RPM — electric starting. GEAR: Falk AirFlex — reverse  
& reduction — 2.48:1 forward — 2.52:1 reverse.

**1 METALS CO.**

**T. • BALTIMORE, MD. 21202**

1900 Marine Dept.: (301) 752-1077

MD. U.S.A.

TWX 710-234-1637

**Harris Awarded  
\$12-Million WATERCOM  
Telephone Contract**

The Harris Corporation, Melbourne, Fla., has been awarded a contract from Waterway Communications System, Inc. (WATERCOM) of Jeffersonville, Ind., for the design, manufacture, construction and maintenance of a new marine telephone system covering

more than 4,000 miles of inland waterways. Total value of the turnkey contract is estimated at \$12-million.

For the first time, a single telecommunication network will be available to commercial vessels on the Mississippi, Ohio, and Illinois rivers and the Gulf Intracoastal Waterway providing them with automatic direct-dial telephone service into the public telephone network.

Commenting on the contract award, WATERCOM president, **Kenneth W. Peters** said: "Harris was selected because of its experience in designing advanced systems and its wide array of telecommunication and information processing technologies. The WATERCOM network will not only initiate a high-quality voice service, but will also directly transmit computer-based data between vessels and shore."

The WATERCOM contract was awarded to Harris' newly-formed Telecommunication Networks Division, based in Melbourne, Fla., which will be responsible for overall network design, implementation and maintenance. The radiotelephone products used in the network will be designed and manufactured by Harris's RF Communications Group, Rochester, N.Y.

**George P. Roberts**, vice president and general manager of the Telecommunication Networks Division, said: "WATERCOM is exactly the type of customer our division was formed to serve. We are able to draw upon the extensive technology, engineering and manufacturing resources of all Harris divisions in response to customers who wish to be served by one supplier for total systems capability."

**Boyce Machinery Opens  
Full Service Machine Shop**

Boyce Machinery Corporation announces the opening of its Morgan City Machine shop for the service of petrochemical, auto, marine, agricultural, petroleum, and industrial fields throughout south Louisiana.

This shop will specialize in the remanufacture of worn shafts cylinders and castings. The shop will also rebuild crankshafts, cylinder heads and engine blocks.

Many Caterpillar and EMD remanufactured parts will be stocked as exchange items—offering the customer substantial savings.

Boyce is south Louisiana's Caterpillar dealer with branches in Lake Charles, Lafayette, Baton Rouge, Morgan City, Reserve, and New Orleans.

**Environmental Systems  
Changes Name To  
Electrolux Envirovac**

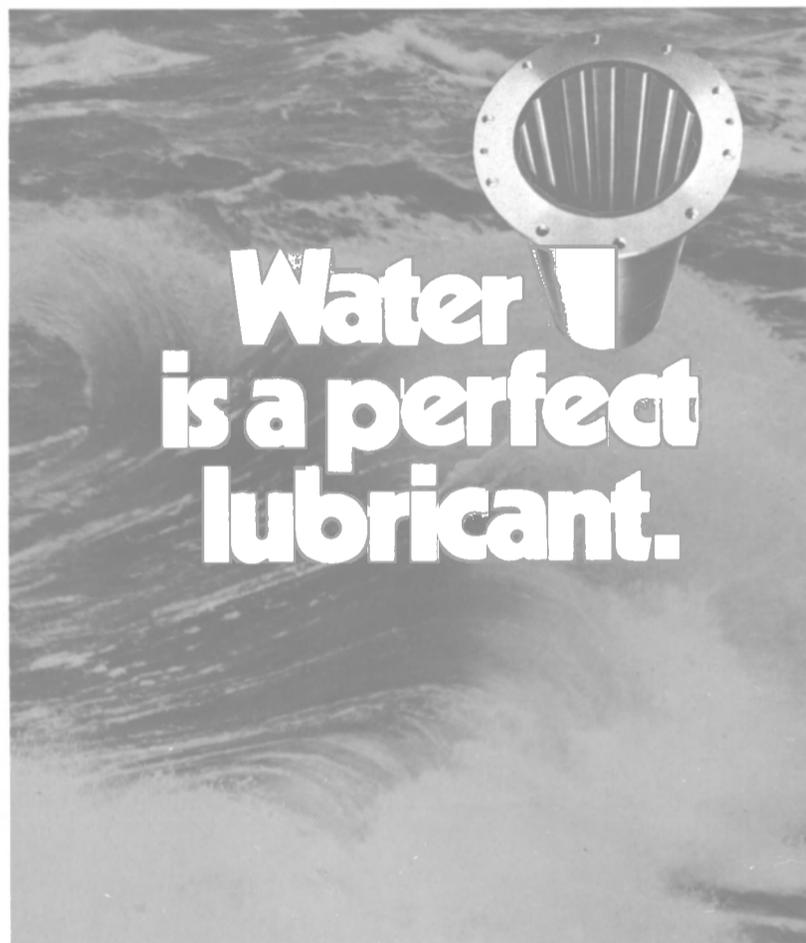
The Environmental Systems Division of Electrolux-Wascator AB, Stockholm, Sweden, has been renamed as Electrolux Envirovac.

The name "Envirovac" has long been used in the United States, where the subsidiary company Envirovac Inc. has installed the Vacuum Toilet System in innumerable vessels, including many United States Navy and Coast Guard vessels.

The Electrolux Envirovac Vacuum Toilet System assists in conforming with pollution control regulations and is classed as a USCG Type III device.

The change of name for the Headquarters Division in Stockholm is accompanied by an organizational change. The Division is now a part of the Electrolux Group company Getinge Mekaniska Verkstads AB; which manufactures and assembles Vacuum Toilet System components.

The company's new address is: Electrolux Envirovac, Marine Division, S-105 45 Stockholm, Sweden.



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## Raytheon Awarded Navy Radar Contract Worth \$14 Million

Raytheon Company, Equipment Division, Wayland, Mass., is being awarded a \$14,309,954 firm-fixed-price letter contract for FY-83 purchase of eight AN/SPS49 (V) radars including installation and checkout spares, antennas, on-board repair parts, engineering services, support, technical data and reports. The Naval Sea Systems Command, Washington, D.C., is the contracting activity. The contract number is (N00023-83-C-7122).

## Fleetweather Inc. Forms Ocean Services Subsidiary

The owners of Fleetweather, Inc., a weather consulting firm in Hopewell Junction, N.Y., have announced the formation of Fleetweather Ocean Services, Inc., (F.O.S.I.), a subsidiary of the parent company.

F.O.S.I.'s principals include the present sole owners of Fleetweather, Inc., **Tore H. Jakobsen** and **James F. Witt**, along with **John B. Grady Jr.** Mr. Grady has formerly been employed by Oceanroutes, Inc.

Fleetweather Ocean Services will provide all offshore forecast, advisory and vessel guidance services, with special emphasis on voyage surveillance, performance analysis, and consultation related to charter party agreements.

All services are offered on a 24-hour, round-the-clock basis with meteorologists on duty at all times.

For further information,

Write 74 on Reader Service Card

## Soviet Merchant Fleet Now 'Blankets The Globe'

The Shipyard Weekly, published by the Shipbuilders Council of America, recently quoted a Wall Street Journal report by staff reporter **Bill Paul** on a "worrisome trend" implicit in Russia's expanding ocean shipping fleet which now "blankets the globe." His timely article makes these points:

"Soviet shipping policy, in contrast to Western policies, considers every merchant vessel a military ship first and a commercial ship second." "The 'greatest disparity' between U.S. and Soviet 'combat capability' is in their merchant marines." "The Soviets have been on a shipbuilding binge for years, and they are still going strong." "With the Soviet emphasis on hard currency, the Russians can 'pitch their prices 25 percent below whatever (Western) commercial rate is offered.'" "Western shipowners are convinced that Moscow is influencing Western shipping policy." "A major concern to U.S. planners is the military implications of the big Russian commercial fleet." "The Soviets, whose

state-owned shipping companies can operate at a loss for long periods, now are capable of destabilizing shipping rates at will . . ."

Mr. Paul reports that the Soviet Union is supporting "proposal by the shipping committee of the United Nations Conference on Trade and Development (to) prevent most Western shipowners from flying a low-cost flag of convenience by requiring the owner to have a majority of his assets in

that flag country, which few of them do." Advanced by developing countries which "want to limit developed nations' access to flags of convenience as a means of increasing their own participation in world shipping," Russia's motive, Mr. Paul says, is to reduce "low-cost shipping competition."

Soviet merchant marine, as of January 1, 1982, numbered 2,449 vessels of 1,000 gross tons and over; U.S. commercial fleet, not in-

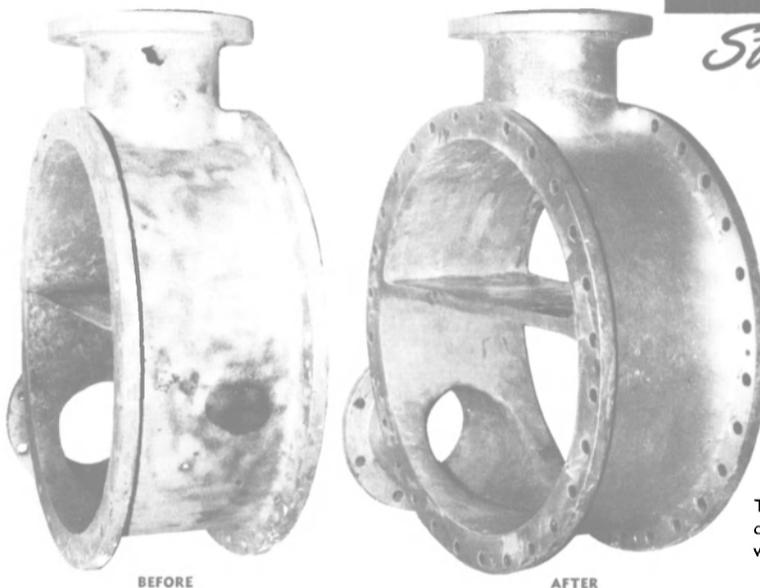
cluding Great Lakes vessels, totaled 574. Gross tonnages were 16,542,000 and 13,516,000, respectively. Deadweight tonnages were about equal. In container category, U.S. outshines U.S.S.R., but in other categories of major shipping resources (freighters, tankers, roll-on/roll-off vessels and bulk carriers), Russia holds the lead. Ratio of bulk carriers, in particular was 8 to 1 in numbers and 7 to 1 in gross tonnage.

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## Drilling Rig Dry Transport Cuts 11,000-Mile Sailing Time In Half



Drilling rig High Seas Driller, built by Daewoo Shipbuilding, being on-loaded aboard the heavy transport Ferncarrier.

The self-propelled, \$82-million, drilling rig High Seas Driller, built by Daewoo Shipbuilding's Okpo facility, was transported to the North Sea by the Ferncarrier. The heavy transport ship was developed by JL Heavyweight Transport of Denmark and was specially designed to carry large or awkward loads such as drilling rigs or other steel structures.

Although the High Seas Driller is self-propelled, transport via the Ferncarrier almost doubled the rig's speed by traveling at more than 9 knots, cutting travel time by about one half.

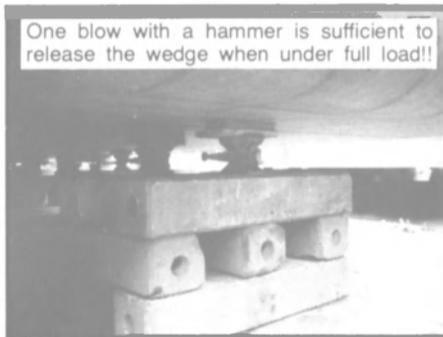
The loading process began at Daewoo's Okpo Shipyard. The Ferncarrier's bow and stern are separated by a large depressed loading area of 360 by 125 feet. To accommodate its load, the ship

takes on water, in the manner of a submarine, submerging its loading area to a depth of 22 feet. The semisubmersible rig was towed into position and the ship shed its ballast and surfaced. When loaded, the derrick of the High Seas Driller towers 350 feet above the deck and the two pontoons protrude some 65 feet on each side of the M/V Ferncarrier.

The voyage through the China Sea and the Indian Ocean was rough with head winds and heavy seas. After having traveled in excess of 11,000 nautical miles in a 36-day sea voyage, the High Seas Driller was in service approximately 50 days earlier than if it had spent the estimated 85 days under its own power.

The Ferncarrier's capacity is 43,500 tons, more than ample for the 13,000-ton High Seas Driller.

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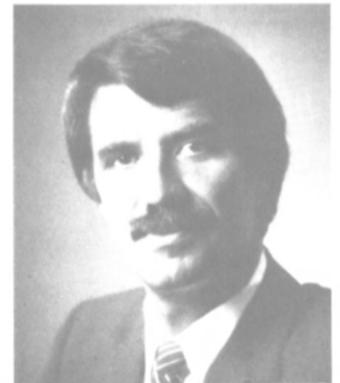
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### National Supply Advances Ayers To Product Manager



Robert L. Ayers

To further strengthen National Supply Company's technical support to customers, **Robert L. Ayers** has been named product manager and sales administrator for the firm's National Drilling Equipment Division.

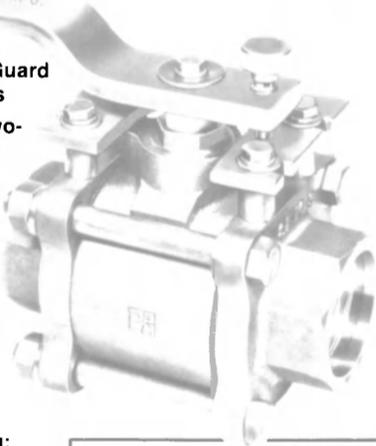
"In addition to division materials management, Mr. Ayers new responsibilities focus entirely on customer support," said division president **William N. Selvig**, who announced the appointment.

"His group not only will provide technical assistance with special emphasis on cranes and marine products, but Mr. Ayers will spearhead a customer-involvement effort to determine what kinds of product developments and improvements would be most helpful and practical in day-to-day operations. We're fortunate to have a person of **Bob Ayer's** background and experience to head up this important area."

Mr. Ayers joined Armco, National's parent firm, in 1973 as a salesman. He held various positions with Armco before being named president of Baylor Company, the national supply unit which makes drilling rig brakes, electronic power control equipment and other components.

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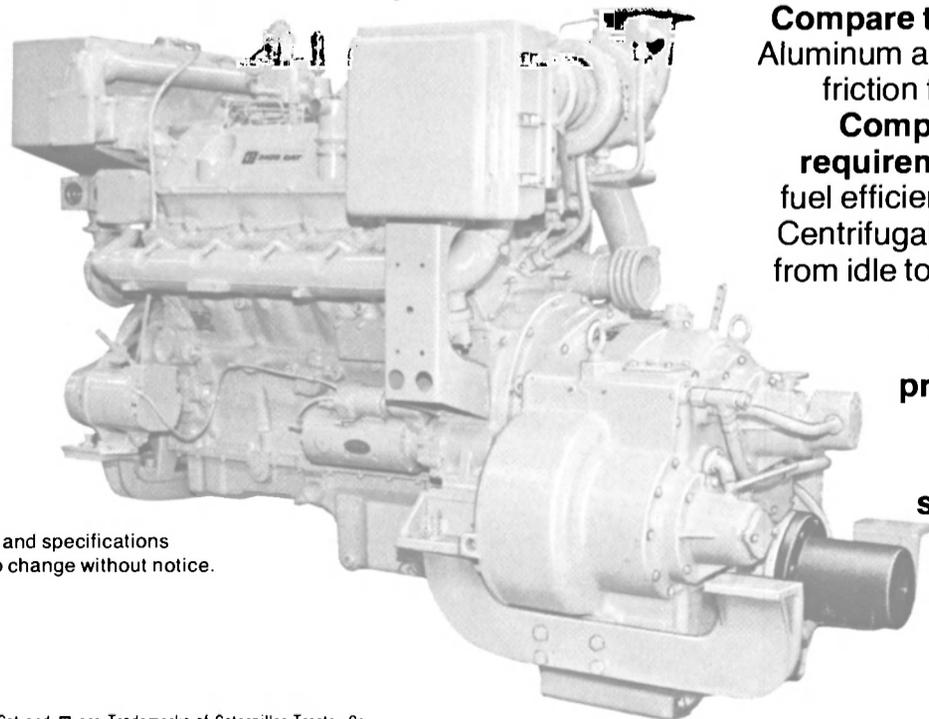
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<b>Continuous</b>	@ 1200 rpm	—	—	—	—	425 (317)	20.8 (78.6)
	@ 1800 rpm	322 (240)	16.2 (61.3)	402 (300)	20.0 (75.7)	624 (465)	30.7 (116.2)
<b>Medium-Duty Commercial</b>	@ 1200 rpm	—	—	—	—	475 (354)	23.3 (88.2)
	@ 1800 rpm	349 (260)	17.6 (66.5)	432 (322)	21.4 (81.0)	637 (475)	31.4 (118.9)
<b>Light-Duty Commercial</b>	@ 2100 rpm	402 (300)	20.5 (77.6)	470 (350)	24.2 (91.5)	697 (520)	35.7 (135.1)

Compare the fuel consumption of the Cat 3400 Series Marine Diesel Engines with competitive makes. Compare your fuel consumption records with those of 3400 Series owners... you'll see savings of up to 10%.



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For more information on Cat Marine Engines and Transmissions write Caterpillar Information Services, P.O. Box 3900, Peoria, IL 61614.

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Seemingly only a piece of a ship, the Mighty Servant 1 assumes this position for taking on unusual cargo.

## Wijsmuller's First 'Mighty Servant' Heavy-Lift Carrier Is Commissioned

One of the most unique heavy-lift carriers in the world was delivered recently to Wijsmuller, the Dutch towage, salvage and transportation group, by Oshima Shipbuilding Co. Ltd., Nagasaki, Japan.

The ship, Mighty Servant 1, was named by Mrs. Mary A. Tappmeyer, wife of Ron A. Tappmeyer, president of Reading and Bates Offshore Drilling Co., Houston. Several drilling rigs for Reading and Bates have been transported by Wijsmuller Transport BV.

The vessel has an overall length of 160 meters, a breadth of 40 meters and a deadweight capacity of 23,800 tons. But the two vessels to follow (later this year and early 1984) will be 10 and 20 meters longer, respectively, resulting in a deadweight capacity of 25,800 tons for the Mighty Servant 2 and 28,000 tons for Mighty Servant 3.

After sea trials and commissioning, the Mighty Servant 1 left for France to pick up her first cargo. At Dunkirk she will load the rig Glomar Labrador for transport to Sable Island, near Nova Scotia. This rig, built by C.F.E.M. for Global Marine Drilling Co., Houston, is one of the largest jackups in the world.

The rig will be loaded with its total leg length of 494 feet installed. Mighty Servant 1 will be positioned under the rig when it is standing on its legs. The platform will then be jacked down onto the carrier's deck when the legs will be raised again.

One of the main characteristics is a special underwater hull form, giving it the capability of carrying either light and fragile cargoes (such as modular equipment) or

heavy and bulky cargoes under the most favorable trim condition. When carrying light cargoes, the vessel is immersed to one waterline having an underwater hull form that is slender. Stability is then provided by the wings, which also provide a large deck-space. When transporting heavy cargoes the vessel is immersed to a second waterline which increases the waterplane area, providing the required stability for transportation of this cargo type.

Other features include a lower cargo hold to accommodate additional cargo or equipment, a 250-ton capacity crane, and detachable buoyance casings aft, so that cargoes longer and wider than the carrier herself can be loaded.

Wijsmuller started its transportation activities in 1976 when it introduced two auxiliary-powered semisubmersible barges, the Ocean Servant class. These were the first barges which could be submerged horizontally. They have been employed successfully for long-haul transportation of very heavy loads such as rigs, dredging equipment, cranes, etc.

For further information on these vessels,

Write 56 on Reader Service Card

### Art Anderson Associates Opens Seattle Office

Art Anderson Associates of Bremerton, Wash., marine consulting engineers, has recently relocated its Commercial Marine Division headquarters to Seattle to provide immediate response to clients located on the east side of Puget

Sound. The office, managed by Ken Forslund (Captain, USCG-ret.) is located off the ferry terminal passenger overpass in the Commuter Building at 73 Marion Avenue. Mr. Forslund, with Art Anderson Associates for four years, has been responsible for management of the growing commercial division. Local projects have included modernization of the state ferry Klickitat, the renovation of the Alaskan ferry Taku, and conversion of two small vessels into "hydrographic" research and fisheries vessels.

### Marlow Pumps Offers Free 40-Page Pump Engineering Manual

Marlow Pumps, a division of ITT, located in Midland Park, N.J., has published an Engineering Manual covering the broad subject of pumps. Included are tables, definitions, data, formulas, charts and material recommendations.

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### Kraft Joins Waukesha Engine As Director Of Industrial Relations



Joseph C. Kraft

Joseph C. Kraft has joined the Waukesha Engine Division of Dresser Industries as Director-Industrial Relations.

