

MARITIME REPORTER AND ENGINEERING NEWS



Philadelphia Sun

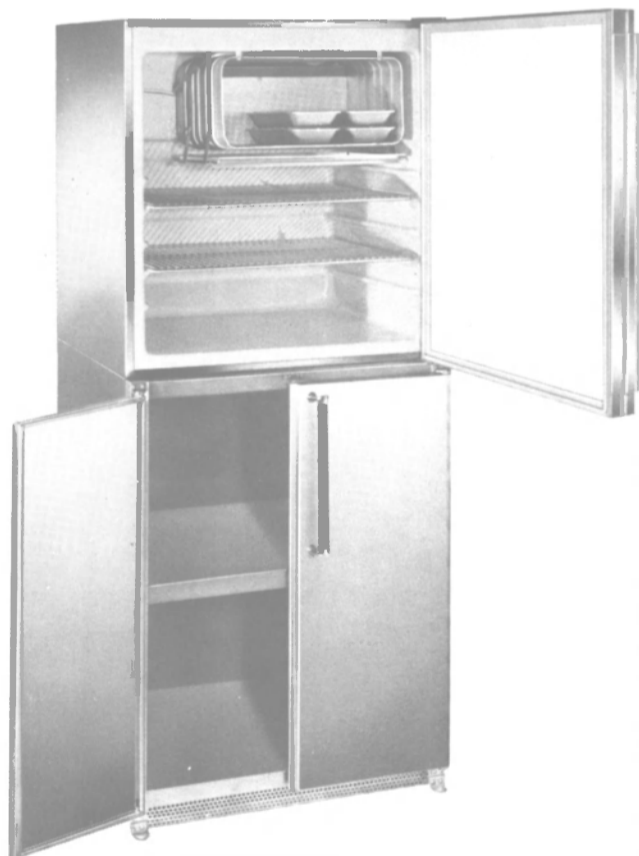
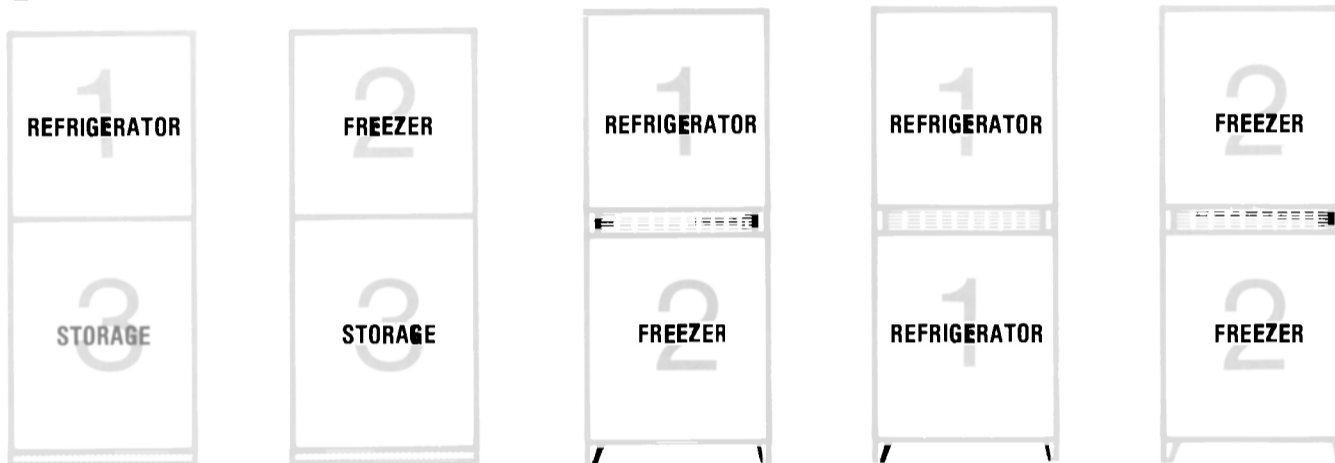
**Sun Ship Launches
Advanced Design Product Tanker**
(SEE PAGE 10)

AUGUST 15, 1980

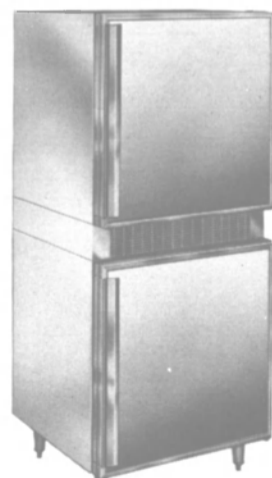
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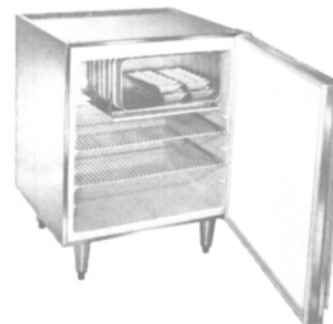
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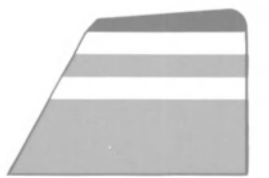