In this position, Mr. Kraft will be responsible for labor relations, compensation and benefits, human resource development, employee safety and health, and all other personnel matters. He has been with Dresser Industries since 1973.

Waukesha Engine is a manufacturer of heavy duty industrial diesel and gas engines.

### Nichols Brothers Launches M/V Tiny

The Nichols Brothers Boat Builders, Inc., Freeland, Wash., boatyard recently completed the M/V Tiny, a 70-foot long triple-screw shallow draft tug boat. The construction of this vessel was the result of a joint venture between Crowley Maritime Corporation and the Kuskokwim Transportation Company of Bethel, Alaska, a native-owned and operated organization.

The M/V Tiny was christened at the company's Langley, Wash., dock facility. It will serve the Bethel, Alaska, area by providing villages along the Kuskokwim River with fuel and other supplies.

The M/V Tiny has a length of 70

feet, a beam of 28 feet and a draft of 4 feet with accommodations for a crew of 7. It is powered by three caterpillar 3408TA engines rated at 348 hp coupled to Twin Disk 514 gears with a 3:1 ratio and driving Coolidge 46 by 26, four-blade stainless-steel propellers. The auxiliary engines are two Detroit Diesel 2-71's coupled to 30-kw generators. The tow winch is by Markey Machinery. Devco paints are used throughout. The electronics for the Tiny include Furuno Loran LC-80 and FR701 radar, Sperry Gyrocompass and Autopilot; Raytheon hailer, and Motorola Triton SSB and two ICOM M80C VHF radios.



The M/V Tiny underway in Alaskan waters is powered by Caterpillar engines and fitted with Furuno radar.

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## CDI Marine Announces Management Reorganization

CDI Marine Company, the Jacksonville, Fla.-based supplier of Naval Architecture and Marine Engineering Design to private and naval shipyards has announced changes in its executive management structure. The regional management concept under which the

company operated has been phased out and replaced with four top level management positions, created in order to provide strong leadership in areas of planning, operations, contracts and administration and finance. These newly established positions are responsible to **Donald W. Jett**, executive vice president.

**James C. Gibson**, formerly vice

president Southern region, assumes the position of vice president-advance planning.

**Jimmy R. Phillips**, formerly vice president, Northern region, will assume the position of vice president-operations.

**James C. Dickey**, manager, contracts and administration, has been promoted to vice president.

**Donald O. Reeves**, manager of

CDI Marine Company's financial division, has been promoted to vice president-finance.

CDI Marine Company, supplies marine engineering and naval architecture from its network of nine offices located in cities close to major fleet centers.

## New Color Sounder With Advanced Memory Described In Literature

Raytheon Marine Company has introduced a new JFV-216 Color Echo Sounder with advanced memory, voice recorder, automatic shift, and other design features making it ideal for multipurpose fishing. The new model offers the same high-resolution 16-color presentation available in all of Raytheon's color fish finders, plus several unique features.

The JFV-216 unit can be used as a complete single and dual-frequency sounder, or as a monitor display for existing chart recorders and sonars, and it offers three sophisticated memory selections. The operator can store and display two separate frames, and, either the last four sequential frames compressed, or any two past displays.

Multiple presentation modes make this model useful in a variety of fishing grounds. Alpha numerics appear on the CRT screen to identify the display mode selected, as well as depth scale, range units, depth to sea bottom, variable ranger marker (VRM), and time-distance marks.

An optional tape cassette input feature, which allows the operator to narrate and store comments with display presentations, has been introduced for the first time anywhere. An automatic shift option, another innovation available only in the JFV-216 sounder, allows the operator to preset the span so that when the top presentation shifts, the bottom shifts automatically in like proportion and vice versa.

Its fast-sweep allows two sweeps per transmission instead of one, to further enhance clarity.

Whether bottom dragging, trawling, or purse seining, the versatile JFV-216 color sounder is designed for maximum fish-finding performance. The JFV-216 model has keyboard controls, with a back-lit panel, and 11-inch CRT. It interfaces with sonars, net sounders, chart recorders, or remote displays. Microprocessor-compact, it weighs 60 pounds without transducer and operates on 24 or 32 volts dc or 115 ac at 180 watts. Manufacturer's suggested retail price is \$4,795.

For free literature on the new JFV-216 Color Echo Sounder,

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Nuclear submarine equipped with Maxim desalinator.  
General Dynamics Photo





Launching ceremony for the L-907 offshore rig at Daewoo's Okpo shipyard

## Daewoo Delivers \$74-Million Offshore Rig

Atlantic Drilling Company, a member of the Ben Line Group of the United Kingdom, will receive a semisubmersible drilling rig built by Daewoo Shipbuilding and Heavy Machinery Ltd., Seoul, Korea. The rig was christened Benreoch at Daewoo's Okpo Shipyard.

The \$74-million rig is a Friede and Goldman L-907 self-propelled facility, 270 feet long, 203 feet wide, and 116 feet in height from the keel to the main deck. It has living quarters for 100 persons.

The L-907 can drill to a depth of 25,000 feet in water up to 1,500 feet. It is built to endure winds of 110 knots, waves of 100 feet and temperatures of 20 degrees below zero Centigrade.

Atlantic Drilling will charter the rig to Tricentrol Exploration Overseas Ltd. of England, which will use it to explore waters off the coast of New Zealand.

Daewoo's Okpo Shipyard has delivered four semisubmersible rigs, three going to U.S. firms and one to England.

### Watercraft America Inc. Offers Free Color Brochure On Enclosed Survival Craft

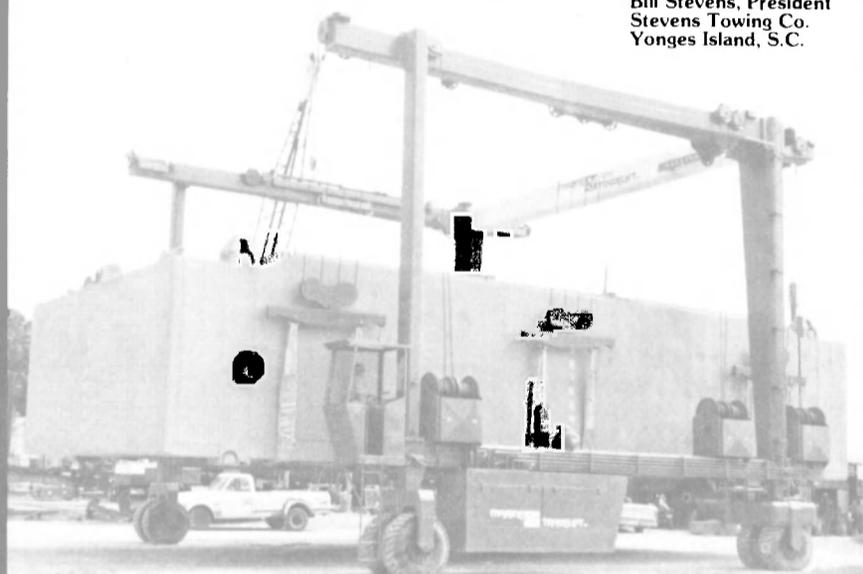
Watercraft America Inc., Edgewater, Fla., presents a line of totally enclosed survival craft used on cargo ships, drilling ships, oil-tankers and offshore platforms. Features include: automatic self righting, water spray cooling, compressed air system, wide doors, control console, hook release, Lister diesel engine and USCG approved.

For a free, four-color brochure,

Write 76 on Reader Service Card

**'Now...with our Marine Travelift, we are not limited by our railway,'**

Bill Stevens, President  
Stevens Towing Co.  
Yonges Island, S.C.



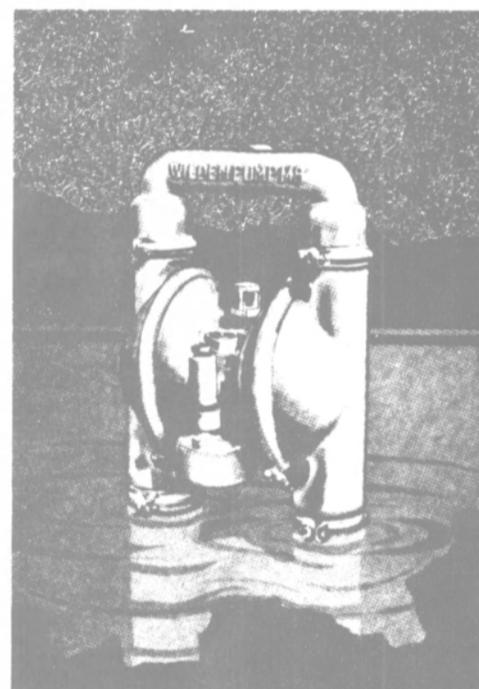
"Rough handling in European ports," continues Mr. Stevens, "created a need for an efficient haul out and repair facility for our bulk cargo barges. We have eight in the yard right now and haul about 15 a month plus our own tugs and a variety of army tugs and shrimp boats. We have two railways but they restrict us to one job per railway. Now there is no limit on our operation."

Find out how top marine operators gain maximum yard utilization . . . reduce haul out time as much as 90% . . . cut labor costs up to 50% and develop high profit new business with the world's largest mobile boat hoist. Contact your local distributor or —

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Marine Travelift 150AMO hauling a 61 ft. long 31 ft. wide — 14 ft. deep "Lash Barge."  
Barges can be stacked two high to conserve yard space.



## In Water . . . one stands alone

It also stands up to chemicals, grout, resin, oil, glue and low density powders.

The heart of the Wilden air-operated double diaphragm pump is its unique air valve which shifts the air supply to both diaphragms alternately with complete reliability under all conditions of head and flow.

Up to 90% solids and over 250' heads are no problem for the WILDEN PUMP. Our double diaphragm design cuts velocity in pump to half total discharge velocity. The most abrasive slurries are handled with ease since there are no seals and no metal to metal contact.

Volume is infinitely variable by controlling air flow to pump, from a few gallons per minute to over 14,000 gallons per hour. No pressure relief valve is required and the pump can run dry indefinitely.

Wilden pumps are available with wetted parts in aluminum, cast iron, stainless steel, and Hastelloy C. Non-wetted parts in aluminum or cast iron. Elastomers in Neoprene, Buna N, Norel, Viton®, and Teflon®.

### WILDEN AIR OPERATED DOUBLE DIAPHRAGM PUMPS offer

- No Electrical Connections
- Abrasion Resistant
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- Variable volume and pressure
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## Change In Personnel Licensing Regulations For Commercial Ships Sought By U.S. Coast Guard

The Coast Guard is attempting to simplify and improve the licensing regulations for all commercial vessel personnel. The proposed amendments in CGD81-059 offer a license structure with career patterns for persons serving on all waters and on all kinds of vessels, from small passenger vessels to large oceangoing vessels. The proposed regulations also incorporate the requirements of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978 (STCW).

Major changes/key points: The notice proposes a simplified two license structure (Master/Mate and Chief Engineer/Assistant Engineer) on inland waters for service on any tonnage vessel and also for service on vessels up to 1,600 gross tons on near coastal waters (up to 200 miles offshore).

Trade restricted licenses would be eliminated—except for the restricted licenses established in law: uninspected towing and fishing vessels, pilot, motorboat operator, and non-navigating river mate.

Ocean operator and operator licenses will become masters and mates with route and tonnage limitations extended to 200 gross tons and near coastal waters.

License operators of uninspected towing vessels will be able to credit service toward obtaining master or mate licenses.

Special "industrial" licenses are established for officers who work on mobile offshore units.

Changes to requirements for a motorboat operator license will make it easier to obtain initially (on inland waters) and easier to use as a stepping stone to more advanced licenses.

The written exam subjects for the licenses have been standardized and would be listed in the new regulations. Consideration is being given to removing or limiting exam items on celestial navigation. Comments are specifically invited on this topic.

Exams for licenses would be required only at entry and command level.

When any license is renewed, the license holder would be required to complete an open book exercise (all of which could be done through the mail).

For persons who may have difficulty with written exams, the new rules would provide for oral exams administered under special circumstances.

Present license holders will be able to take advantage of the new structure when they renew their license or if they present information to the Coast Guard that justifies obtaining the new license earlier. (Note: If an officer is otherwise qualified to upgrade his license to a command level, he will have to take a partial exam on "command" topics).

The proposed regulations would allow substitution of simulator time or special training for underway service.

The proposed regulations would eliminate the special consideration given to former members of the armed forces regarding recency of experience.

The Coast Guard Regional Exam Centers will have more latitude in evaluating certain licensing matters.

Flow charts have been added to the regulations to illustrate the pattern of career advancement possible under the proposed rules.

Public comment period closes on December 6, 1983.

The complete proposed rule making appears

in the Federal Register/Vol. 48, No. 153/Monday August 8, 1983.

If you have questions concerning the proposed regulations, contact LCDR George Naccara (202) 426-2240.

## ITC Tows Choctaw I From Angola To Texas



I.T.C. Holland's tug Simoon delivers the Santa Fe Choctaw I at Sabine Pass, Texas.

After a 7,000-mile journey, the I.T.C. Holland tug Simoon (15,000 ihp, 110 tons bollard pull) delivered her tow of the Santa Fe Drilling Company semisubmersible rig Choctaw I at Sabine Pass, Texas. The voyage originated in Lobito, Angola, where the rig completed a drilling assignment.

The tug Simoon is one of seven sister tugs belonging to the I.T.C. "S-Wind Class" fleet, all possessing identical characteristics.

(I.T.C.) International Transport Contractors Holland B.V., is located in Haarlem, Holland, the Netherlands. Their subsidiary office in the U.S. is located in Houston, Texas.

The Choctaw I is owned and operated by Santa Fe Drilling Company, of Orange, Calif. The unit was converted from a derrick/pipe-laying vessel to a drilling unit in 1981 by Avondale Shipbuilding in New Orleans, La. The rig will be available for an assignment in the Gulf of Mexico or overseas.

For more information on I.T.C. heavy lift and long distance towing services,

Write 57 on Reader Service Card



Ray Brown, director of Marine and Documentation Services, Houston, Tex., discusses the arrival of the Santa Fe Choctaw I with Ed Punch of International Transport Contractors.

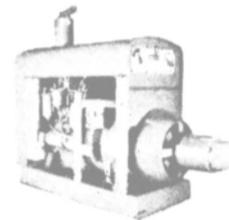
### NEW 200 KW GM 6-71T DIESEL GENERATOR SET

200 KW Stand-by rating, 277/480 Volts, 3 phase, 4 wire 60 Hz., 1800 RPM. Equipped with battery charging alternator, Lima generator, std. 4 light auto/manual control panel, industrial silencer w/flex and flanges, battery with rack and cables.

No. MR-EG 2006

\$21,250.00

### 300 AMP. LINCOLN WELDER



Diesel Engine Driven. Lincoln Shield Arc — SAE 300, D.C. welder, Model SAE 3006M5023. Powered by 2-53 Detroit Diesel 2 cylinder engine. Skid mounted, radiator cooled, electric start. With engine and generator control panels. Used condition, test run. Dimensions: 72" L., 25" W., 58" H. Weight: 2,500 lbs.

No. MR-EW 3006

F.O.B. Ft. Worth

\$2,895.00

### 375 KW CATERPILLAR MODEL D346 DIESEL ELECTRIC GENERATOR SET (Used)

375 KW standby rating at 1800 RPM, 60 Hz, 240/480 volts. 310 KW standby rating at 1500 RPM, 50 Hz, 230/400 volts. Skid mounted, radiator cooled, electric start, battery charging alternator, instrument panel, safety shutdowns.

No. MR-EG 375

\$29,500.00

### 900 KW CATERPILLAR MODEL D399 DIESEL PACKAGE TYPE ELECTRIC GENERATOR SET

900 KW at 230/460 volts 3 ph 60 Hz at 1200 RPM. (Also suitable for 50 Hz)

- Only 2628 Hrs. Excellent condition.
- Serial No. 35B2047.
- Caterpillar Generator - S/N 8L47 Type 700TH3353 and Regulator.
- Extra Heavy Duty base with walkways both sides
- UG-8 Woodward Hyd. Gov.
- Radiator cooled - electric start with battery charging alternator.
- Glow plugs - Jacket water heater - Safety Shutdowns.
- Perforated steel housing.
- Complete engine and electrical instrument panel.
- Main line circuit breaker.
- Muffler and Batteries.

No. MR-EG 900

F.O.B. Birmingham, Ala.

\$115,000.00

### 110 GALLON DIESEL FUEL TANK



Made by Prior Safety Tank. 2" diameter filler neck at both ends. Two 1/4" fuel line connections. Bottom drain. Used — Good Condition. Overall Dimensions. 21" dia. 73" long. Weight: 200 lbs.

No. MR-T 110

\$65.00

### 25 KW HERCULES GASOLINE ENGINE DRIVEN GENERATOR SET

127/220 volts, 3 phase, 60 Hz., 1200 RPM. Radiator cooled, electric start, engine and generator instrument panel. Mounted on cast iron base. Used — Good Condition.

No. MR-EG 25

\$2,750.00

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SUPPLY COMPANY, INC.

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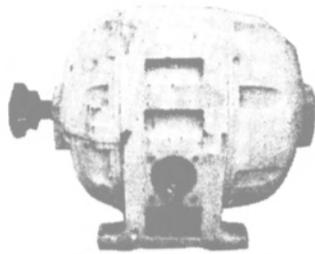
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Tel: (312) 374-6900

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Call Toll Free: (800) 621-2405

# ELECTRIC GENERATOR SETS



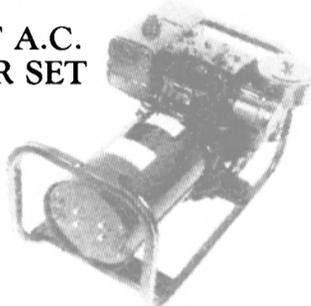
## 200 KW A.C. GENERATOR

General Electric Tri-Clad Generator. 208/120 Volts, 250 K.V.A. 693 amps. 3 Phase, 60 Cycles, 1200 RPM. 200 K.W. .8 P.F., Cont. 40° C Rise. For operation to 7000' altitude. Excitation volts, 125 amps. 32.5 Requires separate exciter, not supplied. Two bearing design, 3 3/4" diameter drive shaft. Model 38G61, type AT1, frame 973Y. Overall dimensions: 60"L., 42"H., 36"W.

No. MR-EG 200

\$1,950.00

## 4,000 WATT A.C. GENERATOR SET



115/230 Volts, 1 phase, 60 cycles, 3,600 RPM. With dual 115 Volt receptacle and dual 230 Volt receptacles. Self excited, self regulating. Briggs & Stratton 8 H.P. engine, recoil start, with muffler and air cleaner. Vibration isolators, cradle mounted. Shipping Weight: 152 lbs.

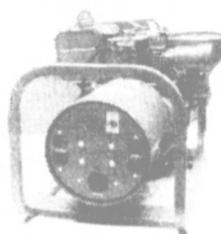
No. MR-EGM 4000 \$588.00

4000 Watt Electric Start  
No. MR-EGM 4000E \$658.00  
Shipping Wt.: 158 lbs.

5000 Watt Manual Start  
Shipping Wt.: 168 lbs. \$688.00

5000 Watt Electric Start  
Shipping Wt.: 178 lbs. \$748.00

## NEW 4000 WATT SWITCHABLE DUAL VOLTAGE GENERATOR SET



Provides standard 115/230 volt output for general purpose use, plus Full Power Switch to deliver full generator output at 115 volts to separate Twist Lock receptacle on panel. Ideal for RV's, campers, cottages, requiring two wire, 115 volt power. 12 volt electric start. Shipping Weight: 158 lbs.

No. MR-EGM 4000ED

\$733.00

## 2 — CUMMINS 500 KW GENERATOR SETS

Van mounted, with 20 KW Detroit Diesel included.

No. MR-EG001

\$42,500.00

## 625 K.V.A. — 500 KW CATERPILLAR MODEL D3412 PCTA ELECTRIC GENERATOR SET

3,000 hours, load bank tested, painted, 120/208-240/416-440, 3-60, 1800 RPM, electric start, radiator cooled, safety shut down engine and electric panel.

No. MR-EG625

\$41,000.00

## 15 K.V.A. ONAN ELECTRIC GENERATOR SET (USED)

Model 12JC-4XR8-131-737. Air cooled, Natural gas, 277/480, 4 wire, 3 phase, 60 Hz, 1800 RPM.

No. MR-EG15

\$1,950.00

## 210 KW CUMMINS DIESEL GENERATOR SET

Model NT-855, 210 KW, 50/60 Hz, 3 phase - 1500/1800 RPM. Skid mounted, radiator cooled, electric start, oil, water and overspeed safeties. 50 Hz Voltage 220/380, 60 Hz Voltage. 120/208 - 277/480. Equipped with engine and generator instrument panels. Lube oil and fuel oil filters. Dry type air cleaner. Overall dimensions: 3,277 mm L., 997 mm W., 1,436 mm H. Dry Weight: 5,465 lbs. (2,481 KG).

No. MR-EG855

NEW

\$23,950.00

## 60 KW DIESEL GENERATOR SET — HEAVY DUTY

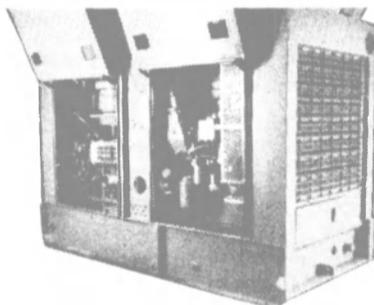
DELCO BRUSH TYPE GENERATOR: 220/440 volts, 3 phase, 60 Hz., 1200 RPM.

DETROIT DIESEL 6-71 ENGINE: Skid mounted, radiator cooled, in sheet metal housing. Complete instrument panel, fuel tank, hydraulic governor. Electric start. Automatic safety shutdown. Used condition. Overall dimensions: approx. 115"L., 43"W., 65"H. Shipping Weight: 5,900 lbs.

No. MR-EG 8012

\$6,950.00

## 40 KW, 50 K.V.A. DIESEL GENERATOR SET

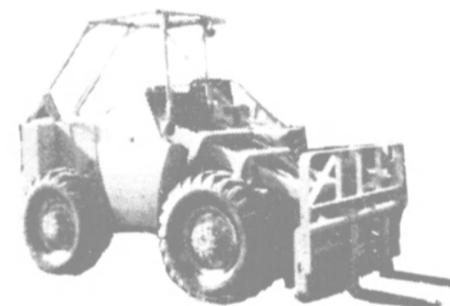


3-53 Detroit Diesel engine, Westinghouse Generator. 120/208 Volts, 3 phase, 60 Hz, 1800 RPM. With engine and generator control panel and circuit breaker. Skid mounted, radiator cooled. Sheet metal enclosure. 24 Volt starting. Built-in fuel tank. Reconnectable to: 240/416 - 440 V. Overall dimensions: 81"L., 55"H., 36"W. Freshly reconditioned, 2 hours of test time. Shipping Weight: 3,085 lbs.

No. MR-EG40

\$5,850.00

## PETTIBONE ROUGH TERRAIN FORK LIFT



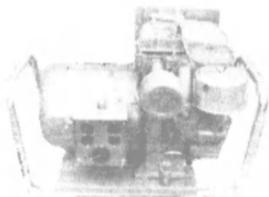
6,000 pound capacity. 14'6" lift height, 48" forks. Side shifter, Overhead guard. Hydraulic leveling device. Detroit Diesel 3/71 engine with Allison CRT 3331-1 transmission. 4 wheel drive, 4 wheel steer. Can be shifted to 2 wheel drive and 2 wheel steer. 1400 x 24 tires. Excellent condition, ready to work. Approximate Weight: 18,000 lbs.

No. MR-FL600

FOB Ft. Worth

\$14,950.00

## NEW 7500 WATT ELECTRIC GENERATOR SET



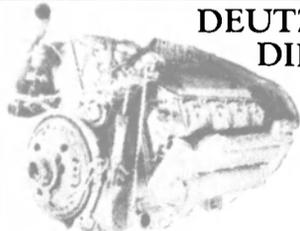
7500 Watts, 115/230 Volts, single phase, 60 Hz. Powered by a Briggs & Stratton 16 H.P. engine at 3600 RPM. Separate receptacles for 115 and 230 Volts. 6 quart fuel tank. Manual (Rope) starter. Cradle mounting base with vibration isolators. Shipping weight 250 lbs.

No. MR-EGM 7501 \$1,085.00

Also available with 12 Volt electric start.

No. MR-EGM 7501E \$1,145.00

## DEUTZ AIR COOLED DIESEL ENGINE



### Great Fuel Economy!

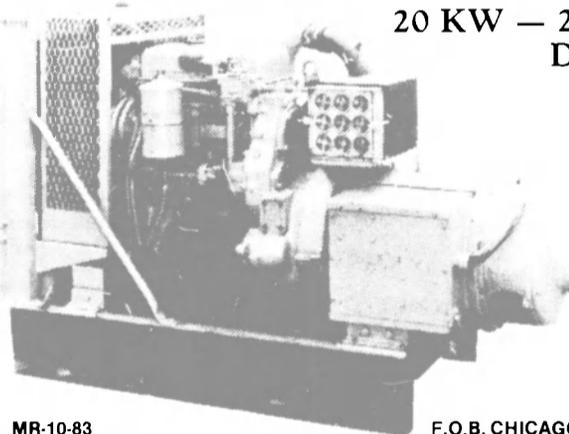
Model F8L714A-V8. 178 H.P. at 2300 RPM. Equipped with 24 volt

starter and generator, and air brake compressor. SAE 1 bell housing. Removed from Low Time military trucks. Used — Good Condition. Only 7 left in stock! Shipping Weight: 2,200 lbs.

No. MR-DE 714

\$2,250.00

## 20 KW — 25 K.V.A. HEAVY DUTY DETROIT DIESEL GENERATOR SET



MR-10-83

F.O.B. CHICAGO, FT. WORTH, SOUTHERN CALIFORNIA

\$3,250.00

DELCO BRUSHLESS GENERATOR: 127/220 Volts, 3 Phase, 60 Hz, 1200 RPM. .8 P.F., 4 Wire.

DETROIT DIESEL MODEL 3/53 ENGINE: With 12 volt electric start, oil pressure and water temperature safeties. Skid mounted, radiator cooled, fan and guard. Without battery charging alternator, or batteries. Farr Air Cleaner with throw away element. The slow speed engine generator combination promises thousands of hours of service between overhauls. Sturdy channel base for rigidity. Used — Good Condition — Load tested. Overall dimensions: 72"L., 48"H., 27"W. Net Weight: 2,255 lbs.

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Telex: 25-3009

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## Hitachi Announces Top Management Appointments

Hitachi Zosen, Tokyo, Japan, has announced the assignment of new management positions. At a recent meeting of the board of directors, **Masaru Hattori** was elected the new chairman, and **Toshio Murayama** was elected the new president of the company, effective immediately.

In addition, new vice presidents,

managing directors and people in other key positions have been appointed as follows: **Shozo Kawaguchi**—executive vice president for administration headquarters; **Shojiro Okada**—executive vice president for shipbuilding; **Kazuro Chihara**—executive vice president and plant general manager; **Toshio Ebata**—executive vice president for planning; **Shuichi Asano**—executive vice president for technology and development;

**Masao Maruyama**—managing director general manager of offshore headquarters; **Rikio Maki**—managing director, domestic sales plant and machinery; **Toshiyasu Jogu**—managing director, personnel and administration; **Junichi Furukawa**—managing director, export business, plant and machinery; **Akira Ogawa**—director, deputy general manager of plant and machinery headquarters; **Fujio Nishioka**—director, deputy

general manager of shipbuilding headquarters; **Toshio Eyama**—director, manager of Osaka sales office; **Daizo Nakao**—director, deputy general manager of shipbuilding headquarters; **Toshiro Nagata**—general manager of Tokyo office; **Chikaomi Tanaka**—general manager of general affairs dept.; **Yoshio Miwa**—general manager of international ship sales; **Shigeo Asaka**—general manager of Oslo office; **Kohei Kotegawa**—manager of finance and accounting dept.; **Hiroki Inoue**—director of Hitachi Zosen International S.A., London; **Haruo Moriyama**—president of Hitachi Zosen U.S.A.; and **Mitsuo Aoyama**—director of Hitachi Zosen U.S.A. Ltd.

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MORE COMPACT!  
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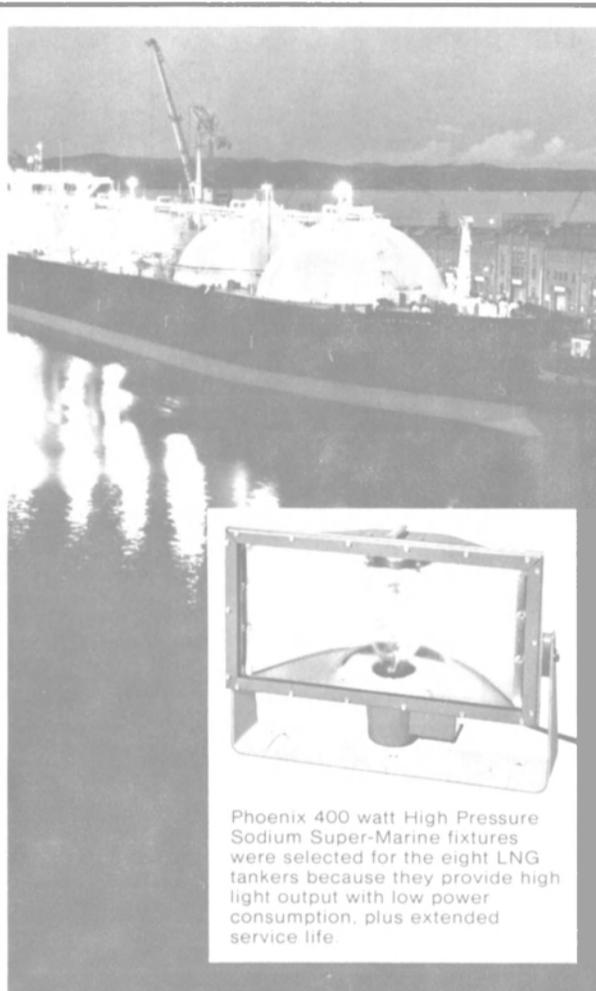
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Phoenix 400 watt High Pressure Sodium Super-Marine fixtures were selected for the eight LNG tankers because they provide high light output with low power consumption, plus extended service life.

## PHOENIX<sup>®</sup> SUPER-MARINE<sup>®</sup> Fixtures light up "ZODIAC" Fleet

The LNG *Taurus*, shown here, is a visual tribute to the joint efficiency of Phoenix's "CALL" (Computer Aided Lighting Layout) service and the Super-Marine fixtures used to implement it.

In addition to the *Taurus*, Phoenix has similarly retrofitted her seven sister ships plying the Far Eastern LNG trade, including the LNG *Aries*, *Aquarius*, *Gemini*, *Leo*, *Capricorn*, *Libra* and *Virgo*.

Just 29 computer-located floodlights are needed to adequately illuminate each of the giant liquified natural gas tankers operated by the Energy Transportation Group.

The combination of Phoenix's exclusive "CALL" system and wide selection of UL listed Super Rough Service floodlights and searchlights might provide the answer to your lighting problems—ashore or afloat. Call us or write for details. PH-524



PHOENIX<sup>®</sup> PRODUCTS COMPANY, INC.

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## Tenfjord Opens USA Office And Names Lithen Director

**Jens Tenfjord**, managing director, A.S. Tenfjord M.V., Tennfjord, Norway, has announced the formation of Tenfjord Inc. with offices located at 95 River Street, Hoboken, N.J. The new company will market and service Tenfjord steering gears as well as coordinate manufacture in the USA. **Eric E. Lithen**, PE, will direct USA operations.

In addition to the well-known Tenfjord rotary hydraulic steering gear, a new and innovative second generation rotary steering gear has been developed by A.S. Tenfjord M.V. The new steering gear is completely unitized, eliminating all high pressure piping. Of particular interest, the ram cross section is circular as opposed to rectangular as in all present rotary steering gears. Similar to the earlier version, the rudder carrier bearing is integral with the steering gear.

## \$68-Million North Sea Platform Contract Awarded

Total Oil Marine Ltd. has awarded a \$68 million contract to a Scottish joint venture shipyard to build a North Sea oil platform. The venture principals are Redpath de Groot Caledonian and the British subsidiary of the French company UIE which is based at Clydebank, Scotland. The steel platform for the North Alwyn field, about 130 miles east of Shetland, will be built at RGC's Methil yard in Fife which has a workforce of about 1,000.

A contract for a second platform is expected to be announced later this year. Total has already said the construction of the two platforms will provide up to 3,500 jobs over five years and that most of them will be in Britain. Estimated recoverable reserves in the field are 200 million barrels of oil and 27 billion cubic meters of gas. Oil production is expected to begin in 1987.

## Peterson Builders Offers 56-page Review Of 50 Years Of Boatbuilding History

Peterson Builders Inc., Sturgeon Bay, Wis., is celebrating its 50th year of boatbuilding. Starting in 1933, in the midst of a depression, wooden fish tugs were among the first boats constructed.

Peterson builders today possesses an excellent reputation for quality ships in wood, steel, aluminum and fiberglass for commercial as well as military vessels. PBI is a prime Navy contractor. Current Navy work providing a 1986 backlog includes 108-foot wooden Yard Patrol craft, 224-foot wooden Mine Counter Measure ships, 255-foot steel Rescue/Salvage vessels, as well as participation in the design, development and construction proposal for the Navy's new Mine Sweeper Hunters.

During the 1940s Peterson Builders established an outstanding production record for military ships. In the 1950s PBI played an

important role in the refinement of aluminum welding technology employed in shipbuilding today. The 1960s represented physical growth and expansion in the fiberglass field. The many large (up to 300 feet) steel and aluminum ships built during the 1970s included huge tugs, heavy lift cargo ships, passenger ferries, oceanographic research vessels, and the first of the beautiful tuna super-seiners built by PBI. This decade also included construction of over 400 military vessels.

Having taken full advantage of technology available through computerization, PBI employs a complete range of computerized services, and was one of the first U.S. shipyards to install a computer-aided design system (CAD). Direct link of PBI's CAD system to their subcontracted design agents' system on the East Coast provides



Peterson Builders, Inc. are presented a plaque by representatives of the General Electric Company, one of PBI's prime suppliers, recognizing the company's 50th Anniversary and accomplishments in the shipbuilding industry. From left are: **Jerry A. Cincotti**, GE's Cleveland manager; **Roger E. Peterson**, PBI executive vice president; **Fred J. Peterson**, PBI founder; **Ellsworth L. Peterson**, president of PBI; and **Donald W. Forster**, GE's Northeastern manager.

rapid exchange of drawings and design data for instant review.

PBI facilities, history and a review of the boats they have built

is summarized in their recently released 56-page anniversary book.

For a free copy,

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## Call Out The Marines\*

### \*Norris Bronze Body Butterfly Valves.

**The Few . . .** When it comes down to competition for Norris Marines\*, you really have to search. Full lug or double rib span, elastomer or metal lined, with performance features other valves can't match. Norris Marines\* are in a high performance class by themselves.

**The Proud . . .** Compute the economics of Norris Marines\*. Their extended service life results in cost savings you can be proud of, they are easier to repair and are ideally suited to severe service.

**The Norris Marines\* . . .** Norris R-Series bronze body butterfly valves meet or exceed: Mil-V-22133C (Navy); US Coast Guard-Marine Engineering Regulations, 46 CFR 56.20-15 (b) (1), category "A" Service; American Bureau of Shipping (ABS); Lloyds Register of Shipping and Det Norske Veritas (DNV). M-Series bronze body butterfly valves meet or exceed: Mil-V-16468; ABS 35.45.5, "Rules for Building and Classing Steel Vessels"; and Marine Engineering Regulations 46 CFR 56.50-60 (d) and are approved for root valve service.

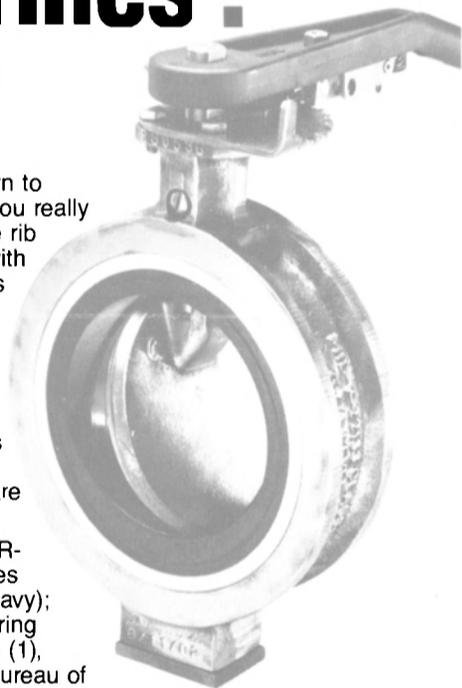
Next time you need a butterfly valve, call out a Norris Marine\*. Just dial toll free, 1-800-331-4468 and ask for George Little. Tell him you need a Norris Marine\* and you'll really get some attention.

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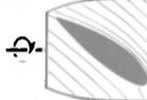
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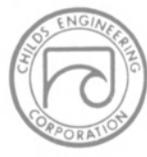
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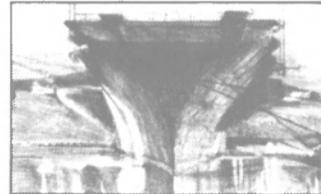
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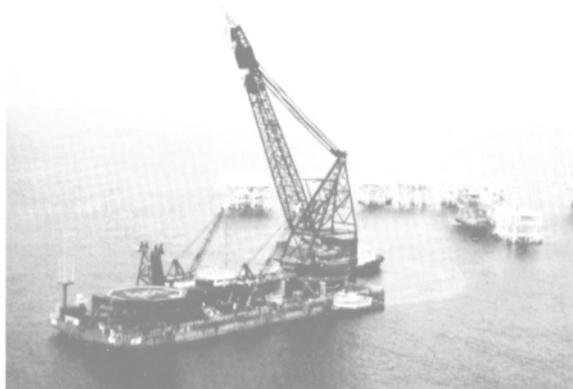
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## McDermott Derrick Barge 27 Upgraded to 2,400-Ton Lift



A Heavyweight—McDermott International's Derrick/Lay Barge 27 with upgraded 2,400-ton crane.

McDermott International, Inc., New Orleans, La., Derrick Barge 27 now has a lift capacity of 2,400 tons, the largest in the Middle East. Recently, the derrick barge underwent a conversion and upgrade to a combination derrick/lay barge.

The newly installed Clyde Iron Works Crane lifts 1,400 tons fully revolving, 750 tons with its auxiliary block, 250 tons with its jib block, and 2,400 tons with the crane in a stationary position over the stern. For piledriving, Derrick Barge 27 has a 2,000-hp boiler which produces enough pressure to drive the largest hammers currently available.

When pipelaying, Derrick Barge 27's center slot assembly area can be completely enclosed against bad weather. Two gantry cranes for pipe handling, each capable of lifting 65 tons, track on the starboard and port sides of the barge, respectively. The assembly line can handle pipe up to 40 inches in outside diameter with pipe coatings of up to 1,500 pounds per linear foot. The line has six welding stations and three additional stations for corrosion-coating, repair, and X-ray inspection to ensure uninterrupted pipelaying. An adjustable-height stinger hitch allows pipe to be lowered or retrieved if operations must be suspended.

Derrick Barge 27 is a U.S.-flag vessel, ABS-certified for unrestricted ocean service, and is subject to U.S. Coast Guard inspection. The barge's dimensions are 420 feet by 138 feet by 28 feet. It operates in the Arabian Gulf, Gulf of Suez and off the coast of India.

## USCG Gention Recommissioned After \$8.3-Million Renovation

Personnel at the Coast Guard Yard in Curtis Bay, Md., recently completed a restoration of the Coast Guard Cutter Gention, a 180-foot oceangoing buoy tender (WLB). The overhaul of the World War II vintage vessel marked the second renovation of a Class A buoy tender under the U.S. Coast Guard's Service Life Extension Program (SLEP). The yard recommissioned the CGC Sorrel, another 180-foot buoy tender, in January of this year after she too had gone through an extensive 16-month face lift.

The Coast Guard expects to conduct the SLEP over the next 15 years, working towards the goal of renovating nine more WLBs before the program ends.

The yard held recommissioning ceremonies for the Gention on August 4. Rear Adm. Theodore Wojar, Chief of the Office of Navigation at Coast Guard Headquarters in Washington, D.C., attended as guest speaker.

The upgrade of the vessel cost approximately \$8.3-million and involved 215,000 man-hours by yard workers and replacement of most of the machinery.

The vessel's weight-handling system was redesigned and the watertight capability of the ship was improved. Construction work included expansion of the ship's office and radio room, additional storeroom space and relocation of the boom control booth.

The Gention was originally commissioned in 1942 and served on active duty until 1976, when she was decommissioned at the Coast Guard yard.

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An agreement has been reached between Navidyne and Medical Advisory Systems, Inc. (MAS), to offer four months of free medical support to all customers purchasing Navidyne's ESZ-8000 Satellite Communicator. MAS is a United States company providing medical

support to vessels at sea through INMARSAT and other radio systems. MAS operates a Medical Response Center near Washington, D.C., staffed 24 hours a day by physicians and other medical and communications specialists, offering instant medical diagnosis and recommendations for treatment for accident or illness aboard ship.