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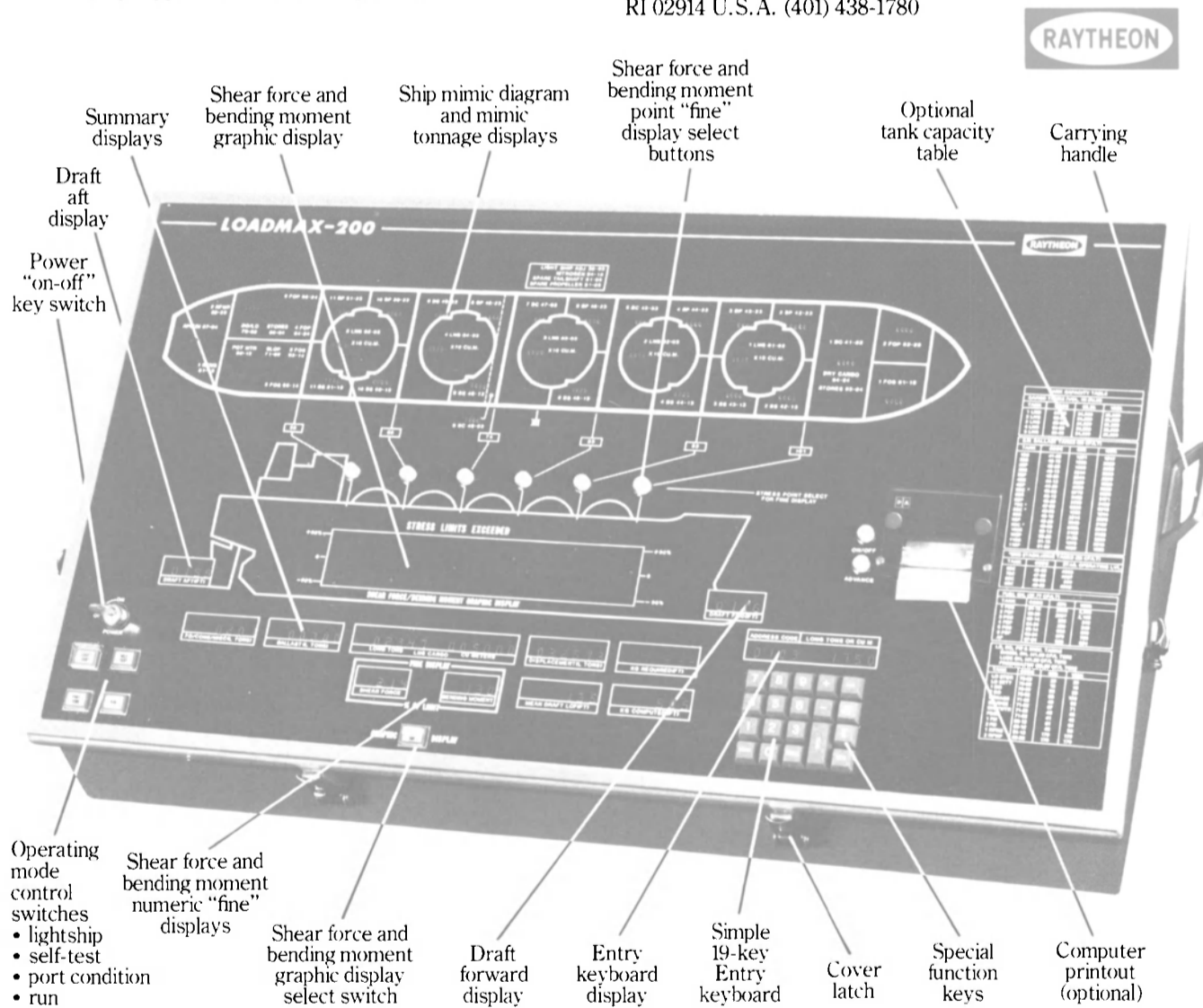


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Waterways Barge Seeks Title XI On 50 Barges To Cost \$14 Million

Waterways Barge Partnership, Greenville, Miss., has applied for a Title XI guarantee to aid in financing the construction of 50 covered hopper barges. The 195-foot-long, 1,500-dwt jumbo barges currently are under construction at Equitable Shipyards, New Orleans, La. All the vessels are expected to be delivered by the end of this year, and will be operated on the U.S. inland waterways.

If approved, the Title XI guarantee would cover \$12,250,000, which is 87½ percent of the \$14,000,000 total estimated cost of the 50 barges.

Ashland Oil Sells Levingston Shipbuilding To Paden Corporation

Ashland Oil, Inc. of Ashland, Ky., has announced the sale of its Levingston Shipbuilding and Levingston-Armadillo units to Paden Corporation. Ashland received total consideration of approximately \$26 million, of which \$19 million was paid in cash with the balance handled through deferred payment arrangements.

Levingston Shipbuilding designs and assembles marine equipment, including semisubmersibles and jackup drilling rigs, drilling ships, bulk carriers, derrick and tanker barges, and other marine vessels. The firm is also engaged in major marine repair projects at its shipyards in Orange and Port Arthur, Texas.

The sale of Levingston was completed as part of Ashland's overall program for redeployment of assets to maximize returns to its shareholders.

Weddle & Associates Awarded Navy Contract For Oil Spill Facility

J.E. Weddle and Associates, Inc., Norfolk, Va., has been awarded a \$5,153,186 fixed-price contract for the construction of an oil spill prevention facility at the Naval Supply Center, Norfolk, following competition in which seven bids were received. The Naval Facilities Engineering Command, Atlantic Division, is the contracting activity. (N62470-78-B-8182)

**MARITIME
REPORTER
AND
ENGINEERING NEWS**

(USPS 016-750)

No. 16

Volume 42

107 EAST 31st STREET
NEW YORK, N. Y. 10016

(212) 689-3266

ESTABLISHED 1939

Maritime Reporter/Engineering News is published the 1st and 15th of each month by Maritime Activity Reports, Inc. Controlled Circulation postage paid at Waterbury, Connecticut 06701.

Postmaster send notification (Form 3579) regarding undeliverable magazines to Maritime Reporter/Engineering News, 107 East 31st Street, New York, N.Y. 10016.

ALL MATERIAL FOR EDITORIAL CONSIDERATION SHOULD BE ADDRESSED TO ROBERT WARE, EDITOR.