According to Navidyne vice president for corporate development, Sanford Jones, the availability of instant medical support via satellite can have a significant impact on safety at sea. In addition, the INMARSAT-MAS link can produce considerable cost savings. In many cases, with prompt medical diagnosis and first aid instruction, a vessel can proceed to the next scheduled port. It has been estimated that as many as one-third of all medical evacuations could be avoided.

For information on the ESZ-8000 Satellite Communicator and the MAS medical response program,

Write 60 on Reader Service Card

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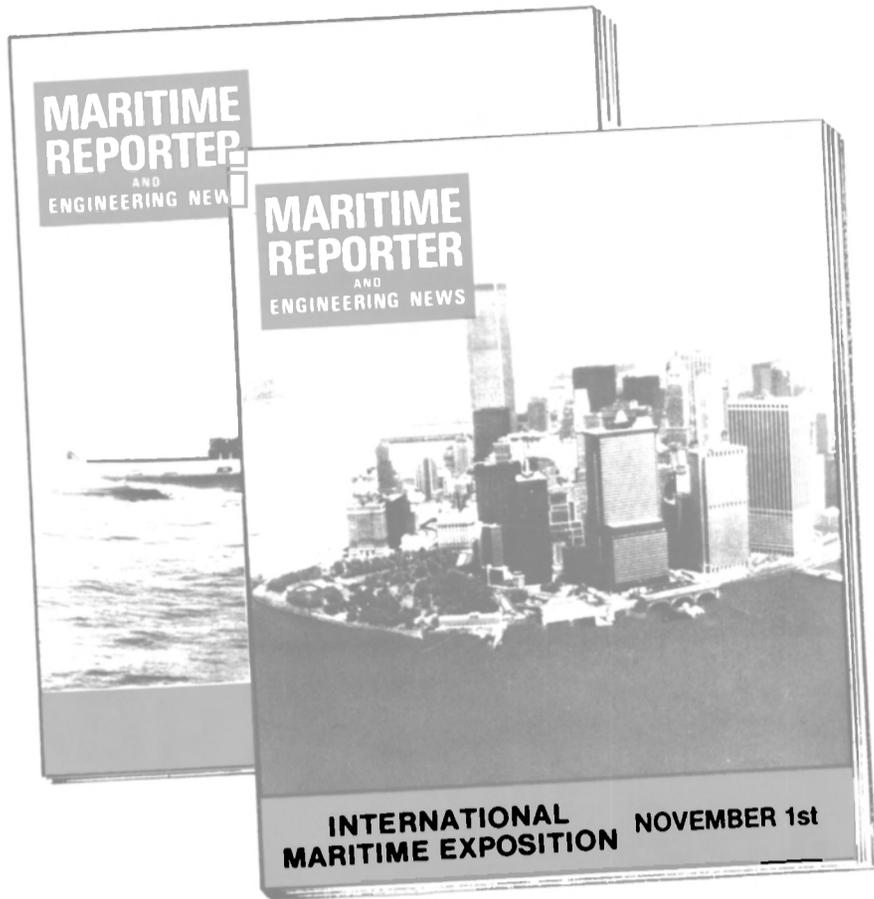
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This first S.N.A.M.E. Exposition was an unprecedented success.

It exceeded the most optimistic expectations of both S.N.A.M.E. and show organizers. Attendance broke all records. Exhibitors unanimously agreed the exposition was the best attended and most productive in their experience.

The 1983 exposition promises to be even bigger, better attended and more successful than last year. A much larger exhibit area is completely booked in advance and, again this year, attendance will break records.

The big, Annual November 1st special S.N.A.M.E. issue of Maritime Reporter will contain full details of all technical sessions as well as all activities associated with the exhibition during this most important annual marine event.

This November 1st special will be mailed to Maritime Reporter's entire readership before the conference takes place...plus...it will receive extra distribution at S.N.A.M.E. in New York.

November 1st is traditionally one of MR's largest and best-read issues. It provides all marine advertisers with an unequalled opportunity to deliver their sales message to the world's largest audience of marine management readers...both in their offices...and at the most important marine industry event of the year...the Big S.N.A.M.E. annual.

**EST THIS NOVEMBER 1st**

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Sales representative for American-made, internationally famous line of diesel propulsion and ships service generation equipment. Excellent salary and incentive plan. Some travel required; mainly in Great Lakes and Northeast coastal area. Ideal candidate will have most of following credentials: Industrial sales experience, Graduate engineer, preferably marine. Has been active in marine industry or with its suppliers. Has engine application experience. Has military experience with Navy or Coast Guard. Has experience with rotating electrical machinery. Send resume to:

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Five years experience preferably in shipbuilding or related heavy industry. Knowledge of Numerical Control applications and programming preferred. Degree desirable.

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Produce detailed manufacturing drawings and supervise the lifting and handling of 10 to 600 Ton components. Five years experience in manufacturing or structural engineering. B.S. in M.E. or C.E. required.

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Our new service center located in Teaneck, New Jersey, includes a modern fuel-testing laboratory and office space.

We have a vacancy for the position of Technical Advisor. Required qualifications: formal education - level of chief engineer or above; experience - marine diesel engine operation and onboard fuel handling procedures. Experience with fuel-related machinery problems is an advantage.

Salary according to qualifications. Please send resume with salary history to:

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**111 Galway Place**  
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Attn: Dr. William Cullen

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F.I.T. is the second largest private university in Florida. The Jensen Beach Campus is located on the Indian River 40 miles north of Palm Beach and has a full time enrollment of 700.

Applicants should have a masters degree in a technical field and either a 100 ton license, or equivalent engine room qualifications, or extensive commercial fishing experience.

The director will be responsible for supervising courses in all phases of marine science, including navigation, seamanship, commercial fishing diesel and outboard engines, as well as auxiliary courses in welding and machine shop. Teaching in one or more of these areas will be required.

The director will be responsible for growth and development of the school, including solicitation of financial support. A complete application will include a resume, transcripts and three letters of reference.

## Florida Institute of Technology

School of Applied Technology

1707 N.E. Indian River Drive  
Jensen Beach, FL 33457 • (305) 334-4200

## Naval Architect

ARCO Marine, Inc., located in Long Beach, California, is seeking an experienced Naval Architect to act as our principal technical representative with regard to marine transportation modes.

You will participate in, and evaluate, professional level engineering studies where a heavy emphasis is placed on Arctic environmental conditions. You will also provide technical marine advice to management at various Atlantic Richfield operating companies.

You should possess a BS in Naval Architecture with at least 10 years' work experience, including design and construction experience with Arctic vessels. You should be familiar with the rules and regulations pertaining to commercial vessels, and have the ability to utilize computer programs.

In return, we offer a competitive salary and a generous benefit package that only a company like Atlantic Richfield can provide. For further information, please contact: **Rick Martin, Manager, Field Employee Relations, ARCO Marine, Inc., 5900 Cherry Avenue, Long Beach, CA 90805, (213) 428-7591, ext. 357.**

**ARCO Marine, Inc.**

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Supervise & in charge of supplying shipping fuel & direct activities in custom blending fuels to special requirements of merchant ships. Knowledge in various types of merchant ships, their engines and fuels a must. BS + 3 yrs. exp. in marine engr. \$2,600 / mo. job site in Wilmington, CA. Qualified applicants send resume:

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To handle new vessel project engineering and design coordination. Engineering degree plus 3 or more years shipyard design engineering experience. Degrees preferred: BSNAME, BSME, BSOE. Applicant must be familiar with ABS and USCG, work well with production and customers, and be able to motivate drafting and design people.

These are permanent jobs, open immediately. Please reply in writing only to:

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Young, aggressive Marketing/Advertising Manager seeks position in Chicago area. Contact:

Box 818 Maritime Reporter/Engineering News  
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## SITUATION WANTED

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107 East 31 Street New York, NY 10016

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Port Engineer for the UNIVERSITY OF RHODE ISLAND, Graduate School of Oceanography, responsible for shipboard engineering design, preparation of equipment proposals, overseeing equipment purchases, specifications for shipboard repairs and coordination of shipboard maintenance. Applicant should be a licensed Merchant Marine officer, or have extensive marine engineering management experience, with minimum total of 10 years marine and engineering experience. Submit resume by October 16, 1983 to: John Bash, Port Engineer Position, UNIVERSITY OF RHODE ISLAND, P.O. Box 357, Kingston, Rhode Island 02881. An AA/EOE, M/F.

## POSITION WANTED

Applicant with twenty years Management experience in Ship Repairing/New Marine Building Projects, and in possession of necessary certificates of qualification, wishes to emigrate to the United States. Good references available from European shipyards and U.S.-based organizations. Prepared to enter into a contract with sponsoring employer. Will consider Superintendent Engineer /Ship Repair Manager position anywhere in the U.S.

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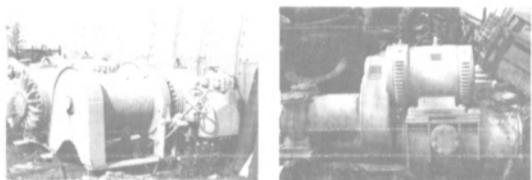
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Four "MF 80-M510 NORWINCH" hydraulic winches with P 31 pumps, rpm 310, motor 52 kw, 1720 rpm, 110/3760.

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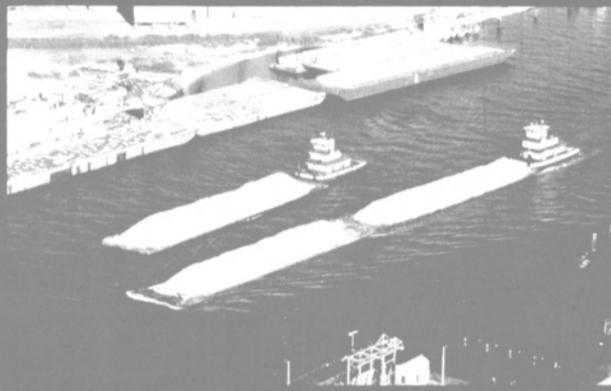
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99.5 gross tons	100' x 43'6" overall
Molded Depth 9'	Max. Draft 7'3"
Built 1969	Last hauled 1983
Repowered 1981 - 2 Cat 3406 - P.H. Control	
Capacity: 20 cars or trucks to 25 tons	



"CHARLOTTE"

98 gross tons	84' x 32' overall
Molded Depth 9'4"	Max. Draft 6'9"
Built 1952	Last hauled 1981
Fairbanks-Morse Double-end drive - P.H. Control	
Capacity: 12 cars or trucks to 25 tons	

Both vessels are in excellent condition  
Certificated for 90 passengers — Lakes, Bays & Sounds

LAKE CHAMPLAIN TRANSPORTATION CO.  
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46' x 15' x 6' Aluminum Crewboat, Built 1981, Delta Bay Craft Shipyard, Twin GM 8-V-92 engines, 600 HP, 10 KW Generators, 28 Passenger, excellent condition.



42' x 14' x 7' Aluminum Crewboat, Built 1981 by Bayou Black Shipyard, twin GM 6-71 engines, 600 HP, 10 KW Generator, 16 Passenger, excellent condition.

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Good Condition — Extra Parts.  
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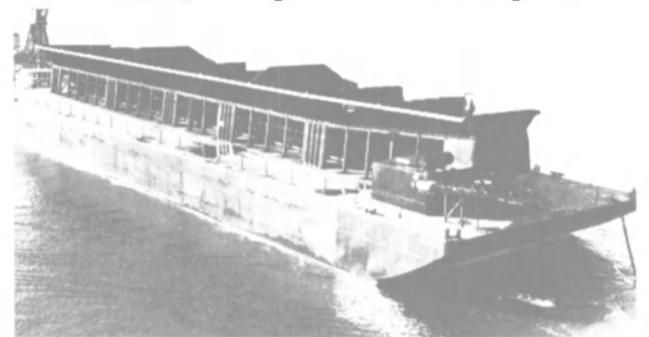
**A.B.S.**  
Classed Maltese Cross A-1  
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**U.S.C.G.**  
Oceans  
Certificate of Registry  
Gross Tons — 8914  
Panama Canal Tonnage  
Certificate

Length	400' 0"
Beam	99' 6"
Depth	25' 0"
Deadrise	27"
Draft Light	3' 11"
Draft Loaded	19' 4"
Transverse Bulkheads	5 O.T.
Length Bulkheads	3 O.T.
No. Tanks	20
Rolled Bilge	48" R.
Mich. Bow	60' length
Sq. Raked Stern	80' length

<b>DECK CARGO</b>	
Open Deck Area	37,886 S.F.
Deck Load	1,500 P.S.F.
D.W.T.	15,800 L.T.
<b>AS OIL BARGE</b>	
Oil Cargo	148,500 BBL's
	21,000 L.T.
Cargo Piping	14" Mains
	10" Suctions

## Self Unloading Aggregate Barge



### ZAG-501

Length (O.A.)	248' - 0"
Beam	63' - 0"
Depth	16' - 0"
Displacement Light	1010 S.T.
Draft Light (F.W.)	2' - 7 1/2"
Draft Loaded (F.W.)	11' - 8"
DWT	4000 S.T.
Diesel Electric Set	100 KV
Hopper Volume	2667 cu. yd

**Hopper Unloading Gates:** 27-36" x 36" Horiz. sliding gates w/individual hydr. controls.

**Main Unloading Conveyor:** 48" wide belt, 30 H.P. elect. motor, 250 ft./min. Max. disch. rate - 667 cu. yd./hr.

**Transfer Conveyor:** 42" wide belt, 10 H.P. elect. motor, 350 ft./min. off loading location - Stbd. side fwd. at 9 ft. above deck.

**Hull Plating:** Deck, side shell & bott. 9/16"

## Split Type Self Dumping Scows

Built 1979. For sale, long or short term charters

### SPECIFICATIONS

ABS loadlined for USCG-approved offport dumping

Length (ML'D)	180' - 0"
Beam (ML'D)	50' - 0"
Depth of Mid-Body (ML'D)	14' - 0"
Hopper Length (ML'D)	128' - 0"
Level Hopper Volume	1421 cu. yd.
DWT @ d = 10.22 ft.	1615 L.T.
Rake Lengths F. & A	26' - 0"
Twin Skegs	
Stern & Fwd. Rake Decks Stepped up	2' - 0"
Engine GM 671	
Hydraulic Pumps (2) 12 GPM & 75 GPM	
Time To Open (Fully Closed to Fully Open)	6 Min. 5 Sec.
Time To Close	4 Min. 34 Sec.
Hopper Angle Fully Open	53.78
Fuel Tank Capacity	445 Gal.
Hydraulic Cylinders (2 Fwd. & 2 Aft)	18" Diam. 120" Stroke

<b>Plating</b>	
Side	9/16"
Bottom	5/8"
Hopper	5/8"

## Combination Deck Cargo & Tank Barge

Fully-Classed  
Ocean Service



### 230' x 60' x 15' Comb. Deck Cargo & Grade 'D' Tank Barge

Length O.A.	230' - 0"
Beam	60' - 0"
Depth	15' - 6"
Deadrise	6"
Number of Tanks	10
Total Tank Volume @ 95%	24,000 BBL
Cargo Pumps	Two Twin Screw, Deleval IMO GTS-268-066-CBEM
Rating	1500 GPM, 1150 RPM, 100 PSIG Disch. Press., 5000 SSU
Location	Below Deck Pumproom in Fwd. Rake
Diesel Engines	Two Detroit Model 8V-71, 230 HP @ 1800 RPM
Location	Above Deck in Fwd. Deckhouse
Fuel Capacity	1400 Gal.
Fill & Disch. Connections	8" ANSI 150# FLG P/S
Heating Coils	2" Sch. 80 Pipe For Shore Steam
Hull Plating	Deck 1/2", Side Shell 3/8", Bott. 3/8", Shear Strake 1/2"
Deck Cargo Dwt. at Loadline	3900 S.T.

For additional information or to make an appointment to inspect, call or write:  
Tom Sherwood, Andy Canulette, Jr.



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**Blount Marine Delivers  
Star of Chicago  
To Star Line Corporation**



The Star of Chicago, built by Blount Marine and powered by GM 12V-71 engines.

Blount Marine Corporation of Warren, R.I., announced the delivery of the 150-foot by 35-foot Star of Chicago to Star Line Corporation of East Lansing, Mich.

The Star of Chicago is a Bay Queen style dinner boat with a passenger capacity of 600 and seating for 450 in two dining rooms. She is reported to be the largest dinner boat in the world.

Blount originally began the design and construction of the vessel as a make-work program to avoid layoffs. The goal was to produce a design for a multi-use vessel, i.e., dinner boat, excursion boat, or mini-cruise ship. The final design plans engineered by Blount architects made possible a switch at the last minute to complete the vessel for any of these

uses. The Star Line Corporation subsequently purchased the boat for dinner cruises.

The Star of Chicago is outfitted with full air-conditioning and a cabaret style decorated interior. This vessel is equipped with two automated bars, four complete buffet lines, and a deluxe galley equivalent to a large restaurant. Carpet is laid on interior decks and on all exposed outer decks. The vessel is powered by twin GM 12V-71's. Ship's power is furnished by two 125-kw generators.

An important feature of the vessel is a removable upper superstructure that allows it to negotiate either the Erie Canal from the Great Lakes to the Atlantic or the Illinois waterway from Lake Michigan to the Mississippi.

**American Steamship Names  
Two To Executive Positions**



Ned A. Smith

Jerome K. Welsch

**Ned A. Smith** has been named vice president-marketing and **Jerome K. Welsch** has been named controller and chief financial officer for American Steamship Company (ASC), Buffalo, N.Y., a subsidiary of GATX Corporation, Chicago, Ill. The announcements came from **D. W. Fuller**, ASC's president and chief executive officer.

As vice president-marketing, Mr. Smith is responsible for ASC's marketing, sales, management information systems, pricing, insurance and labor negotiations activities. Mr. Welsch's responsibilities will encompass finance, accounting, planning and office administration. Both report directly to the president.

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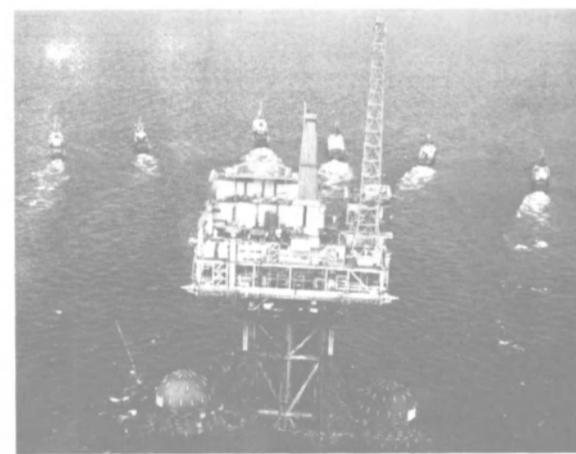
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# BUYERS DIRECTORY

This directory section is an editorial feature published in every issue for the convenience of the readers of MARITIME REPORTER Engineering News. A quick-reference readers' guide, it includes the names and addresses of the world's leading manufacturers and suppliers of all types of marine machinery, equipment, supplies and services. A listing is provided, at no cost for one year in all 24 issues, only to companies with continuing advertising programs in this publication, whether an advertisement appears in every issue or not. Because it is an editorial service, unpaid and not part of the advertisers contract, MR:EN assumes no responsibility for errors. If you are interested in having your company listed in this Buyers Directory Section, contact John C. O'Malley at (212) 689-3266.

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Flexoust Company, 11 Chestnut St., Amesbury, MA 01913  
Squire Cagwell Company, 3411 Commercial Ave., Northbrook, IL 60062

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Bailey Refrigeration Co., Inc., 74 Sullivan St., Brooklyn, N.Y. 11231  
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Mechanical Resources, Inc., 191 Cambridge Ave., Jersey City, NJ 07307  
Nance Industries, P.O. Box 1547, Beaumont, TX 77704-1547  
Unitemp Inc., 3590 Kennedy Rd., So. Plainfield, NJ 07080  
York Division, Borg-Warner Corp., P.O. Box 1592, York, PA 17405

## ANCHORS AND CHAIN

Baldt Incorporated, P.O. Box 350, Chester, PA 19016  
Neplunia, Via Giovanni da Verrazzano, 12, 16165 Genova, Italy  
William Pot B.V., Industriële Handelnij., Groothandelsgebouw, 45 Stationsplein, Rotterdam, 3004, Holland

## ANODES—Cathodic Protection

American United Marine Corp., 5 Broadway, Rte. 1, Saugus, MA 01906  
Engelhard Industries Division, 2655 U.S. Route 22, Union, NJ 07083  
Kaiser Chemical, Div., of Kaiser Aluminum & Chemical Corp., 300 Lakeside Dr., Rm. 1128 KB, Oakland, CA 94643

## BASKET STRAINERS

North Star Marine & Industrial Products, Inc., 84 Wall Street, Farmingdale, NY 11735

Riley-Beard, P.O. Box 31115, Shreveport, LA 71130

## BEARINGS—Rubber, Metallic, Non-Metallic

Johnson Rubber Co., Duramax Marine Div., 16025 Johnson St., Middlefield, OH 44062  
Lucian Q. Moffitt, Inc., P.O. Box 1415, Akron, Ohio 44309  
Thomson-Gordon Limited, 3225 Mainway, Burlington, Ontario, Canada L7M 1A6

Waukesha Bearings Corp., P.O. Box 798, Waukesha, Wisc. 53186

## BLASTING—Cleaning—Equipment

Apache Equipment, Inc., 10690 Shadow Wood Dr., Suite 112, Houston, TX 77043

Butterworth Inc. (USA), 3721 Lapos Dr., P.O. Box 18312, Houston, TX 77223-9989

Butterworth Systems (UK), 123 Beddington Lane, Croydon CR9 4NX, England

CLEMCO, P.O. Box 7680, San Francisco, CA 94120

Complete Abrasive Blasting Systems, 18250 68th Avenue South, Kent, WA 98031

E.I. DuPont de Nemours & Co., Inc., Starblast Division, Room X39186, Wilmington, DE 19898

Rockwell International, Power Tool Division, 400 N. Lexington Ave., Pittsburgh, PA 15208

Schmidt Mfg. Inc., P.O. Box 37, Fresno, TX 77545

## BOILERS

Combustion Engineering, Inc., Windsor, Connecticut 06095

Foster Wheeler Boiler Corp., 110 S. Orange Ave., Livingston, NJ 07039

Howe-Baker Engineers, Inc. (Econoflex Burners), Combustion Systems Div., P.O. Box 956, Tyler, TX 75710

## BROKERS

Capt. Astad Company, Inc., P.O. Box 53434, New Orleans, La. 70153

Hughes Bros., Inc., 17 Battery Pl., New York, N.Y. 10004

BRONZES—COMMEMORATIVE  
Duramax Metals, Inc., 2401 Wesley Street, Portsmouth, VA 23707

## BUNKERING SERVICE

Belcher Company, Inc., 8700 West Flagler, P.O. Box 525500, Miami, FL 33152

Gulf Oil Trading Co., 1290 Ave. of the Americas, N.Y., N.Y. 10019

National Marine Service Inc. (Transport Div.), 1750 Brentwood Blvd., St. Louis, MO 63144

## CARGO HANDLING EQUIPMENT

Dynamic Air, Inc., P.O. Box 43074, St. Paul, MN 55164

MacGregor-Navire International, Box 8991, S-402 74 Göteborg, Sweden

MacGregor Navire U.S.A. Inc., 135 Dermody St., Cranford, NJ 07016

## CHOCKING SYSTEMS

Palmer Products Inc., P.O. Box 8, Worcester, PA 19490

Philadelphia Resins Corp., 20 Commerce Drive, Montgomeryville, Pa 18936

## CLAMPS

Band-It Company, P.O. Box 16307, Denver, CO 80216

## CLOSURES—Marine

Cornell-Carr Co. Inc., 63 Main St., Monroe, CT 06468

## CONDENSERS

G & W Acme Division, Gulf & Western Manufacturing Company, Jackson, MI 49202

## CONTAINERS—Cargo Container Handling

Paceco Inc. (A division of Fruehoft), West Seaway Access Road, Gulfport, MS 39501

## CONTROL SYSTEMS—Monitoring

American United Marine Corp., 5 Broadway, Rte. 1, Saugus, MA 01906

ARMTEC Industries, Inc., Manchester, NH 03103

Aris Electric Company, 327 Fourth St., Brooklyn, NY 11215

Autronico Marine USA, 280 Industrial Pkwy., Northvale, NJ 07647

Avicon Corp., 7750 East Redfield Rd., Scottsdale, AZ 85260

Electric Tachometer Corp., 68th & Upland Street, Philadelphia, PA 19142

Ergon, Inc., P.O. Drawer 1639, Jackson, MS 39205

Fluidyne, a Div. of Electrodata Inc., P.O. Box 11366, Santa Rosa, CA 95406

Henschel Corporation, 14 Cedar St., Amesbury, Mass. 01913

Megasystems, Inc., 1075 N.W. 58th Street, Boca Raton, FL 33431

National Control Systems, Inc., 827 Hanley Industrial Court, St. Louis, MO 63144

Norcontrol, 135 Fort Lee Rd., Leonia, NJ 07605

Norske Telektron A/S, Drammensveien 126, Oslo 2, Norway

Row Computer Automations, Inc., 1085 Rockaway Ave., Valley Stream, NY 11580

Tracor Marcon, Inc., 13433 N.E. 20th St., Bellevue, WA 98005

Transamerica Delaval, Inc., Gems Sensors Division, Cowles Road, Plainville, CT 06062

## COUPLINGS

SKF Steel, 20 Tower Lane, P.O. Box 745, Avon, CT 06001

## CRANES—HOISTS—DERRICKS—WHIRLIES

American Hoist & Derrick Company (AMHoist), St. Paul, MN 55107

Appleton Marine, P.O. Box 2339, Appleton, WI 54913

ASEA Stal-Laval Inc., 525 Executive Blvd., Elmsford, NY 10523

Blohm & Voss Company, 55 Morris Avenue, Springfield, NJ 07081

Chester Hoist Division, Monogram Industries, P.O. Box 229, Lisbon, OH 44432

Grove Manufacturing Co., P.O. Box 21, Shady Grove, PA 17256

HIAB Cranes & Loaders Inc., R.D. 22 Interchange Place, York, PA 17404

Hertz Equipment Rental Corp., 7 Entin Rd., Bldg # 2, Parsippany, NJ 07054

Marathon LeTourneau Offshore Co., 1700 Marathon Bldg., 600 Jefferson, Houston, TX 77002

Marine Travelift, Inc., 49 E. Yew St., Sturgeon Bay, WI 54235

Matson Terminals, Inc., P.O. Box 3933, San Francisco, CA 94119

National Crane Corp., 11200 North 148 St., Waverly, NE 68462

National Supply Company, 1455 West Loop South, Houston, TX 77027

Phillippi Equipment Company, 875 Colorado Ave. So., Golden Valley, MN 55416

Superior-Lidgerwood-Mundy Corp., 1101 John Ave., Superior, WI 54880

Washington Crane, Div. of Ederer, Inc., P.O. Box 24708, Seattle, WA 98124

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Marine Technical Associates, 195 Patterson Avenue, Little Falls, NJ 07424

Markey Machinery Co., Inc., 79 S. Horton St., Seattle, Wash. 98134

## DIESEL ACCESSORIES—CYLINDER LINERS

B & W Marine Service, 50 Broadway, New York, NY 10004

General Thermodynamics Corporation, 210 South Meadow Road, P.O. Box 1105, Plymouth, Massachusetts 02360

Haynes Corporation, P.O. Box 179, Jackson, MI 49204

Van der Horst Corp. of America, 314 Penn Ave., Olean, NY 14760

## ELECTRICAL EQUIPMENT

Argo Marine, 140 Franklin St., New York, NY 10013

Marine Electric RPD, Inc., 666 Pacific St., Brooklyn, NY 11217

NewMar, P.O. Box 1306, Newport Beach, CA 92663

Valad Electric Heating Corporation, 162 Wilsey St., Torrytown, NY 10591

Ward Leonard Electric Co., 31 South St., Mt. Vernon, NY 10550

Zidell Explorations, Inc., 3121 S.W. Moody St., Portland, Ore. 97201

## EMULSIFICATION SYSTEMS

Cleanodan A/S, N. American Agents, American United Marine Corp., 5 Broadway, Rte. 1, Saugus, MA 01906

Fire-Brite, Hoffer Manufacturing Company, Inc., 1700 East Church Street, Jacksonville, FL 32201

## EQUIPMENT—Marine

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Argo Marine, 140 Franklin St., New York, NY 10013

Band-It Division, Houdaille Industries, Inc., P.O. Box 16307, Denver, CO 80216

Dann Corporation, 1000 Crocker Road, Westlake, OH 44145

b.v. Halmatra Industrial Equipment, P.O. Box 33, 4940 aa Raamsdonsveer, Holland

Juniper Industries Inc., 72-15 Metropolitan Ave., Middle Village, NY 11379

Kearfoot Marine Products, 550 South Fulton Ave., Mount Vernon, N.Y. 10550

Maritime Power Corp., 200 Henderson Street, Jersey City, NJ 07302

John P. Nissen, Jr. Company, Glenside, PA 19038

Softech, 460 Tatten Pond Road, Waltham, MA 02154

Sjal Laval Inc., 525 Executive Blvd., Elmsford, NY 10523

Sirachon—Mackoe Corporation, P.O. Box M850, Hoboken, NJ 07030

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Riley-Beard, P.O. Box 31115, Shreveport, LA 71130

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Hartzell Fan, Division of Castle Hills Corp., 901 S. Downing St., P.O. Box 919, Piqua, OH 45356

Joy Manufacturing Co., 338 So. Broadway, New Philadelphia, Ohio 44663

Marlo Coil/Nuclear Cooling, Inc., P.O. Box 171, High Ridge, MO 63049

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Yegen Marine, P.O. Box 25504, Ft. Lauderdale, FL 33320

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Hayward Marine Products, 900 Fairmount Avenue, Elizabeth, NJ 07207

Marine Moisture Control Co., 449 Sheridan Blvd., Inwood, N.Y. 11696

MacGregor-Navire International, Box 8991, S-402 74 Göteborg, Sweden

MacGregor Navire U.S.A. Inc., 135 Dermody St., Cranford, NJ 07016

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Butterworth Inc. (USA), 3721 Lapos Dr., P.O. Box 18312, Houston, TX 77223-9989

Butterworth Systems (UK), 123 Beddington Lane, Croydon CR9 4NX, England

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Aeroquip Corp., 1130 Maynard Road, Jackson, MI 49202

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Hydraulics, 6338 Lindmar Drive, Goleta, CA 93017

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Camar Corporation, P.O. Box 460, Worcester, MA 01613

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Maritime Protection A/S, N. American Agents, American United Marine Corp., 5 Broadway, Rte. 1, Saugus, MA 01906

Salwico Inc., 5 Marine View Plaza, Hoboken, NJ 07030

## INSULATION—Cloth, Fiberglass

Bailey Carpenter & Insulation Co., Inc., 74 Sullivan St., Brooklyn, N.Y. 11231

Superior Energies, Inc., P.O. Drawer 386, Groves, TX 77619

## INSURANCE

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Walz & Krenzer, Inc., 400 Tralob Road, Rochester, NY 14624

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Browning Marine Inc., (Aqua Signal) 33W 480 Fabyan Parkway, Ste 105, West Chicago, IL 60185

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Midland-Ross Corp., Russellstoll Division, 530 W. Mt. Pleasant Ave., Livingston, NJ 07039

Oceanic Electrical Mfg. Co., 157 Perry St., New York, NY 10014

Oreck Corp., 100 Plantation Rd., New Orleans, LA 70123

Perko Inc., P.O. Box 6400D, Miami, Florida 33164

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Port Electric Supply Corp., 157 Perry St., New York, NY 10014

SSAC Inc., P.O. Box 395, Liverpool, NY 13088

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Marine Consultants & Designers, Inc., 308 Investment Insurance Bldg., Corner E. 6th St. & Rockwell Ave., Cleveland, Ohio 44114  
Marine Design Inc., 401 Broad Hollow Road, Rte. 110, Melville, N.Y. 11746  
Marine Technical Associates, Inc., 95 River Rd., Hoboken, NJ 07030  
George E. Meese, 194 Acton Rd., Annapolis, Md. 21403  
Metrolape Inc., P.O. Box 2366, Littleton, MA 01460  
R. Carter Morrell, 715 S. Cherokee, Bartlesville, OK 74003  
NKF Engineering Assoc., Inc., 8150 Leesburg Pike, Vienna, VA 22202  
Nelson & Associates, Inc., 1405 N.W. 167th Street, Miami, FL 33169  
James O. Nelson, 225 Argyle Rd., West Palm Beach, FL 33405  
Nickum & Spaulding Associates, Inc., 2701 First Ave., Seattle, WA 98121  
Ocean-Oil International Engineering Corporation, 3019 Mercedes Blvd., New Orleans, La. 70114  
Offshore Power Systems, 8000 Arlington Expressway, Jacksonville, FL 32211  
PRC Guralnick, 5252 Balboa Ave., San Diego, CA 92117  
Pearlson Engineering Co., Inc., 8970 S.W. 87th Ct., Miami, Florida 33156  
S.L. Petchul, Inc., 1380 S.W. 57th Avenue, Fort Lauderdale, FL 33317  
M. Rosenblatt & Son, Inc., 350 Broadway, New York, NY 10013 and 667 Mission St., San Francisco, CA 94105  
Rothfuss Engineering Corp., P.O. Box 97, Columbia, MD 21045  
Schmah and Schmah, Inc., 1209 S.E. Third Ave., Fort Lauderdale, Florida 33316  
SEACOR Systems Engineering Associates Corp., 19 Perina Blvd., Cherry Hill, NJ 08003 (Publications Division at Cherry Hill location)  
Seaworthy Engine Systems, 36 Main Street, Essex, CT 06426  
Seaworthy Engine Systems, 17 Battery Place, New York, NY 10004  
George G. Sharp, Inc., 100 Church St., New York, N.Y. 10007  
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Yacht Design Institute, 9 Main St., Blue Hill, ME 04614

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American Hydromath Co., Buckwheat Bridge Rd., Germantown, N.Y. 12526  
Anschutz & Co. GmbH, Postfach 6040, D-2300 Kiel 14, West Germany  
Atkinson Dynamics, Section 6, 10 West Orange Ave., South San Francisco, CA 94080  
Cybernet International, Inc., 7 Powder Horn Dr., Warren, NJ 07060  
DEBEG Marine, Inc., 10 Manor Parkway, Salem, NH 03079  
Electric Tachometer Corp., 68th & Upland Street, Philadelphia, PA 19142  
A/S Elektrisk Bureau, P.O. Box 98, N-1360 Nesbru, Norway  
Electro-Nav Inc., 840 Bond Street, Elizabeth, NJ 07201  
EPSCO Marine, 550 Wholesalers Parkway, Harahan, LA 70123  
Fleet Marine, 1820 N.E. 146th Street, North Miami, FL 33181  
Furuno U.S.A., 271 Harbor Way, S. San Francisco, CA 94080  
Griffith Marine Navigation, Inc., 134 North Avenue, New Rochelle, NY 10801  
Harris Communications (RF Communications), 1680 University Avenue, Rochester, NY 14610  
Henschel Corp., 14 Cedar St., Amesbury, Mass. 01913  
Hose McCann Telephone Company, Inc., 9 Smith Street, Englewood, NJ 07631  
ITT Mackay Marine, 2912 Wake Forest Road, Raleigh, N.C. 27611  
Japan Radio Co., Ltd., Akasaka Twin Tower (Main), 17-22 Akasaka 2-chome, Minato-ku, Tokyo 107, Japan  
King Radio Corporation, 400 North Rodgers Rd., Olathe, KS 66062  
Kongsberg North America Inc., 135 Fort Lee Road, Leonia, NJ 07605  
Kongsberg Vapenfabrikk, Norcontrol Division, P.O. Box 145, Horten 3191, Norway  
Krupp Atlas-Elektronik, 1453 Pinewood St., Rahway, NJ 07065  
Lorain Electronics Corp., 2307 Leovitt Rd., Lorain, OH 44052  
Magnavox Navigation Systems, 2829 Maricopa Street, Torrance, CA 90503  
Nav-Com, Inc., 9 Brandywine Drive, Deer Park, NY 11729  
Navidyne Corp., 11824 Fishing Point Drive, Newport News, VA 23606  
Racal-Decca Marine, Inc., 4200 23rd Avenue West, Seattle, WA 98199  
Radar Devices, Inc., 2955 Merced Street, San Leandro, CA 94577  
Radio-Holland USA, Inc., One Allen Center, Suite 1000, Houston, TX 77002  
Raytheon Marine Co., 676 Island Pond Road, Manchester, N.H. 03103  
Raytheon Ocean Systems Company, Westminster Park, Risho Avenue, East Providence, RI 02914  
Raytheon Service Co., 103 Roesler Rd., Glen Burnie, MD 21061  
Rivertronics, P.O. Box 247, Godfrey, IL 62035  
Robertson Auto Pilot, 135 Fort Lee Road, Leonia, NJ 07605  
Selesmar S.p.A., Casella Postale 9, 50020 Montagnana Val Di Pesa, Firenze, Italy  
Servo Corporation of America, 111 New South Road, Hicksville, NY 11802  
Simrad, Inc., 2215 NW Market St., Seattle, WA 98107  
Sperry Corporation, Great Neck, NY 11020  
Standard Communications, P.O. Box 92151, Los Angeles, CA 90009  
Texas Instruments, Inc., P.O. Box 405, 3438, Lewisville, TX 75067

**OILS—Marine—Additives**  
Gulf Oil Company—U.S. (Domestic Oils), 909 Fannin Street, Houston, TX 77001  
Gulf Oil, New York District Sales Office (Domestic), 433 Hockensack Avenue, Hackensack, NJ 07601  
Gulf Oil Trading Co., 1290 Ave. of Americas, New York, N.Y. 10019  
Mobil Oil Corp., 150 East 42 Street, New York, NY 10017  
Shell Oil Co., 1 Shell Plaza, Houston, Texas 77002  
Texaco, Inc. (International Marine), 135 East 42nd St., N.Y., N.Y. 10017

**OIL/WATER SEPARATORS**  
Biospherics Incorporated, 5001 Forbes Blvd., Lanham, MD 20801  
Butterworth Inc. (USA), 3721 Lapos Dr., P.O. Box 18312, Houston, TX 77223-9989  
Butterworth Systems (UK), 123 Beddington Lane, Croydon CR9 4NX, England  
Cantrico, Inc. (Westfalia Separators), 100 Fairway Court, Northvale, NJ 07647  
Dahl Manufacturing, Inc., 2521 Railroad Ave., Ceres, CA 95307  
From Industrial, P.O. Box 33210, Tulsa, OK 74135  
Notional Fluid Separators, Inc., 1239 Hanley Industrial Court, St. Louis, MO 63144  
Phoenix Oil Refiner Co., Inc., 330 Hill Ave., Nashville, TN 37210

**PAINTS—COATINGS—CORROSION CONTROL**  
American Abrasive Metals, 460 Coit Street, Irvington, NJ 07111  
Ameron, 4700 Ramona Blvd., Monterey Park, CA 91754  
Boreco, 6910 East 14th St., Tulsa, OK 74112  
Bywater Coatings, 1610 Engineers Road, Belle Chasse, LA 70037  
CLEMCO, P.O. Box 7680, San Francisco, CA 94120  
"CONSOL" manufactured by Contact Paint & Chemical Co. Inc., 200 S. Franklinton Rd., Baltimore, MD 21223  
Devoe Marine Coatings Co., P.O. Box 7600, Louisville, KY 40207  
E.I. DuPont de Nemours & Co., Inc., Nemours Bldg. Rm. N-2504-2, Wilmington, DE 19898  
Esgard, Box 2698, Lafayette, LA 70502  
Eureka Chemical Company, 234 Lawrence Avenue, So. San Francisco, CA 94080  
Forboil, 8200 Fischer Road, Baltimore, MD 21222  
Grip Group, Inc., 200 Park Ave., New York, NY 10017  
Hempel Marine Paints, Inc., 65 Broadway, New York, NY 10006; P.O. Box 41, So. Houston, TX 77587; P.O. Box 10265, New Orleans, LA 70181  
International Paint Company, Inc., 2270 Morris Avenue, Union, NJ 07083  
Jotun-Baltimore Copper Paint Co., 840 Key Highway, Baltimore, MD 21230  
Magnus Maritac International Inc., 150 Roosevelt Pl., P.O. Box 150, Palisades Park, NJ 07650  
Mobil Chemical Co., Maintenance & Marine Coatings Dept., P.O. Box 250, Edison, N.J. 08817  
Palmer Products Inc., P.O. Box 8, Worcester, PA 19490

Products Research & Chemical Corp., 5454 San Fernando Rd., Glendale, CA 91203  
Salwico Glassflake, Inc., 5 Marine View Plaza, Hoboken, NJ 07030  
Seaguard, 4030 Seaguard Ave., Portsmouth, VA 23705  
Selby, Battersby & Company, 5220 Whiby Avenue, Philadelphia, PA 19143  
Sermetel, Inc., 4401 Sermetel Dr., Moss Point, MS 39563  
Teledyne Metal Finishers, 1725 East 27th St., Cleveland, OH 44114