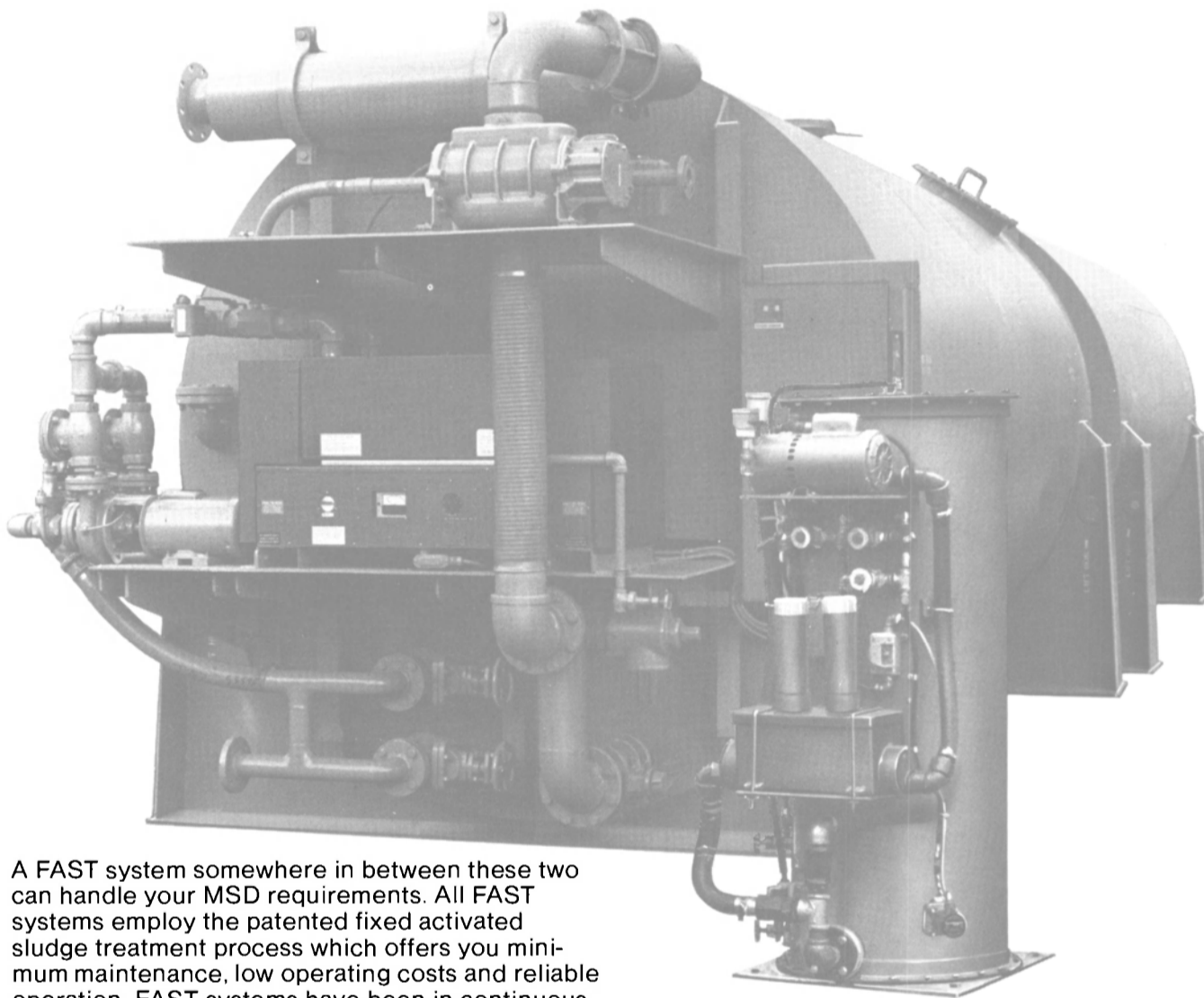
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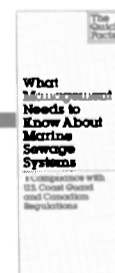


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Red Fox Will Build Jackup Barges At Newly Acquired Yard

Red Fox Industries, Inc. of New Iberia, La., has purchased Port Fabricators, Inc., a Port of Iberia ship repair yard and fabricator of jackup drilling barges. The final papers in the acquisition, the latest in a series of recent expansion moves by the company, were signed recently with Port Fabri-

cators' owner Louis Michot of Lafayette, La.

The 9.5-acre plant, located on the commercial canal at the Port of Iberia, was established late in 1977. Included in the purchase are the company's lease and all improvements and equipment at the site.

Beldon Fox Jr., vice president of Red Fox Industries, stated that all of the Port Fabricators' approximately 70 employees were added to the Red Fox payroll,

which prior to the acquisition, numbered about 500 at the port and the Red Fox Machine and Supply Company.

The new acquisition will be renamed Red Fox Fabricators, Inc. Its corporate structure and relationship to the other Red Fox companies are still under consideration. This purchase is the latest in a series of recent expansion moves by the company.

Other expansions include the completion of the main fabrica-

tion plant at the port, doubling its capacity; increasing pipe shop acreage from one-half to five acres; and purchasing the former Halliburton site at the port, which will be used for heavy fabrication.

Plans for the future include enlargement of the corporate headquarters building, moving the machine and supply company to recently purchased property at the Acadiana Regional Airport, and establishing an in-house training facility.

Another growing activity of the company is its sales of locally manufactured marine sanitation devices, through 40 domestic representatives and a growing network of agents abroad.

Currently, the Red Fox MSDs are sold in 30 countries around the world, and agreements for them to be manufactured overseas under license are under consideration.

James Steadman Joins Halter Marine As VP For Special Assignments

James W. Steadman has joined Halter Marine, Inc., as vice president, special assignments, with overall responsibility for the Halter CATUG project at Chickasaw, Ala. Halter is building six of the giant propulsion units for an integrated tug/barge program as a subcontractor to Bethlehem Shipbuilding, and an additional tug for Sun Ship.



James W. Steadman

In making the announcement, Floyd J. Naquin, president of Halter Marine, said Mr. Steadman is uniquely qualified for his new position because of his 26 years of experience with the Ingalls Shipbuilding Division of Litton Industries.

His most recent position there, until his recent retirement, was vice president of operations. Prior to that, he held various managerial positions at Ingalls including director of quality assurance, chief of project engineering, director of program engineering, chief design engineer, and chief engineer of the test and inspection department.

Mr. Naquin said the new vice president would be assigned further responsibilities in the near future, in addition to handling the operations at Halter's Chickasaw division.

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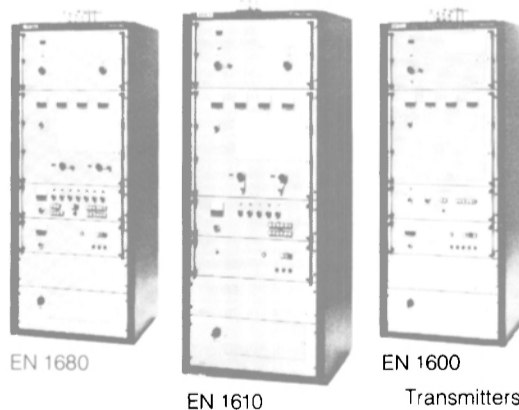
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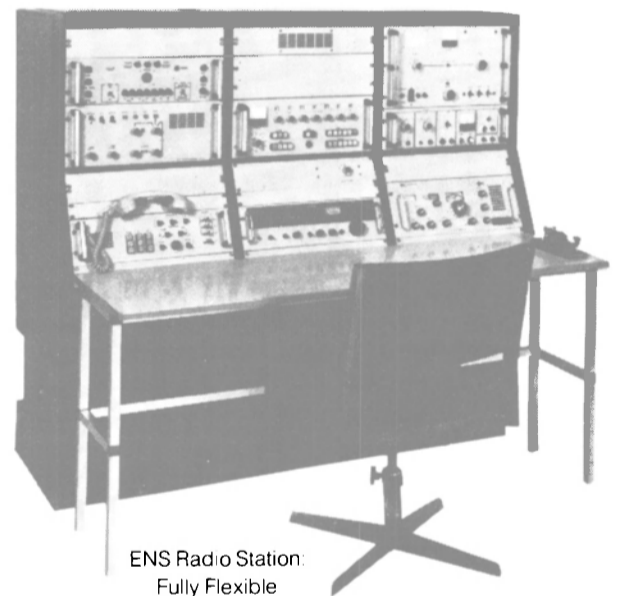
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Simrad Introduces New Trawl Echo Recorder—Literature Available

A new Skipper Trawl Eye System for echo recordings from the trawl mouth is now available from Simrad, Inc. of Armonk, N.Y. The system includes a transducer unit for trawl headrope mounting, special "twin-flex" cable and self-tensioning hydraulic cable winch,

and a Skipper 603 six-inch recorder cabinet, all at a moderate cost.

Designed specifically for mid-water trawl operations, the Skipper Trawl Eye is said to give an excellent picture of the situation in the trawl mouth. With the transducer pointed downward, the recorder shows fish in the trawl mouth, the trawl footrope, fish below the trawl, and the distance from the trawl to the bottom.

Fishermen report consistently better hauls with the Trawl Eye, since they can adjust trawl depth to the densest part of the fish schools, while keeping the footrope off hard bottoms.

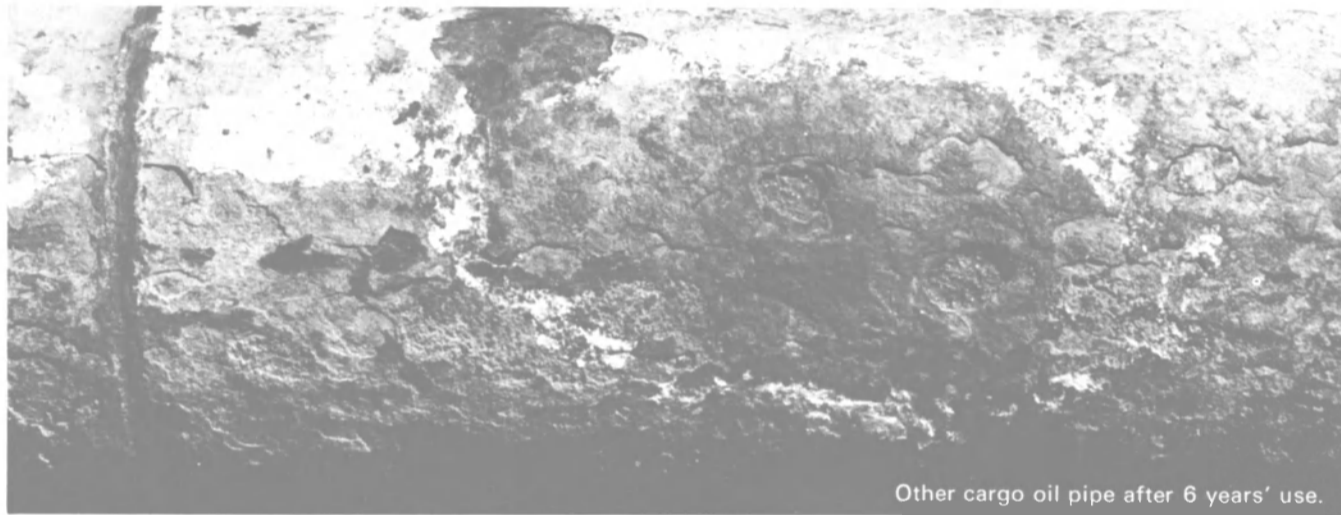
The transducer unit consists of a reinforced plastic housing containing a 50 kHz ceramic transducer. A Skipper Model 603 (6-inch) or Skipper Model 802 (8-inch) recorder is used as the Trawl Eye Recorder. Either can

also serve as a backup unit for the vessel's main recorder by installing an extra hull transducer.