**PETROLEUM SUPPLIES**  
Shell Oil Co., 1 Shell Plaza, Houston, Texas 77002

**PIER REPAIRS**  
Acquatic Marine Systems, Inc., P.O. Box 326, Williamsville, NY 14221

**PIPE-HOSE—Cargo Transfer, Clamps, Couplings, Coatings**  
Camlock Flange Sales Corp., 449 Sheridan Blvd., Inwood, L.I., N.Y. 11696  
Hydro-Craft, Inc., 1821 Rochester Industrial Dr., Rochester, MI 48063  
Knights' Piping Inc., 5309 Industrial Road, Pascagoula, MS 39567  
Kubota Ltd., 2-47, Shikit Suhigashi 1-Chome, Naniwa-Ku, Osaka 556-91, Japan  
Metropolitan Plumbing Supply Corp., 5000 Second St., Long Island City, NY 11101  
Penco Division/Hudson Engineering Co., P.O. Box 68, Bayonne, NJ 07002  
Selkirk Metalbestos, Box 19000, Greensboro, NC 27419  
Stouff Corporation, 21-31 Industrial Park, Waldwick, NJ 07463

**PLAQUES—BRONZE—ALUMINUM**  
Duramax Metals, Inc., 2401 Wesley Street, Portsmouth, VA 23707

**PLASTICS—Marine Applications**  
Hubeva Marine Plastics, Inc., 390 Hamilton Ave., Bklyn, N.Y. 11231

**PROPULSION EQUIPMENT—Bowthrusters, Diesel Engines, Gears, Propellers, Shafts, Turbines**  
American Lohmann Corp., 1415 Chestnut Ave., Hillside, NJ 07205  
Armco Steel/Advanced Materials Div., 703 Curtis St., Middletown, OH 45043  
Avondale Shipyards, Inc., P.O. Box 52080, New Orleans, La. 70150  
Bird Johnson Company, 110 Norfolk St., Walpole, Mass. 02081  
Burmeister & Wain Alpha Diesel AS, DK-1400 Copenhagen K, Denmark  
Caterpillar Engine Division, 100 N.E. Adams, Peoria, IL 61629  
Colt Industries Inc. (Fairbanks Morse Engine Div.), 701 Lawton Avenue, Beloit, WI 53511  
Columbian Bronze Corporation, 216 No. Main Street, Freeport, NY 11520  
Combustion Engineering, Inc., Windsor, Connecticut 06095  
Deutz Corp., 7585 Ponce de Leon Circle, Atlanta, GA 30340  
Diesel Marine International, Ltd., c/o NORSHIPCO, P.O. Box 2100, Norfolk, VA 23501  
Elliott Company, 1809 Sheridan Ave., Springfield, OH 45505  
Escher Wyss GmbH, (Member Sulzer Group), Ravensburg, Germany  
General Electric Co., Diesel Power Products, 2901 E. Lake Rd., Erie, PA 16531  
General Motors, Electro-Motive Division, LaGrange, IL 60525  
George Engine Company, Inc., Lafayette, LA  
Goltan Marine Co., Inc., 160 Van Brunt St., Brooklyn, NY 11231  
Harbormaster, 36 Hancock St., Quincy, MA 02171  
Krupp Mak Diesels, Inc., 4329-33 Di Paolo Center, Glenview, IL 60025  
M.A.N.-B&W Diesel, 2, Ostervej, DK-4960 Høleby, Denmark  
MTU of North America, One E. Putnam Ave., Greenwich, CT 06830; 10450 Corporate Dr., Sugarland, TX 77478; 2945 Railroad Avenue, Morgan City, LA 70203; 180 Nickerson St., Seattle, WA 98109; 1730 Lynn St., Arlington, VA 22209  
MWM-Murphy Diesel, 12 Greenway Plaza, Suite 1100, Houston, TX 77046  
Mapeco Products, Inc., 20 Vesey St., New York, NY 10007  
Maritime Industries, Ltd., 6307 Laurel St., Burnaby, B.C. Canada V5B 3B3  
Michigan Wheel, 1501 Buchanan Ave., S.W., Grand Rapids, MI 49507  
National Marine Service Louisiana, Inc., 222 Bayou Rd., Belle Chasse, LA 70037  
Omnithruster Inc., 9515 Sorensen Ave., Santa Fe Springs, CA 90670  
Penske GM Power, Inc., 600 Parsippany Road, Parsippany, NJ 07054  
SACM (Societe Alsacienne De Constructions Mechaniques De Mulhouse) 1, Rue De La Fonderie, Boite Postale 1210, 68054 Mulhouse Cedex, France  
Karl Senner, Inc., P.O. Box 10055, New Orleans, LA 70181  
Skinner Engine Company, P.O. Box 1149, Erie, PA 16512  
Sulzer Brothers, Dept. Diesel Engines, CH-8401 Winterthur, Switzerland  
Transamerica Delaval Inc., Engine & Compressor Div., 550 85th Ave., Oakland, CA 94621  
Transamerica Delaval, Inc., Turbine & Compressor Div., P.O. Box 8788, Trenton, N.J. 08650  
Turbine Specialties, Inc., P.O. Box 207, West State Street Road, Salina, KS 67401  
Turbine Specialties/Gulf Coast, Inc., 1900 Industrial Blvd., Harvey, LA 70058  
Voith Schneider America, 159 Great Neck Rd., Ste 200, Great Neck, NY 11021  
WABCO Fluid Power, an American-Standard Company, 1953 Mercer Rd., Lexington, KY 40505  
Wartsila Power Inc., 5132 Taravella Rd., P.O. Box 868, Morrero, LA 70072  
Waukesha Engine Division, Waukesha, WI 53187  
Welco Industries, Inc., 9027 Shell Rd., Cincinnati, OH 45236  
ZF of North America, Inc., 3225 Commercial Avenue, Northbrook, IL 60062  
ZF of North America, Inc. (Motive Power Corporation, P.O. Box 365, Mineola, NY 11501)

**PUMPS—Repairs—Drives**  
FMC Corporation, Pump Division, 326 S. Dean Street, Englewood, NJ 07631  
Industrial Products & Engineering Co., Inc., 1 Sawyer Dr., Coventry, RI 02816  
Jim's Pump Repair, 48-55 36th St., Long Island City, NY 11101  
Megator Corporation, 562 Alpha Drive, Pittsburgh, PA 15238  
Naniwa Pump, c/o Maritime Equipment Inc., P.O. Box 537, Flemington, NJ 08822  
Penco Division/Hudson Engineering Co., P.O. Box 68, Bayonne, NJ 07002  
Sims Pump Valve Co., Inc., 1314 Park Ave., Hoboken, NJ 07030  
Transamerica Delaval, IMO Pump Division, P.O. Box 447, Monroe, NC 28110  
Vita Motivator Company, 200 West 20th St., New York, NY 10011  
Warren Pumps Division, Bridges Avenue, Warren, MA 01083  
Wilden Pump & Engineering Co., 22060 Van Buren St., P.O. Box 845, Colton, CA 92324

**REFRIGERATION—Refrigerant Valves**  
Bailey Refrigeration Co., Inc., 74 Sullivan St., Brooklyn, N.Y. 11231  
Port Refrigeration Div., 157 Perry St., New York, NY 10014

**ROLLING SYSTEMS**  
Hilman, Inc., 2604 Atlantic Ave., Wall (Belmar), NJ 07719

**ROPE—Manila—Nylon—Hawsers—Fibers**  
American Mfg. Co., Inc., Willow Avenue, Honesdale, Pa. 18431  
Atlantic Cordage Corp., 60 Grant Avenue, Carteret, NJ 07008  
DuPont Co., KEVLAR Aramid Fiber, Room G-15465, Wilmington, DE 19898  
Samson Ocean Systems, Inc., 99 High Street, Boston, Mass. 02110  
Tubbs Cordage Company, P.O. Box 709, Orange, CA 92666  
Wall Industries, Inc., P.O. Box 560, Elkin, NC 28621

**RUDDER ANGLE INDICATORS—STEERING**  
Electric Tachometer Corp., 68th & Upland St., Philadelphia, Pa. 19142  
Henschel Corp., 14 Cedar St., Amesbury, Mass. 01913  
Hy-Drive America Corp., 3629 Vernon Blvd., Long Island City, NY 11106  
Marine Drive Systems, 519 Raritan Center, Edison, NJ 08817  
Robertson, 135 Fort Lee Rd., Leonia, NJ 07605  
Schottel of America, Inc., 8375 N.W. 56 St., Miami, FL 33166

**SAFETY EQUIPMENT**  
Datrex, 3795 N.W. 25th Street, Miami, FL 33142  
Elkhart Brass Manufacturing Co., Inc., P.O. Box 1127, Elkhart, IN 46515  
Wormold Fire Systems, One Stanton St., Marinette, WI 54143

**SANITATION DEVICES—Pollution Control**  
Effluent Technology Corporation, P.O. Box 2094, Tocomo, WA 98401  
Envirovac Inc., 1260 Turret Dr., Rockford, IL 61111  
Marine Moisture Control Co., Inc., 449 Sheridan Blvd., Inwood, L.I., N.Y. 11696  
Marland Environmental Systems, Inc., N. Main Street, Walworth, WI 53184  
National Sanitation Foundation, P.O. Box 1468, Ann Arbor, MI 48105

**SCAFFOLDING EQUIPMENT—Work Platforms**  
McCausey Lumber Co., 7751 Lyndon, Detroit, MI 48238

Patent Scaffolding Co., One Bridge Plaza, Fort Lee, NJ 07024  
Swiss Fabricating Inc., Camp Home Rd., Emsworth, Pittsburgh, PA 15237  
Trus-Joist Corp., P.O. Box 60 Boise, ID 83704  
Waco Ladder & Scaffolding Co., Inc., 4315 41 St., P.O. Box 126, Brentwood, MD 20722

**SHAFT SEALS, REVOLUTION INDICATOR EQUIPMENT**  
Bird-Johnson Co., 100 Norfolk St., Walpole, MA 02081  
Crane Packing Company, 435 Regina Dr., Clarksburg, MD 20734  
EG&G Sealol, Engineered Products Div., Marine Products Group, Warwick, RI 02888  
Electric Tachometer Corp., 68th & Upland St., Philadelphia, Pa. 19142  
Henschel Corp., 14 Cedar St., Amesbury, Mass. 01913  
Penco Division/Hudson Engineering Co., P.O. Box 68, Bayonne, NJ 07002

**SHIPBREAKING—Salvage**  
The Boston Metals Co., 313 E. Baltimore St., Baltimore, Md. 21202  
Fred Devine Diving & Salvage, Inc., 6211 N. Ensign, Swan Island, Portland, OR 97217  
Zidell Explorations, Inc., 3121 S.W. Moody St., Portland, Ore. 97201

**SHIPBUILDING STEEL**  
Armco Steel Corp., 703 Curtis St., Middletown, Ohio 45042  
Bethlehem Steel Corp., One State Street Plaza, N.Y. 10004  
Welded Beam Company, P.O. Box 280, Perry OH 44081

**SHIPBUILDING—Repairs, Maintenance, Drydocking**  
Alabama Maritime Corp., P.O. Box 3026, Mobile, AL 36652  
Asmar Shipyards Co., Astilleros y Maestranz de la Armada, Prat 856, Piso 14, Casilla 150-V, Valparaiso, Chile, S.A.  
Astilleros Balboa, S.A., c/o Jackson Marine Corp., 17 Battery Place, New York, NY 10004  
Ateliers et Chantiers de Bretagne—ACB, 44040 Nantes Cedex, France  
Atlantic Dry Dock, P.O. Box 276, Ft. George Island, Jacksonville, FL 32226  
Atlantic Marine Inc., P.O. Box 138, Ft. George Island, Jacksonville, FL 32226  
Avondale Shipyards, Inc., P.O. Box 52080, New Orleans, La. 70150  
Both Iron Works Corp., 700 Washington St., Bath, ME 04530  
Bay Shipbuilding Corp., 605 North 3rd Ave., Sturgeon Bay, WI 54235  
BFC Marine Services, Inc., 25 Fifth St., Brooklyn, NY 11231  
Bender Shipbuilding & Repair Co., Inc., P.O. Box 42, Mobile, AL 36601  
Bethlehem Steel Corp., Bethlehem, PA 18016  
Blohm & Voss Company, 55 Morris Avenue, Springfield, NJ 07081  
Burmeister & Wain Skibsvaerft A/S, P.O. Box 2122, Refshaleoen-1015 Copenhagen K-Denmark  
Burrard Yarrow Corporation, P.O. Box 86099, North Vancouver, B.C., Canada  
Burton Shipyard, Inc., P.O. Box 3636, Port Arthur, TX 77640  
Caneco Shipyard, Rua Carlos Seidl, 714, Caju, 20.931, Rio de Janeiro, RJ, Brazil  
Cantiere Navali Riuniti, Via Cipro, 11, 16100 Genova, Italy  
Carrington Slipways Pty, Ltd., Old Punt Road, Tomago, N.S.W., Australia 2322  
China Shipbuilding Corp., 3 Chung Kang Rd., Hsia Kang, Kaohsiung, Taiwan, Republic of China  
Conrad Industries, P.O. Box 790, Morgan City, La. 70380  
Coracao Drydock Company Inc., 26 Broadway, Suite 741, New York, NY 10004  
Daewoo International (America) Corp., 437 Madison Ave., New York, NY 10022  
Daewoo Shipbuilding & Heavy Machinery Ltd., Ayangri, Changsung-PO, Koje-Kun, Kyungnam, Korea  
Dorbyl Ltd., Military Road, 1 Industrial Sites, West Bank, 5201 East London, Republic of South Africa  
Dravo Marine Equipment Company, Neville Island, Pittsburgh, PA 15225  
Eastern Marine, Inc., P.O. Box 1009, Panama City, FL 32401  
FMC Corp., Marine & Rail Equipment Div., 4700 N.W. Front Ave., Portland, Oregon 97208  
Far East Livingston Shipbuilding Ltd., 31 Shipyard Rd., Jurong Town, Singapore 2262  
Genstar Marine, 10 Pemberton Ave., No. Vancouver, B.C., Canada V7P 2R1  
Gladding-Hearn Shipbuilding Corp., 1 Riverside Ave., Somerset, MA 02725  
HBC Barge, Inc., Grant Building, Pittsburgh, PA 15219  
Halter Marine, Inc., P.O. Box 29266, New Orleans, LA 70189  
Hong Kong United Dockyards Ltd., P.O. Box 534, Kowloon Central Post Office, Kowloon, Hong Kong  
Hyundai Mipo Dockyard Ltd., 456 Cheonha-Dong, Ulsan, Korea  
I.N.M.A. S.p.A., 19100 La Spezia, v. le S. Bartolomeo 362, Italy  
Jakobson Shipyard Inc., P.O. Box 329, Oyster Bay, NY 11771  
Jeffboat, Inc., Jeffersonville, Ind. 47130  
Keppel Shipyard Limited, 325 Telok Blongah Road, P.O. Box 2169, Singapore 0409  
Koch Ellis Barge & Ship Service, P.O. Box 187, Westwego, LA 70094  
Leavac Corporation, P.O. Box 2607, Morgan City, LA 70381  
Lockheed Shipbuilding and Construction Co., 2929 16th Avenue, S.W., Seattle, Wash. 98134  
McDermott, Incorporated, 1010 Common Street, New Orleans, LA 77227  
John Manly Shipyards, 2050 East Kent Ave., Vancouver, B.C. V5P 2T2, Canada  
Marathon LeTourneau Offshore Co., 1700 Marathon Bldg., 600 Jefferson, Houston, TX 77002  
Marystown Shipyard Limited, P.O. Box 262, Marystown, Newfoundland, Canada A0E 2M0  
Matton Shipyard Co., Inc., P.O. Box 645, Cohoes, New York 12047  
Misener Industries, Inc., 5353 Tyson Avenue, P.O. Box 13625, Tampa, Fla. 33681  
Mitsubishi Heavy Industries, Ltd., 5-1, Marunochi 2-chome, Chiyoda-ku, Tokyo, 100 Japan  
Monark Boat Co., P.O. Box 210, Monticello, Ark. 71655  
Moran Shipping Agencies, 10 Jefferson Blvd., Warwick, RI 02888  
Moss Point Marine Inc., P.O. Box 1310, Escatawpa, MS 39552  
Nashville Bridge Company, P.O. Box 239, Nashville, TN 37202  
National Marine Service (Shipyard Division), P.O. Box 38, Hartford, IL 62048  
National Steel & Shipbuilding Corp., San Diego, Calif. 92112  
Newport News Shipbuilding & Dry Dock Co., 4101 Washington Ave., Newport News, Va. 23607  
O.A.R.N. (Officine Allestimento-Riprazioni Navi), P.O. Box 1395, Genoa, Italy 16100  
Overseas Shipyards, Inc., 21 West St., New York, NY 10006  
Patti Industries Inc., South B St., Pensacola, FL 32573  
Pearlson Engineering Co., P.O. Box 8, Kendall Branch, Miami, Fla. 33156  
Progressive Shipbuilders & Fabricators, Inc., P.O. Box 9130, Houma, LA 70361  
Promet (PTE) Ltd., 27 Pandam Rd., Jurong Industrial Estate, Singapore 22  
Promet Marine Services Corp., 242 Allens Ave., Providence, RI 02906  
Puerto Rico Drydock & Marine Terminals, Inc., P.O. Box 2209, San Juan, Puerto Rico 00903  
Rauma-Repola, 26100 Rauma 10, Finland  
Samsung Shipbuilding & Heavy Industries Co., Ltd., Samsung Main Bldg. 250, 2Ka, Taepyeong-ro, Chung-ku, Seoul, Korea  
Savannah Shipyard Co., P.O. Box 787, Savannah, GA 31402  
Schuess Defries, Postfach 111146, Schuess-Str. 61, D-4000 Dusseldorf 11, West Germany  
Service Machine Group, Inc., P.O. Box 2664, Morgan City, LA 70381  
Southbay Boat Inc., P.O. Box 13308, San Diego, CA 92113  
Southwest Marine, Inc., P.O. Box 13308, San Diego, CA 92113  
Swiftships Inc., P.O. Box 1908, Morgan City, LA 70380  
Thomas Marine, 37 Bransford St., Patchogue, NY 11772  
Todd Shipyards Corp., 1 State St. Plaza, New York, N.Y. 10004  
Total Transportation Systems Inc., 813 Forest Dr., Newport News, VA 23606  
Total Transportation Systems (International) A/S, Bjornegarden, P.O. Box 28, N5201 Oslo, Norway  
Tracor Marine, P.O. Box 13107, Port Everglades, Fla. 33316  
Umpqua Marine Way, Inc., Port Industrial Park, Reedsport, OR 97467  
Union Dry Dock & Repair Co., Foot of Parking Road, Weehawken, N.J. 07087  
Valmet Oy, Helsinki Shipyard, Laivanrakentajantie 2, P.O. Box 910 SF-00101 Helsinki 10, Finland

# BUYERS DIRECTORY

(continued)

Veralme Estaleiros Reunidos Do Brasil S.A., Rua Buenos Aires, 68, Rio de Janeiro—RJ—Brazil  
Waterman Supply Co., 2815 E. Anaheim St., P.O. Box 596, Wilmington, CA 90748

West Coast Salvage And Contracting, 2150 East Kent Avenue, Vancouver, B.C. V5P 2T2

Zidell Explorations, Inc., 3121 S.W. Moody Street, Portland, OR 97201

## SHIPPING—PACKING

Pilotage Consultants, Inc., P.O. Box 2046, New Hyde Park, NY 11040

## SILENCERS

Burgess-Manning Silencing Equipment Division, 8108 Carpenter Frwy., Dallas, TX 75247

## SMOKE INDICATORS

Robert H. Wager Co., Inc., Passaic Avenue, Chatham, N.J. 07928

## STUFFING BOXES

Johnson Rubber Co., Duramax Marine Div., 16025 Johnson St., Middlefield, OH 44062

Smith-Meeker Engineering Co., 157 Chambers Street, New York, NY 10007

## SURVEYORS AND CONSULTANTS

Francis B. Crocco, Inc., P.O. Box 1411, San Juan, Puerto Rico 00903

Hull & Cargo Surveyors, Inc., 99 John St., New York, NY 10038

Frank Jeffrey & Assoc., 5201 Westbank Exp., Suite 206, Marrero, LA 70073

M.A. Stream Associates, Inc., 400 Second Ave. W., Seattle, WA 98119

## TANK CLEANING

Butterworth Inc. (USA), 3721 Lapas Dr., P.O. Box 18312, Houston, TX 77223-9989

Butterworth Systems (UK), 123 Beddington Lane, Croydon CR9 4NX, England

Penco Division/Hudson Engineering Co., P.O. Box 68, Bayonne, NJ 07002

## TANK LEVELING INDICATORS

ARMTEC Industries, Inc., Manchester, NJ 03103

Kockumation AB, Box 1044, S-212 10 Malmo, Sweden

Norcontrol, 135 Fort Lee Rd., Leonia, NJ 07605

Salwico Inc., 5 Marine View Plaza, Hoboken, NJ 07030

Transamerica Delaval, Inc., Gems Sensors Division, Cowles Road, Plainville, CT 06062

## TOWING—Barges, Vessel Chartering, Lighterage, Salvage, etc.

Atlantic Towing Ltd., 300 Union Pl., St. John, N.B., Canada E2L 1B6

Bay-Houston Towing Co., 805 World Trade Bldg., Houston, Texas 77002

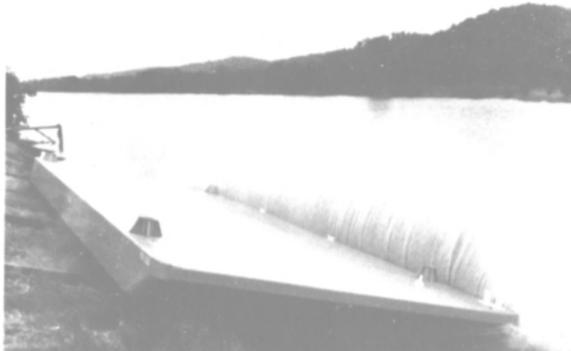
Bulkfleet Marine Corporation, 1800 West Loop So., Houston, TX 77027

Curtis Bay Towing Co., Mercantile Bldg., Baltimore, Md. 21202

Henry Gillen's Sons Lighterage, 21 West Main St., Oyster Bay, N.Y. 11771

James Hunter, Inc., 17 Battery Pl., New York, N.Y. 10004

## Nashville Bridge Delivers Pair of Utility Barges To Piling-Structures Inc.



A 120-foot deck barge destined for marine construction use is launched on the Cumberland River by the Nashville Bridge Company.