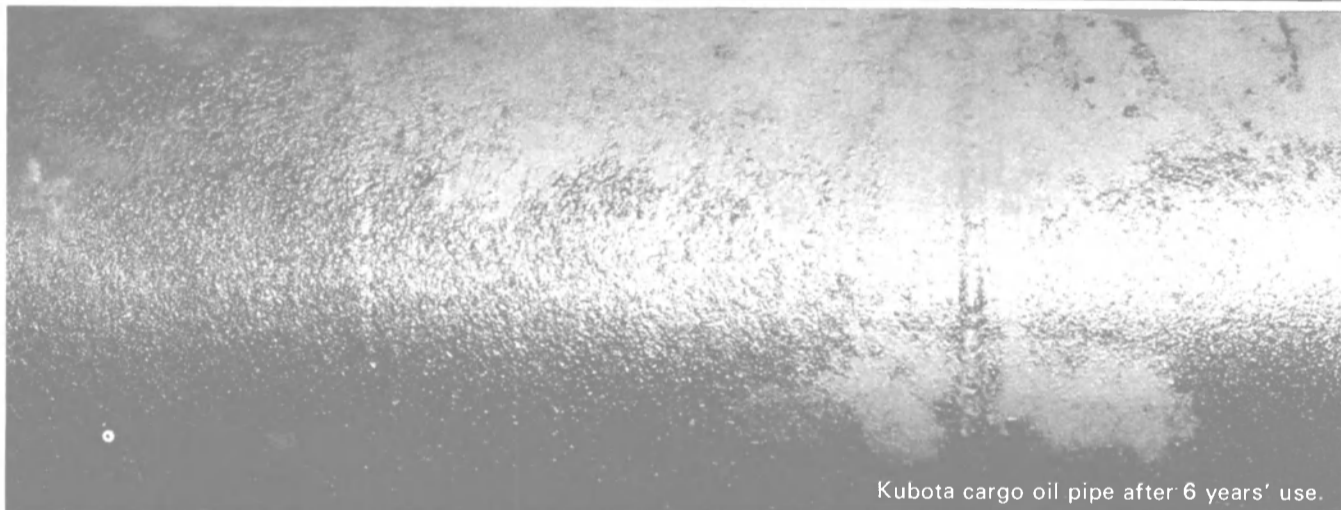
The headline transducer is connected to the vessel by a new type of "twin-flex" cable that is very light, yet has a tensile strength of 1,400 pounds. The cable is run from a small self-tensioning winch, normally located behind the wheelhouse, then fed through a stern snatch block that is also supplied with the system. The hydraulically operated winch is driven by an electric motor from either 220 volts ac 3-phase or 24 volts dc.

For free literature and complete information, write to Gil Nelson, Simrad, Inc., Dept. MR, One Labriola Court, Armonk, N.Y. 10504.

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Robert Strasser Joins MacGregor, U.S.A. As Technical Director

MacGregor Comarain, Inc. of Cranford, N.J., has appointed Robert C. Strasser as technical director. The post is considered a key one considering the currently improved prospects for merchant and naval shipbuilding in the U.S., with the consequent increase in opportunity for cargo access equipment suppliers.

Mr. Strasser's appointment reflects MacGregor Cranford's growing share of the market, which over the past few years has increased in respect of designs for both conventional and ro/ro vessels.



Robert C. Strasser

A graduate of New York State Maritime College, Mr. Strasser has accumulated many years' experience in engineering design, applied research, and technical project management. In 16 years with Newport News Shipbuilding, he held senior management positions as head of the Engineering Laboratory, assistant director and later director of research, and finally as engineering projects manager on a special project for the U.S. Maritime Administration.

Earlier in his career Mr. Strasser, who started as naval architect at Taylor Model Basin, served two years as an officer in the United States Navy as hull design officer, Supervisor of Shipbuilding, New York. He then joined the Marine Division of Sperry Gyroscope Company, involved in the design and assessment of ships' anti-roll stabilizers.

Halifax Shipyards Gets C\$27-Million Order For Three Stern Trawlers

Halifax Industries Limited, Nova Scotia, the Canadian ship-repairing company, has reentered the market for fishing vessel new construction with a 27-million Canadian dollar order for three stern trawlers from National Sea Products Limited.

The 1,100-ton vessels—all three keels have already been laid—will be built on the recently modernized slipway at Halifax Shipyards and are due for delivery in April, July, and November, 1981.

William J. Riley, president and chief executive officer of Halifax Industries Limited, said: "Ship repair will continue to be our principal line of business, but fishing vessel and small vessel new construction will provide us with a very useful additional source of revenue, given that we already have the facilities.

"Although no trawlers have been built at Halifax for eight years, 28 vessels of this kind were built between 1964 and 1972, so we do have the necessary expertise."

When fully under way, the trawler program will employ approximately 300 men, and a group of experienced professionals have been brought together to oversee this project and future new construction activities. Additional draftsmen and purchasing experts have been employed.

In conjunction with this new contract, Halifax Industries is carrying out a six-million Canadian dollar capital project to rebuild the steel fabrication facilities at Halifax Shipyards. This involves the purchase of new equipment and the refurbishment of the existing plate shop, sub-assembly shop, and slipway.

The stern trawlers are 50.0 meters long, 11.8 meters wide, and have a designed draft of 4.0 meters (164 by 38.7 by 13 feet). Incorporating modern design techniques, the vessels can accommodate 18 crewmen and have a fish hold capacity of approximately 426 cubic meters. The vessels can carry 190 metric tons of fuel and 70 metric tons of fresh water.

The main engines will be M.A.K. type 8 M 453 AK, 8-cylinder in-line, four-stroke, nonreversible marine diesel with supercharging and charge air cooling, direct injection. Maximum output is 2,000 bhp (1,470 kw) at 600 rpm. The vessels will use a Lohmann and Stolterfoht reduction gearbox type GCM600, ratio 3:1. The propeller will be controllable-pitch Liaaen type with speed of 200 rpm, diameter of 2,750 mm, and having four stainless-steel blades working in a Kort-type nozzle.

The vessels will be classified as Lloyd's Register of Shipping, Ice Class 1A + LMC (Hull will be strengthened for Ice Class 1A Super).

Bird-Johnson Appoints Richard E. McGinnis A Trustee And Director

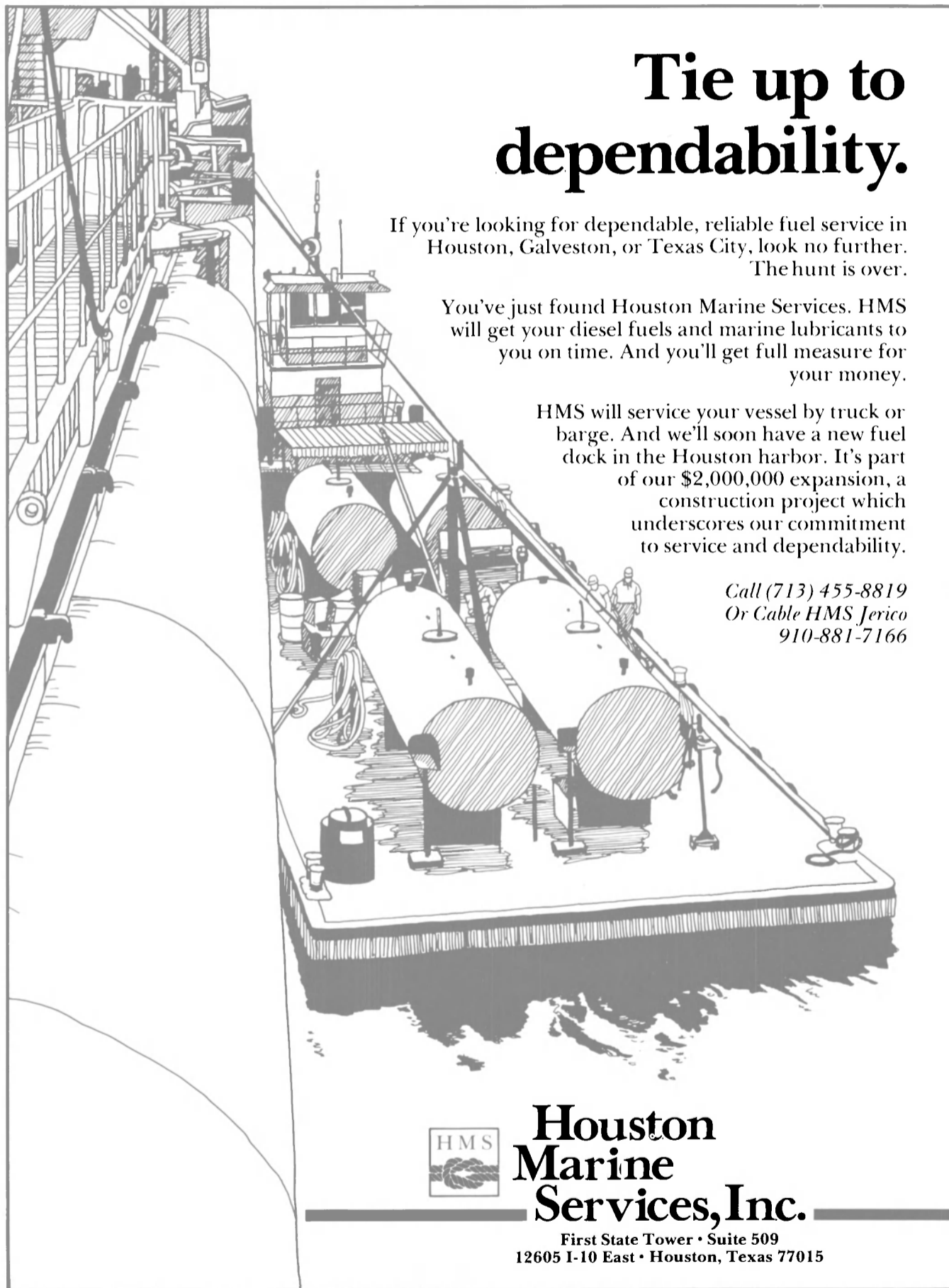
Richard E. McGinnis, corporate vice president of TRW Inc. and general manager of TRW's United-Carr Divisions in Burlington, Mass., has been elected a director and trustee of Bird-Johnson Company, Walpole, Mass.

Howard Scott, chairman and

chief executive officer of Bird-Johnson, said: "We are extremely pleased that an executive the calibre of Mr. McGinnis is joining our board. His strong and varied background in manufacturing will be a valuable asset to our company."

Mr. McGinnis was appointed to his present position at United-Carr in 1971. The division, headquartered in Burlington, a Boston suburb, produces a wide variety of fasteners, components, and

equipment for industrial markets worldwide. He joined Nelson Stud Welding Company, an operating unit of United-Carr, in 1947 as a sales trainee. He held various marketing positions until being named executive vice president and director of Nelson's parent company, Gregory Industries, in 1963. When Gregory Industries was acquired by TRW in 1969, Mr. McGinnis was appointed president of the Nelson Division.



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ON THE COVER

Advanced Design Product Tanker Launched At Sun Ship

The Philadelphia Sun, second of a new class of fuel-efficient, diesel-powered coastal tankers under construction for Sun Transport, was launched recently at the Chester, Pa., yard of Sun Ship.

A cheering crowd of more than 8,000 guests, employees and their families looked on as Mrs. Pat Green, wife of Philadelphia Mayor William Green, smashed the traditional bottle of champagne against the bow of the new product carrier.

The launching ceremonies included remarks from William G. Kay Jr., executive vice president of the Sun Company; Samuel B. Nemirow, Assistant Secretary of Commerce for Maritime Affairs; and Joseph J. Kleschick, vice president of Sun Ship.

The launching address was given by Sun Ship president Robert H. Campbell, and included a special tribute to the 4,000 shipyard workers whom he described as "shipbuilders in the Philadelphia tradition . . . the finest tradition."

Sun Transport's design for the Philadelphia Sun and sister ship New York Sun, (See MARITIME REPORTER issue of October 15, 1979, page 22.), which is now being outfitted prior to sea trials, anticipated the regulatory changes that have evolved since construction of these vessels began. The new ships incorporate many of the environmental and safety features that succeeding legislation was to make mandatory for tanker designs in the future.