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The barges, the first constructed by NABRICO for the Florida company, will be used in general construction work, carrying equipment and cranes. Each of the barges is classed by the American Bureau of Shipping for all ocean service.

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80,000 DWT CRUDE OIL TANKER



Holland  
 Fendall Marbury, 1933 Lincoln Drive, Annapolis, MD 21401  
 Marine Consultants & Designers, Inc., 308 Investment Insurance Bldg., Corner E. 6th St. & Rockwell Ave., Cleveland, Ohio 44114  
 Marine Design Inc., 401 Broad Hollow Road, Rte. 110, Melville, N.Y. 11746  
 Marine Technical Associates, Inc., 95 River Rd., Hoboken, NJ 07030  
 George E. Meese, 194 Acton Rd., Annapolis, Md. 21403  
 Metritape Inc., P.O. Box 2366, Littleton, MA 01460  
 R. Carter Morrill, 715 S. Cherokee, Bartlesville, OK 74003  
 NK Engineering Assoc., Inc., 8150 Leesburg Pike, Vienna, VA 22202  
 Nelson & Associates, Inc., 1405 N.W. 167th Street, Miami, FL 33169  
 James O. Nelson, 225 Argyle Rd., West Palm Beach, FL 33405  
 Nickum & Spaulding Associates, Inc., 2701 First Ave., Seattle, WA 98121  
 Ocean-Oil International Engineering Corporation, 3019 Mercedes Blvd., New Orleans, La. 70114  
 Offshore Power Systems, 8000 Arlington Expressway, Jacksonville, FL 32211  
 PRC Guralnick, 5252 Balboa Ave., San Diego, CA 92117  
 Pearlson Engineering Co., Inc., 8970 S.W. 87th Ct., Miami, Florida 33156  
 S.L. Peitchul, Inc., 1380 S.W. 57th Avenue, Fort Lauderdale, FL 33317  
 M. Rosenblatt & Son, Inc., 350 Broadway, New York, NY 10013 and 667 Mission St., San Francisco, CA 94105  
 Rothfuss Engineering Corp., P.O. Box 97, Columbia, MD 21045  
 Schmah and Schmah, Inc., 1209 S.E. Third Ave., Fort Lauderdale, Florida 33316  
 SEACOR Systems Engineering Associates Corp., 19 Perina Blvd., Cherry Hill, NJ 08003 (Publications Division at Cherry Hill location)  
 Seaworthy Engine Systems, 36 Main Street, Essex, CT 06426  
 Seaworthy Engine Systems, 17 Battery Place, New York, NY 10004  
 George G. Sharp, Inc., 100 Church St., New York, N.Y. 10007  
 Simmons Associates, P.O. Box 760, Sarasota, FL 33578  
 R.A. Stearn, Inc., 253 N. 1st Ave., Sturgeon Bay, WI 54235  
 Richard R. Toubler Inc., 8 Columbia St., Milford, Del. 19963  
 Timisco, 622 Azalea Road, Mobile, AL 36609  
 Tracor Hydraulics, Inc., 7210 Pindell School Rd., Laurel, MD 20707  
 Uhlig & Associates, Inc., 8295 SW 188th St., Miami, FL 33157  
 Thomas B. Wilson, Associates, 1258 North Avalon Blvd., Wilmington, CA 90744

Yacht Design Institute, 9 Main St., Blue Hill, ME 04614

**NAVIGATION & COMMUNICATIONS EQUIPMENT**

Alden Electronics, 1145 Washington St., Westborough, MA 01581  
 American Hydromath Co., Buckwheat Bridge Rd., Germantown, N.Y. 12526  
 Anschutz & Co. GmbH, Postfach 6040, D-2300 Kiel 14, West Germany  
 Atkinson Dynamics, Section 6, 10 West Orange Ave., South San Francisco, CA 94080  
 Cybernet International, Inc., 7 Powder Horn Dr., Warren, NJ 07060  
 DEBEG Marine, Inc., 10 Manor Parkway, Salem, NH 03079  
 Electric Tachometer Corp., 68th & Upland Street, Philadelphia, PA 19142  
 A/S Elektrisk Bureau, P.O. Box 98, N-1360 Nesbru, Norway  
 Electro-Nav Inc., 840 Bond Street, Elizabeth, NJ 07201  
 EPSCO Marine, 550 Wholesalers Parkway, Harahan, LA 70123  
 Fleet Marine, 1820 N.E. 146th Street, North Miami, FL 33181  
 Furuno U.S.A., 271 Harbor Way, S. San Francisco, CA 94080  
 Griffith Marine Navigation, Inc., 134 North Avenue, New Rochelle, NY 10801  
 Harris Communications (RF Communications), 1680 University Avenue, Rochester, NY 14610  
 Henschel Corp., 14 Cedar St., Amesbury, Mass. 01913  
 Hose McCann Telephone Company, Inc., 9 Smith Street, Englewood, NJ 07631  
 ITT Mackay Marine, 2912 Wake Forest Road, Raleigh, N.C. 27611  
 Japan Radio Co., Ltd., Akasaka Twin Tower (Main), 17-22 Akasaka 2-chome, Minato-ku, Tokyo 107, Japan  
 King Radio Corporation, 400 North Rodgers Rd., Olathe, KS 66062  
 Kongsberg North America Inc., 135 Fort Lee Road, Leonia, NJ 07605  
 Kongsberg Vapenfabrik, Norcontrol Division, P.O. Box 145, Horten 3191, Norway  
 Krupp Atlas-Elektronik, 1453 Pinewood St., Rahway, NJ 07065  
 Lorain Electronics Corp., 2307 Leavitt Rd., Lorain, OH 44052  
 Magnavox Navigation Systems, 2829 Maricopa Street, Torrance, CA 90503  
 Nav-Com, Inc., 9 Brandywine Drive, Deer Park, NY 11729  
 Navidyne Corp., 11824 Fishing Point Drive, Newport News, VA 23606  
 Racal-Decca Marine, Inc., 4200 23rd Avenue West, Seattle, WA 98199  
 Radar Devices, Inc., 2955 Merced Street, San Leandro, CA 94577  
 Radio-Holland USA, Inc., One Allen Center, Suite 1000, Houston, TX 77002  
 Raytheon Marine Co., 676 Island Pond Road, Manchester, N.H. 03103  
 Raytheon Ocean Systems Company, Westminster Park, Risho Avenue, East Providence, RI 02914  
 Raytheon Service Co., 103 Roesler Rd., Glen Burnie, MD 21061  
 Rivertronics, P.O. Box 247, Godfrey, IL 62035  
 Robertson Auto Pilot, 135 Fort Lee Road, Leonia, NJ 07605  
 Selesmar S.p.A., Casella Postale 9, 50020 Montagnana Val Di Peso, Firenze, Italy  
 Servo Corporation of America, 111 New South Road, Hicksville, NY 11802  
 Simrad, Inc., 2215 NW Market St., Seattle, WA 98107  
 Sperry Corporation, Great Neck, NY 11020  
 Standard Communications, P.O. Box 92151, Los Angeles, CA 90009  
 Texas Instruments, Inc., P.O. Box 405, 3438, Lewisville, TX 75067

**OILS—Marine—Additives**

Gulf Oil Company—U.S. (Domestic Oils), 909 Fannin Street, Houston, TX 77001  
 Gulf Oil, New York District Sales Office (Domestic), 433 Hackensack Avenue, Hackensack, NJ 07601  
 Gulf Oil Trading Co., 1290 Ave. of Americas, New York, N.Y. 10019  
 Mobil Oil Corp., 150 East 42 Street, New York, NY 10017  
 Shell Oil Co., 1 Shell Plaza, Houston, Texas 77002  
 Texaco, Inc. (International Marine), 135 East 42nd St., N.Y., N.Y. 10017

**OIL/WATER SEPARATORS**

Biospherics Incorporated, 5001 Forbes Blvd., Lanham, MD 20801  
 Butterworth Inc. (USA), 3721 Lapas Dr., P.O. Box 18312, Houston, TX 77223-9989  
 Butterworth Systems (UK), 123 Beddington Lane, Croydon CR9 4NX, England  
 Centrico, Inc. (Westfalia Separators), 100 Fairway Court, Northvale, NJ 07647  
 Dahl Manufacturing, Inc., 2521 Railroad Ave., Ceres, CA 95307  
 Fram Industrial, P.O. Box 33210, Tulsa, OK 74135  
 National Fluid Separators, Inc., 1239 Hanley Industrial Court, St. Louis, MO 63144  
 Phoenix Oil Refiner Co., Inc., 330 Hill Ave., Nashville, TN 37210

**PAINTS—COATINGS—CORROSION CONTROL**

American Abrasive Metals, 460 Coit Street, Irvington, NJ 07111  
 Ameron, 4700 Ramona Blvd., Monterey Park, CA 91754  
 Bareco, 6910 East 14th St., Tulsa, OK 74112  
 Bywater Coatings, 1610 Engineers Road, Belle Chasse, LA 70037  
 CLEMCO, P.O. Box 7680, San Francisco, CA 94120  
 "CONSOL" manufactured by Contact Paint & Chemical Co. Inc., 200 S. Franklinton Rd., Baltimore, MD 21223  
 Devco Marine Coatings Co., P.O. Box 7600, Louisville, KY 40207  
 E.I. Dupont de Nemours & Co., Inc., Nemours Bldg. Rm. N-2504-2, Wilmington, DE 19898  
 Esgard, Box 2698, Lafayette, LA 70502  
 Eureka Chemical Company, 234 Lawrence Avenue, So. San Francisco, CA 94080  
 Farboil, 8200 Fischer Road, Baltimore, MD 21222  
 Grow Group, Inc., 200 Park Ave., New York, NY 10017  
 Hempel Marine Paints, Inc., 65 Broadway, New York, NY 10006, P.O. Box 41, So. Houston, TX 77587; P.O. Box 10265, New Orleans, LA 70181  
 International Paint Company, Inc., 2270 Morris Avenue, Union, NJ 07083  
 Jotun-Baltimore Copper Paint Co., 840 Key Highway, Baltimore, MD 21230  
 Magnus Maritec International Inc., 150 Roosevelt Pl., P.O. Box 150, Palisades Park, NJ 07650  
 Mobil Chemical Co., Maintenance & Marine Coatings Dept., P.O. Box 250, Edison, N.J. 08817  
 Palmer Products Inc., P.O. Box 8, Worcester, PA 19490

Products Research & Chemical Corp., 5454 San Fernando Rd., Glendale, CA 91203  
 Salwico Glassflake, Inc., 5 Marine View Plaza, Hoboken, NJ 07030  
 Seaguard, 4030 Seaguard Ave., Portsmouth, VA 23705  
 Selby, Battersby & Company, 5220 Whiby Avenue, Philadelphia, PA 19143  
 Sermetel, Inc., 4401 Sermetel Dr., Mass Point, MS 39563  
 Teledyne Metal Finishers, 1725 East 27th St., Cleveland, OH 44114

**PETROLEUM SUPPLIES**

Shell Oil Co., 1 Shell Plaza, Houston, Texas 77002

**PIER REPAIRS**

Acquatic Marine Systems, Inc., P.O. Box 326, Williamsville, NY 14221

**PIPE-HOSE—Cargo Transfer, Clamps, Couplings, Coatings**

Camlock Flange Sales Corp., 449 Sheridan Blvd., Inwood, L.I., N.Y. 11696  
 Hydro-Craft, Inc., 1821 Rochester Industrial Dr., Rochester, MI 48063  
 Knights' Piping Inc., 5309 Industrial Road, Pascagoula, MS 39567  
 Kubota Ltd., 2-47, Shikit Suhigashi 1-Chome, Naniwa-Ku, Osaka 556-91, Japan  
 Metropolitan Plumbing Supply Corp., 5000 Second St., Long Island City, NY 11101

Penco Division/Hudson Engineering Co., P.O. Box 68, Bayonne, NJ 07002

Selkirk Metalbestos, Box 19000, Greensboro, NC 27419

Stauff Corporation, 21-31 Industrial Park, Waldwick, NJ 07463

**PLAQUES—BRONZE—ALUMINUM**

Duramax Metals, Inc., 2401 Wesley Street, Portsmouth, VA 23707

**PLASTICS—Marine Applications**

Hubeva Marine Plastics, Inc., 390 Hamilton Ave., Bklyn, N.Y. 11231

**PUSHPULSION EQUIPMENT—Bowthrusters, Diesel Engines, Gears, Propellers, Shafts, Turbines**

American Lahmann Corp., 1415 Chestnut Ave., Hillside, NJ 07205

Armco Steel/Advanced Materials Div., 703 Curtis St., Middletown, OH 45043

Avondale Shipyards, Inc., P.O. Box 52080, New Orleans, La. 70150

Bird Johnson Company, 110 Norfolk St., Walpole, Mass. 02081

Burmeister & Wain Alpha Diesel AS, DK-1400 Copenhagen K, Denmark

Caterpillar Engine Division, 100 N.E. Adams, Peoria, IL 61629

Colt Industries Inc. (Fairbanks Morse Engine Div.), 701 Lawton Avenue, Beloit, WI 53511

Columbian Bronze Corporation, 216 No. Main Street, Freeport, NY 11520

Combustion Engineering, Inc., Windsor, Connecticut 06095

Deutz Corp., 7585 Ponce de Leon Circle, Atlanta, GA 30340

Diesel Marine International, Ltd., c/o NORSHIPCO, P.O. Box 2100, Norfolk, VA 23501

Elliott Company, 1809 Sheridan Ave., Springfield, OH 45505

Escher Wyss GmbH, (Member Sulzer Group), Ravensburg, Germany

General Electric Co., Diesel Power Products, 2901 E. Lake Rd., Erie, PA 16531

General Motors, Electro-Motive Division, LaGrange, IL 60525

George Engine Company, Inc., Lafayette, LA

Golden Marine Co., Inc., 160 Van Brunt St., Brooklyn, NY 11231

Harbormaster, 36 Hancock St., Quincy, MA 02171

Krupp Mak Diesels, Inc., 4329-33 Di Paolo Center, Glenview, IL 60025

M.A.N.-B&W Diesel, 2, Ostervej, DK-4960 Høleby, Denmark

MTU of North America, One E. Putnam Ave., Greenwich, CT 06830; 10450 Corporate Dr., Sugarland, TX 77478; 2945 Railroad Ave., Morgan City, LA 70203; 180 Nickerson St., Seattle, WA 98109; 1730 Lynn St., Arlington, VA 22209

MWM-Murphy Diesel, 12 Greenway Plaza, Suite 1100, Houston, TX 77046

Mopaco Products, Inc., 20 Vesey St., New York, NY 10007

Maritime Industries, Ltd., 6307 Laurel St., Burnaby, B.C. Canada V5B 3B3

Michigan Wheel, 1501 Buchanan Ave., S.W., Grand Rapids, MI 49507

National Marine Service Louisiana, Inc., 222 Bayou Rd., Belle Chosse, LA 70037

Omnithruster Inc., 9515 Sorensen Ave., Santa Fe Springs, CA 90670

Penske GM Power, Inc., 600 Parsippany Road, Parsippany, NJ 07054

SACM (Societe Alsacienne De Constructions Mechaniques De Mulhouse) 1, Rue De La Fonderie, Boite Postale 1210, 68054 Mulhouse Cedex, France

Karl Senner, Inc., P.O. Box 10055, New Orleans, LA 70181

Skinner Engine Company, P.O. Box 1149, Erie, PA 16512

Sulzer Brothers, Dept. Diesel Engines, CH-8401 Winterthur, Switzerland

Transamerica DeLaval Inc., Engine & Compressor Div., 550 85th Ave., Oakland, CA 94621

Transamerica Delaval, Inc., Turbine & Compressor Div., P.O. Box 8788, Trenton, N.J. 08650

Turbine Specialties, Inc., P.O. Box 207, West State Street Road, Salina, KS 67401

Turbine Specialties/Gulf Coast, Inc., 1900 Industrial Blvd., Harvey, LA 70058

Vaih Schneider America, 159 Great Neck Rd., Ste 200, Great Neck, NY 11021

WABCO Fluid Power, an American-Standard Company, 1953 Mercer Rd., Lexington, KY 40505

Wartsila Power Inc., 5132 Taravella Rd., P.O. Box 868, Marrero, LA 70072

Waukesha Engine Division, Waukesha, WI 53187

Welco Industries, Inc., 9027 Shell Rd., Cincinnati, OH 45236

ZF of North America, Inc., 3225 Commercial Avenue, Northbrook, IL 60062

ZF of North America, Inc. (Motive Power Corporation), P.O. Box 365, Mineola, NY 11501)

**PUMPS—Repairs—Drives**

FMC Corporation, Pump Division, 326 S. Dean Street, Englewood, NJ 07631

Industrial Products & Engineering Co., Inc., 1 Sawyer Dr., Coventry, RI 02816

Jim's Pump Repair, 48-55 36th St., Long Island City, NY 11101

Megator Corporation, 562 Alpha Drive, Pittsburgh, PA 15238

Naniwa Pump, c/o Maritime Equipment Inc., P.O. Box 537, Flemington, NJ 08822

Penco Division/Hudson Engineering Co., P.O. Box 68, Bayonne, NJ 07002

Sims Pump Valve Co., Inc., 1314 Park Ave., Hoboken, NJ 07030

Transamerica Delaval, IMO Pump Division, P.O. Box 447, Monroe, NC 28110

Vita Motivator Company, 200 West 20th St., New York, NY 10011

Warren Pumps Division, Bridges Avenue, Warren, MA 01083

Wilden Pump & Engineering Co., 22060 Van Buren St., P.O. Box 845, Colton, CA 92324

**REFRIGERATION—Refrigerant Valves**

Bailey Refrigeration Co., Inc., 74 Sullivan St., Brooklyn, N.Y. 11231

Port Refrigeration Div., 157 Perry St., New York, NY 10014

**ROLLING SYSTEMS**

Hilmon, Inc., 2604 Atlantic Ave., Wall (Belmar), NJ 07719

**ROPE—Manila—Nylon—Hawsers—Fibers**

American Mfg. Co., Inc., Willow Avenue, Honesdale, Pa. 18431

Atlantic Cordage Corp., 60 Grant Avenue, Carteret, NJ 07008

DuPont Co., KEVLAR Aramid Fiber, Room G-15465, Wilmington, DE 19898

Samson Ocean Systems, Inc., 99 High Street, Boston, Mass. 02110

Tubbs Cordage Company, P.O. Box 709, Orange, CA 92666

Wall Industries, Inc., P.O. Box 560, Elkin, NC 28621

**RUDDER ANGLE INDICATORS—STEERING**

Electric Tachometer Corp., 68th & Upland St., Philadelphia, Pa. 19142

Henschel Corp., 14 Cedar St., Amesbury, Mass. 01913

Hy-Drive America Corp., 3629 Vernon Blvd., Long Island City, NY 11106

Marine Drive Systems, 519 Raritan Center, Edison, NJ 08817

Robertson, 135 Fort Lee Rd., Leonia, NJ 07605

Schattel of America, Inc., 8375 N.W. 56 St., Miami, FL 33166

**SAFETY EQUIPMENT**

Dotrex, 3795 N.W. 25th Street, Miami, FL 33142

Elkhart Brass Manufacturing Co., Inc., P.O. Box 1127, Elkhart, IN 46515

Wormald Fire Systems, One Stanton St., Marinette, WI 54143

**SANITATION DEVICES—Pollution Control**

Effluent Technology Corporation, P.O. Box 2094, Tacoma, WA 98401

Envirovac Inc., 1260 Turret Dr., Rockford, IL 61111

Marine Moisture Control Co., Inc., 449 Sheridan Blvd., Inwood, L.I., N.Y. 11696

Marland Environmental Systems, Inc., N. Main Street, Walworth, WI 53184

National Sanitation Foundation, P.O. Box 1468, Ann Arbor, MI 48105

**SCAFFOLDING EQUIPMENT—Work Platforms**

McCausey Lumber Co., 7751 Lyndon, Detroit, MI 48238

Patent Scaffolding Co., One Bridge Plaza, Fort Lee, NJ 07024  
 Swiss Fabricating Inc., Camp Home Rd., Emsworth, Pittsburgh, PA 15237  
 Truss-Joist Corp., P.O. Box 60 Boise, ID 83704  
 Waco Ladder & Scaffolding Co., Inc., 4315 41 St., P.O. Box 126, Brentwood, MD 20722

**SHAFT SEALS, REVOLUTION INDICATOR EQUIPMENT**

Bird-Johnson Co., 100 Norfolk St., Walpole, MA 02081

Crane Packing Company, 435 Regina Dr., Clarksburg, MD 20734

EG&G Sealol, Engineered Products Div., Marine Products Group, Warwick, RI 02888

Electric Tachometer Corp., 68th & Upland St., Philadelphia, Pa. 19142

Henschel Corp., 14 Cedar St., Amesbury, Mass. 01913

Penco Division/Hudson Engineering Co., P.O. Box 68, Bayonne, NJ 07002

**SHIPBUILDING—Salvage**

The Boston Metals Co., 313 E. Baltimore St., Baltimore, Md. 21202

Fred Devine Diving & Salvage, Inc., 6211 N. Ensign, Swan Island, Portland, OR 97217

Zidell Explorations, Inc., 3121 S.W. Moody St., Portland, Ore. 97201

**SHIPBUILDING STEEL**

Armco Steel Corp., 703 Curtis St., Middletown, Ohio 45042

Bethlehem Steel Corp., One State Street Plaza, N.Y. 10004

Welded Beam Company, P.O. Box 280, Perry OH 44081

**SHIPBUILDING—Repairs, Maintenance, Drydocking**

Alabama Maritime Corp., P.O. Box 3026, Mobile, AL 36652

Asmar Shipyards Co., Astilleros y Maestranzas de la Armada, Prat 856, Piso 14, Casilla 150-V, Valpariso, Chile, S.A.

Astilleros Balboa, S.A., c/o Jackson Marine Corp., 17 Battery Place, New York, NY 10004

Ateliers et Chantiers de Bretagne—ACB, 44040 Nantes Cedex, France

Atlantic Dry Dock, P.O. Box 276, Ft. George Island, Jacksonville, FL 32226

Atlantic Marine Inc., P.O. Box 138, Ft. George Island, Jacksonville, FL 32226

Avondale Shipyards, Inc., P.O. Box 52080, New Orleans, La. 70150

Bath Iron Works Corp., 700 Washington St., Bath, ME 04530

Bay Shipbuilding Corp., 605 North 3rd Ave., Sturgeon Bay, WI 54235

BFC Marine Services, Inc., 25 Fifth St., Brooklyn, NY 11231

Bender Shipbuilding & Repair Co., Inc., P.O. Box 42, Mobile, AL 36601

Bethlehem Steel Corp., Bethlehem, PA 18016

Blohm & Voss Company, 55 Morris Avenue, Springfield, NJ 07081

Burmeister & Wain Skibsvaerft A/S, P.O. Box 2122, Refshaleoen-1015 Copenhagen K-Denmark

Burrard Yarrow Corporation, P.O. Box 86099, North Vancouver, B.C., Canada

Burton Shipyard, Inc., P.O. Box 3636, Port Arthur, TX 77640

Caneco Shipyard, Rua Carlos Seidl, 714, Caju, 20.931, Rio de Janeiro, RJ, Brazil

Cantieri Navali Riuniti, Via Cipro, 11, 16100 Genova, Italy

Corrington Slip

# BUYERS DIRECTORY

(continued)

Verolme Estaleiros Reunidos Do Brasil S.A., Rua Buenos Aires, 68, Rio de Janeiro—RJ—Brazil  
 Waterman Supply Co., 2815 E. Anaheim St., P.O. Box 596, Wilmington, CA 90748  
 West Coast Salvage And Contracting, 2150 East Kent Avenue, Vancouver, B.C. V5P 2T2  
 Zidell Explorations, Inc., 3121 S.W. Moody Street, Portland, OR 97201

**SHIPPING—PACKING**  
 Pilotage Consultants, Inc., P.O. Box 2046, New Hyde Park, NY 11040

**SILENCERS**  
 Burgess-Manning Silencing Equipment Division, 8108 Carpenter Frwy., Dallas, TX 75247

**SMOKE INDICATORS**  
 Robert H. Wager Co., Inc., Passaic Avenue, Chatham, N.J. 07928

**STUFFING BOXES**  
 Johnson Rubber Co., Duramax Marine Div., 16025 Johnson St., Middlefield, OH 44062  
 Smith-Meeker Engineering Co., 157 Chambers Street, New York, NY 10007

**SURVEYORS AND CONSULTANTS**  
 Francis B. Crocco, Inc., P.O. Box 1411, San Juan, Puerto Rico 00903  
 Hull & Cargo Surveyors, Inc., 99 John St., New York, NY 10038  
 Frank Jeffrey & Assoc., 5201 Westbank Exp., Suite 206, Marrero, LA 70073  
 M.A. Stream Associates, Inc., 400 Second Ave. W., Seattle, WA 98119

**TANK CLEANING**  
 Butterworth Inc. (USA), 3721 Lapas Dr., P.O. Box 18312, Houston, TX 77223-9989  
 Butterworth Systems (UK), 123 Beddington Lane, Croydon CR9 4NX, England  
 Penco Division/Hudson Engineering Co., P.O. Box 68, Bayonne, NJ 07002

**TANK LEVELING INDICATORS**  
 ARMTEC Industries, Inc., Manchester, NJ 03103  
 Kockumation AB, Box 1044, S-212 10 Malmo, Sweden  
 Norcontrol, 135 Fort Lee Rd., Leonia, NJ 07605  
 Salwico Inc., 5 Marine View Plaza, Hoboken, NJ 07030  
 Transamerica Delaval, Inc., Gems Sensors Division, Cowles Road, Plainville, CT 06062

**TOWING—Barges, Vessel Chartering, Lighterage, Salvage, etc.**  
 Atlantic Towing Ltd., 300 Union Pl., St. John, N.B., Canada E2L 1B6  
 Bay-Houston Towing Co., 805 World Trade Bldg., Houston, Texas 77002  
 Bulkfleet Marine Corporation, 1800 West Loop So., Houston TX 77027  
 Curtis Bay Towing Co., Mercantile Bldg., Baltimore, Md. 21202  
 Henry Gillen's Sons Lighterage, 21 West Main St., Oyster Bay, N.Y. 11771  
 James Hughes, Inc., 17 Battery Pl., New York, N.Y. 10004  
 International Transport Contractors Holland B.V., 5 Kenaupark, P.O. Box 21, Haarlem, Holland  
 McAllister Bros., Inc., 17 Battery Pl., New York, N.Y. 10004  
 McDonough Marine Service, P.O. Box 26206, New Orleans, La  
 Midland Affiliated Co., 580 Walnut St., Cincinnati, OH 45201  
 Moran Towing & Transportation Co., Inc., One World Trade Center, Suite 5335, New York, N.Y. 10048  
 National Marine Service, Transport Div., 1750 Brentwood Blvd., St. Louis, MO 63144  
 Suderman & Young Co., Inc., 918 World Trade Bldg., Houston, Texas 77002  
 Turecamo Coastal & Harbor Towing Corp., One Edgewater St., Clifton, Staten Island, N.Y. 10305

**VALVES AND FITTINGS**  
 Clow Corporation, 1211 West 22nd St., Oak Brook, IL 60521  
 The Crosby Group, Inc., P.O. Box 3128, Tulsa, OK 74101  
 Dover Corporation, Norris Division, P.O. Box 1739, Tulsa, OK 74101  
 Hayward Marine Products, 900 Fairmount Avenue, Elizabeth, NJ 07207  
 Jamesbury Corp., 640 Lincoln Street, Worcester, MA 01605  
 Marine Moisture Control Co., 449 Sheridan Blvd., Inwood, N.Y. 11696  
 Metropolitan Plumbing Supply Corp., 50-09 Second Street, Long Island City, NY 11101  
 Newmans Inc., 9 Joanna Court, East Brunswick, NJ 08816  
 Pittsburgh Brass Manufacturing, Sandy Hill Rd., R.D. 6 Box 387-A, Irwin, PA 15642  
 Stacey Fetterolf Corp., P.O. Box 103, Skippack, PA 19474  
 Stockham Valves & Fittings, Box 10326, Birmingham, AL 35202  
 Tate Temco, Inc., 1941 Lansdowne Road, Baltimore, MD 21227  
 Union Flonetics, P.O. Box 459, Clinton, PA 15026  
 Robert H. Wager Co., Inc., Passaic Avenue, Chatham, N.J. 07928  
 Waukesha Bearings Corp., 405 Commerce St., P.O. Box 798, Waukesha, WI 53186  
 Westran Corporation, Valve Components Group, 4025 Remembrance Rd. N.W., Grand Rapids, MI 49504  
 William E. Williams Valve Corporation, 38-52 Review Avenue, Long Island City, NY 11101  
 Wine, Inc., 34655 Mills Road, North Ridgeville, OH 44039  
 Zidell Explorations, Inc., (Valve Division), 3121 S.W. Moody Avenue, Portland, OR 97201

**VIBRATION ANALYSIS**  
 DLI Engineering Corp., 253 Winslow Way West, Bainbridge Island, WA 98110

**WATER PURIFIERS**  
 Aqua Chem Inc., P.O. Box 421, Milwaukee, WI 53201  
 AquaGlobal, 50/60 Inip Dr., Inwood, NY 11696  
 Bull & Roberts, Inc., 785 Central Ave., Murray Hill, NJ 07974  
 Drew Chemical Corporation, One Drew Chemical Plaza, Boonton, NJ 07005  
 Everpure, Inc., 660 N. Blackhawk Dr., Westmont, IL 60559

**WELDING**  
 CRC Automatic Welding, P.O. Box 3227, Houston, TX 77253-3227  
 Metallizing Co. of America, Inc., 321 So. Hamilton, Sullivan, IL 61951  
 Oerlikon Welding Industries, Inc., P.O. Box 40964, Houston, TX 77240

**WINCHES AND FAIRLEADERS**  
 Braden Winch Co., 800 East Dallas, Broken Arrow, OK 74012  
 CONMACO, Inc., 820 Kansas Ave., P.O. Box 5097, Kansas City, KS 66119  
 Markey Machinery Co., 79 South Horton St., Seattle, Washington 98134  
 McElroy Machine & Mfg. Co., Inc., P.O. Box 4454, W. Biloxi, MS 39531  
 Reel-O-Matic Systems, Inc., 418 Hellam Street, Wrightsville, PA 17368  
 Smith Berger Marine Inc., 516 So. Chicago St., Seattle, WA 98108  
 Stanspec Corp., 13600 Deise Ave., Cleveland OH 44110  
 Superior-Lidgerwood-Mundy Corp., 1101 John Avenue, Superior, WI 54880  
 Timberland Equipment Ltd., Box 490, Woodstock, Ont. Canada N4S 7Z2

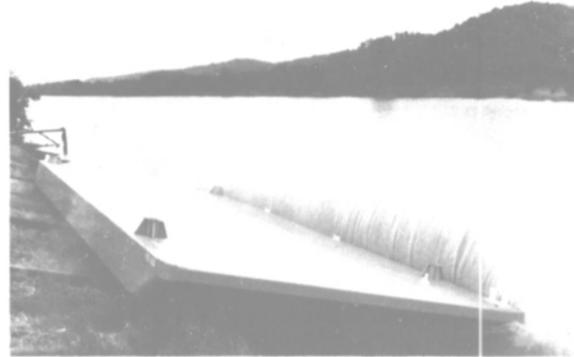
**WINDOWS**  
 Kearfoot Marine Products, A Singer Co., 550 South Fulton Avenue, Mt. Vernon, N.Y. 10550

**WIRE AND CABLE**  
 Anaconda Ericsson Inc., Continental Wire and Cable, P.O. Box 1863, York, PA 17405  
 Anixter Bros., Inc., 4711 Golf Road, One Concourse Plaza, Skokie, Illinois 60076  
 Delco Wire & Cable, Inc., 257 Rittenhouse Circle, Keystone Industrial Park, Bristol, PA 19007  
 Seacoast Electric Supply Corp., 225 Passaic St., Passaic, NJ 07055  
 Seacoast Electric Supply Corp., 1505 Oliver St., Houston, TX 77007  
 Tri-Mark, Inc., 8585 Industry Park Drive, Piqua, OH 45356

**WIRE ROPE—Slings**  
 Bethlehem Steel Corp., Bethlehem, PA 18016  
 A.L. Don Company, Foot of Dock Street, Matawan, NJ 07747  
 I & I Sling Company, 2626 Market Street, Dept. D, Aston, PA 19014

**ZINC**  
 Smith & McCracken, 153 Franklin St., New York, N.Y. 10013

## Nashville Bridge Delivers Pair of Utility Barges To Piling-Structures Inc.



A 120-foot deck barge destined for marine construction use is launched on the Cumberland River by the Nashville Bridge Company.

Two 120-foot by 45-foot by 7-foot deck barges have been constructed by Nashville Bridge Company (NABRICO), Nashville, Tenn., for Piling & Structures, Inc., Jacksonville, Fla.

The barges, the first constructed by NABRICO for the Florida company, will be used in general construction work, carrying equipment and cranes. Each of the barges is classed by the American Bureau of Shipping for all ocean service.

Piling and Structures, Inc. is a 25-year-old marine contracting firm engaged in the construction of bridge foundations and waterfront structures as well as dredging operations. The company, which now has a fleet of 15 barges and three towboats, recently entered the marine equipment leasing market.

Headquartered in Nashville, NABRICO is a wholly owned subsidiary of The American Ship Building Company, Tampa, Fla. The company has been in the marine field for more than 60 years and is primarily concerned with the design, engineering and barges for river and ocean service as well as drydocks and towboats.

## Marinette Marine Opens New Technical Center —Brochure Available

Marinette Marine Corporation, Marinette, Wis., recently opened the doors of their new multimillion-dollar, 42,600-square-foot Technical Center located within the present boundaries of the shipyard.

The new complex sustains consolidated facilities for the accommodation of MMC's Engineering, Production Control and Production Scheduling Departments. The Technical Center also houses MMC's numerical control computer generated ship design and construction services. These services provide for various applications such as ship hull fairing, engi-



New Technical Center for Marinette Marine Corp.

neering calculations and generation of engineering drawings.

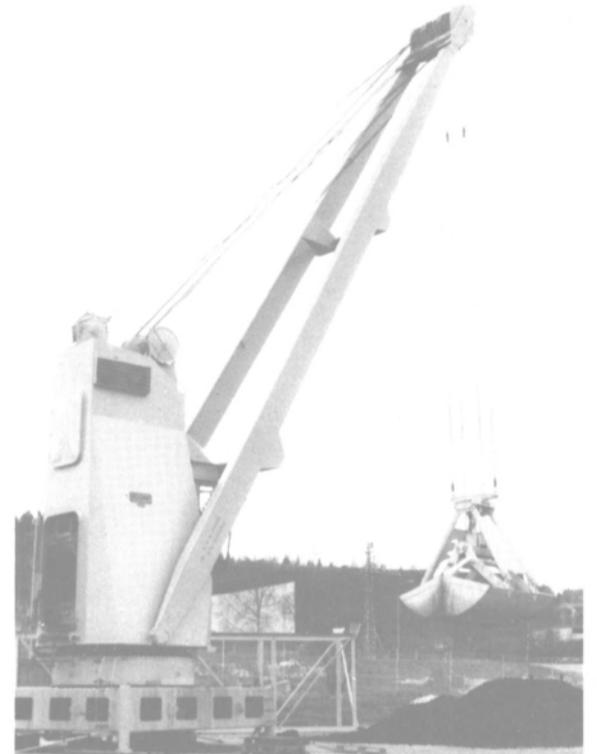
The centralized location of all the Technical Departments provides the basis for Marinette Marine to achieve all the engineering services and production coordination necessary to design and construct complex commercial and military vessels.

A free four-color brochure describing the new Technical Center, is available.

Write 59 on Reader Service Card

## New High Capacity 'K' Crane Has All-Enclosed Machinery —Literature Available

The growing market for the transport of coal and other bulk cargo has led Hagglunds to develop their new K-type bulkhandling crane for mechanical grabs. Free literature is available describing this newly developed crane with photos, drawings and full data.



Hagglund's new 25-ton marine K-type crane showing its compact design and sheltered machinery.

The new crane is a 4-rope type with double hoisting winches. These winches are synchronized so that the grab can be opened or closed at any time during the loading cycle. In addition, speeds are very high to achieve short cycle times. For example, with a 25-ton safe working load (full load), the hoisting speed is 40 M/min. Therefore, in practice, the K-type crane can achieve a handling capacity of up to 400 ton/hour.

The new design also incorporates important space saving advantages in machinery arrangement. Conventional crane designs call for the external installation of at least some of the winches. With the new K-type, space consuming gears have been eliminated from the machinery. Valuable space is saved through the use of Haaglunds high-torque hydraulic motors directly connected to the rope drums and slewing pinions. This permits the internal installation of all winches in a water-proof housing while still cutting down on the external dimensions of the new crane.

Placing all machinery in a sealed housing has the further advantage of enabling all service to be conducted in an indoor environment. Extreme weather conditions no longer prevent efficient and safer inspection and servicing even while at sea.

For free literature on the new K-type crane,

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## Global Marine \$94 Million Title XI Approval Aids Shipyard Employment

The \$94,833,000 financing guarantees approved by the Maritime Administration covering three operating drilling rigs of Global Marine Deepwater Drilling, Inc., of Los Angeles will free capital which will permit Global Marine Inc. to participate in the ownership of a new heavy-weather drilling rig to be built at the Marathon Le-Tourneau shipyard at Brownsville. The Global Marine Super 300 drilling rig will be the first of its kind constructed in the U.S. It will be capable of operating in such areas as the Bering Sea and in the Atlantic Ocean off the Northeast Coast of the U.S. The action is expected to keep 500 people working at the Brownsville, Texas shipyard.

## \$4-Million Contract Let To Scientific Management

Scientific Management Associates, Riverdale, Md., is being awarded a \$4,369,386 cost-plus-fixed-fee contract by the Naval Sea Systems Command, Washington, D.C., for the Royal Australian Navy. It provides for RDDG follow-on technical and engineering support and modernization efforts. The contracting number is (N00024-83-C-6317).

## Shipyard Efficiency Study Contracted

The Maritime Administration has awarded a \$266,000 contract to the National Academy of Sciences to study the prospects for increased productivity in the building of new vessels in the nation's commercial shipyards. Productivity improvements would include savings in time, cost and overall effort; improvements in ship quality; and enhanced industrial safety.

The National Academy of Sciences will use a committee of senior industrial advisors to assist in its analysis. Navy shipyards and ship conversion and repair work will not be included in the study.

## Cost-Cutting Features Of Clemco's New AVS Described In Literature

A new Abrasive Vacuum System (AVS) developed by Clemco Industries is described in literature offered by the San Mateo, Calif.-based company.

The system eliminates in great measure the costs incurred from cleanups, from replacing lost abrasive, and for removal of residual dust. The system's unique features, power sources, capacities, operating temperature range, receiving rates, and hopper capacities are all detailed in the literature.

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The November 1 issue of Maritime Reporter will contain details of the full technical program as well as all activities associated with the exhibition during this three-day event.

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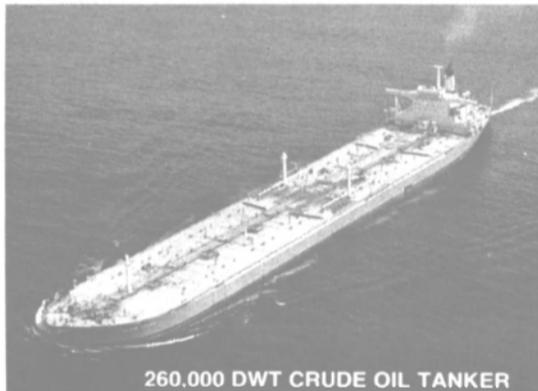
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• DWT & CAPACITY	30,000 M/T or 46,500 M/T, 57,100M <sup>3</sup>	65,000 M/T, 73,500M <sup>3</sup>	81,280 M/T or 86,500 M/T, 106,000M <sup>3</sup>
• M/ENGINE	5RTA 58R3 8,150BHP x 105RPM 7,100BHP x 100RPM	5L70 MCE 11,280BHP x 91RPM 10,150BHP x 88RPM	6L70 MCE 13,720BHP x 93RPM 12,350BHP x 89.8RPM
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