Outstanding features of the Philadelphia Sun include a high



At ceremony marking launching of Philadelphia Sun, Robert H. Campbell, president of Sun Ship, praised the shipyard's 4,000 employees for their contributions.

level of automation, permitting control of engine speed and direction from the bridge; air conditioned crew quarters; and an elevator connecting the four superstructure decks with the engine room. Six pumps will discharge the tanker's 247,000-barrel cargo in 15 hours.

The 34,400-dwt ships have an overall length of 612 feet, beam of 90 feet, depth of 49.5 feet, and draft of 36.75 feet. Propulsion is provided by a single 14,200-bhp Mitsubishi/Sulzer type RND-M slow-speed diesel engine, providing a service speed of 15.5 knots.

Each vessel is capable of carrying six different types of refined

Kingdom and Poland. In addition, these separators have received approvals for use from the Netherlands, Norway, Denmark, Sweden and Germany.

Butterworth Systems is an international company that manufactures oil/water separators, tank-cleaning equipment, SCAMP® underwater hull-cleaning systems, and high-pressure water-jetting equipment. Technical and sales data are available from Butterworth Systems.

They also published a brochure, "From A to X About Onboard Oil/Water Separators," an overview of IMCO A.393(X), MARPOL, and proposed U.S. regulations and equipment capabilities. Single or multiple copies can be obtained free from Neil Chamberlin, Butterworth Systems Inc., 224 Park Avenue, P.O. Box 352, Florham Park, N.J. 07932.



Mrs. Pat Green, wife of Philadelphia Mayor William Green, smashed the champagne bottle to christen the Philadelphia Sun, second of a new class of coastal tankers being built by Sun Ship for Sun Transport. Assisting her in the christening were Mrs. Timothy Michais, matron of honor, and Joseph J. Kleschick, vice president of Sun Ship.

petroleum products at once, including gasoline, kerosene, jet fuel, heating oil, and naphtha.

The Philadelphia Sun is equipped with a wide array of modern navigational aids, including a collision-avoidance radar system, a satellite navigation system to enable the ship's crew to pinpoint its exact position at any given time, and a weather facsimile system that provides up-to-the-minute weather reports to the ship's officers.

A segregated ballast system has a total saltwater capacity of 12,000 long tons. With this system, several of the vessel's tanks are used only for ballast. This means that when the tanker's ballast water is pumped out during the deballasting cycle during

cargo loading, only clean salt water will be released.

In contrast to general practice in older tankers, ballast is not introduced into tanks that also carry the various petroleum cargoes. Should conditions at sea necessitate additional ballast water being pumped into any of the ship's cargo tanks, an oil-water separator removes petroleum residue from the ballast water before it is pumped overboard.

A sewage storage and treatment plant has been installed to insure that raw sewage cannot be discharged at sea.

The Philadelphia Sun will be assigned to various U.S. intra-coastal trade routes. She is the first vessel named for the City of Philadelphia in the history of the Sun Company fleet.

Coast Guard Approves Butterworth Systems Oil/Water Separators

Butterworth Systems recently announced that it has received U.S. Coast Guard approval for its SFC Bilge Water line of oil/water separators. In its approval, the U.S. Coast Guard has certified that Butterworth® SFC BW oil/water separators comply with the specifications detailed in IMCO A.393(X).

These Butterworth separators utilize integrated permanent filters. Standard semiautomatic and optional fully automatic models are available and are virtually maintenance free.

Butterworth SFC units have been tested and certified as meeting IMCO A.393(X) requirements by the administrations of France, Italy, Yugoslavia, the United

New Bulletin Describes Improved Diesel Cylinder Liner Plating Process

Bulletin 580 introduces Tele-dyne Metal Finishers' unique Teleplate™ hard chrome plating process for new and used diesel engine liners. The brochure explains how this carefully controlled process promotes energy savings, faster break-ins, less engine downtime, and longer service life for both new and reclaimed cylinder liners.

Tracing a used liner through the Teleplate process, the bulletin shows how it is thoroughly tested, machined (if necessary), two-step honed, inspected, hard chromeplated, diamond honed, plateau honed, finish machined, final inspected and vacuum blasted for shipment.

Advantages of the process are said to generate significant sav-

ings in lube oil consumption and diesel engine maintenance for the railroad and maritime industries.

For a free copy of Bulletin 580, write David A. Baldini, Tele-dyne Metal Finishers, Dept. MR, 1725 East 27th Street, Cleveland, Ohio 44114.

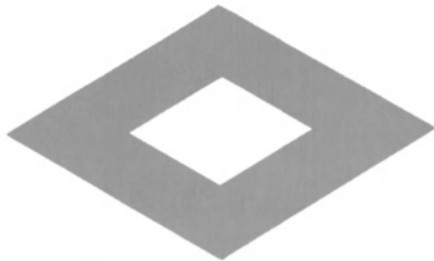
John Menge Forms New Marine Representative Co. In Metairie, La.

The formation of a new company, Menge Marine Equipment Co., Inc. of Metairie, La., has been announced by John H. Menge who enters the business with a respected marine heritage.

Menge Marine Equipment is a representative for Red Fox marine sanitation devices, Zodiac industrial and commercial inflatable vessels, and American Marine oil boom turbidity curtains.

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SUN TRANSPORT BREAKS GROUND — Sun Transport president F.P. Eisenbiegler (left) breaks ground at the Aston, Pa., site for the company's new home office. Looking on is R.H. Sterling, president of Radnor Corporation, the real estate developer responsible for the building's construction. The new headquarters building, located a few miles from Sun Transport's major marine terminal in Marcus Hook, Pa., will have 44,000 square feet of office space for the more than 100 shore-based employees currently providing staff support for the company's rapidly expanding fleet. Sun Transport and Radnor are both subsidiaries of Sun Company.

Army Permit Clears Way For Deep-Draft Terminal In Galveston

The Gulf Coast's first onshore deep-draft oil terminal moved a step closer to reality recently with the issuance of a dredging permit by the Galveston District, U.S. Army Corps of Engineers. The permit allows the Port of Galveston and Pelican Terminal Corporation (PELCO) to proceed with construction and use of the deep-draft channel and pipeline system that will support the terminal. It was delivered to Galveston port director C.S. Devoy and PELCO board chairman Joseph J. Ackell by Col. James M. Sigler, District Engineer for the Corps.

The Corps dredging permit was the principal administrative hurdle that the PELCO project had to clear in order to move forward. The other key permit—Texas Air Control Board Permit C-6496—was issued last December.

Discussing the receipt of the Corps permit, Mr. Devoy said: "We've cleared the last hurdle. . . . There is a great deal of satisfaction in knowing that very soon we will begin to see the results of seven years of hard work. Contracts have been signed with an engineering firm, and work is now underway to bring the dredging portion of the project to bid by January."

Mr. Devoy noted that completion of the 50-foot channel will open the door to substantial development of the port beyond the building of the PELCO project. As examples, he cited the impact of the deep-draft channel on plans for both a major coal terminal facility and a major deep-draft export grain project in Galveston.

The PELCO crude oil terminal will be located on Pelican Island, sheltered from the

Gulf of Mexico by the island of Galveston, and will have two tanker unloading berths capable of serving ships of up to 250,000 dwt, lightened to a draft of 50 feet. The facility will be equipped to unload vessels safely and efficiently at a rate of up to 100,000 barrels an hour.

Crude oil unloaded at the facility will be shipped by twin pipelines to a crude storage farm on the mainland in Texas City. Delivery pipelines from Texas City will fan out to pump crude to the refinery areas of Houston, Port Arthur/Beaumont, and possibly Freeport, Texas.

Construction is slated to begin in early 1981, with operations commencing in late 1982.

Shipyard Finds Safe Product Without Sacrificing Performance

The Bollinger Machine Shop & Shipyard in Lockport, La., is directing special attention to the ballast tanks on its ships. Since this shipyard constructs numerous vessels of every size, shape and purpose, a lot of ballast tanks are involved.

Ballast tanks receive intermittent exposure to salt water and require protection from corrosive damage. Fumes that sometimes build up in poorly ventilated ballast tanks can create a hazardous situation for both workers and the ship itself.

Bollinger initiated a search for a marine/industrial coating system that would give suitable protection and would be essentially non-hazardous when used in confined areas. Studies led Bollinger's engineers to Bywater Coatings, Division of Bywater Sales & Service Company, Inc. (BYCO) of Belle Chasse, La.

BYCO is the producer of a water-based protective coating system designed for use in dry voids, interiors of grain barges, cargo holds, hatch covers, linings for potable water tanks, and ballast tanks. This two-component, high solids, water-dispersed system is called Versa-Kote 3-WB and is made up of a specifically designed polymer and a pigmented activator. Versa-Kote 3-WB, which can be applied by conventional or airless spray, adheres tenaciously even to marginally prepared steel surfaces and a variety of other substances. Thorough testing proved this modified cementitious coating to be impervious to heavy abuse, thus meeting Bollinger's stipulations on durability.

Attention was directed next to safety features of this material. Versa-Kote 3-WB's water-based nature eliminates the amount of flammables escaping into the atmosphere and requires no special precautions when sprayed in a confined area. Upon application of this protective coating in the ballast tank, much of the water hydrates to harden the cement. Remaining aqueous vapors are harmless to the workers and do not impede curing due to high vapor concentration in the enclosed space. Repeated tests convinced Bollinger that Versa-Kote 3-WB was a safer product to use as well as a very acceptable tank coating that required minimum surface preparation.

Based on these conclusions, Bollinger began to recoat ballast tanks on several of its existing ships with Versa-Kote 3-WB, a material that incorporates as its only binder an acrylic emulsion manufactured by Rohm and Haas Company of Philadelphia. Pleased with the material's performance as a recoat system,



Supply vessel *Ventura*, delivered recently by Bollinger yard, had its 17 ballast tanks coated with Versa-Kote 3-WB produced by Bywater Coatings.

Bollinger speculated on using Versa-Kote 3-WB as the sole ballast tank coating system on future projects.

Bollinger recently launched a new offshore vessel equipped with 17 ballast tanks, all of which have been treated with the BYCO product. Christened *Ventura*, this oil-well supply vessel was commissioned by Conoco American Shipping Company and measures 170 by 38 by 133 feet. The *Ventura*, operating out of the Port of Galveston and into the Gulf of Mexico, is used as a support vessel in supertanker lightening operations.

Having witnessed the benefits of the water-dispersed BYCO system, Bollinger has approved using Versa-Kote 3-WB for all protective coating work done in the ballast tanks on two new vessels now under construction in the shipyard.

Wade Named Manager Of Supply And Marketing Of Coastal States Trading

Coastal States Trading Inc., a unit of the Houston-based energy supply company, The Coastal Corporation, has named Thomas M. Wade manager of foreign crude supply and marketing operations within the transportation and supply division.

Prior to joining Coastal, Mr. Wade was coordinator of foreign crude supply for Champlin Petroleum. He also served as an economic analyst and later as supply administrator with that company.

Mr. Wade holds a master's degree in finance from the University of Texas in Austin.





EQUITABLE DELIVERS 50 BARGES — Equitable Shipyards, Inc. of New Orleans recently completed an order for 50 river hopper barges, 25 rake and 25 box, for Carlson Leasing Company, Inc. of Minneapolis. Photo above shows four of the barges being moved from Equitable's New Orleans yard to Waterways Transportation and Trading Company, one of the firms that will operate the barges. Equitable now has capacity available for 1981 deliveries of this type barge, as well as tank and coal barges.

Zapata To Acquire Offshore Services Ltd. From Trafalgar House

Zapata Corporation of Houston recently announced that its board of directors and the board of directors of Trafalgar House Limited have approved an agreement for Zapata's U.K. subsidiary, Zapata Off-Shore Services Limited, to acquire Offshore Marine Limited, an offshore oilfield supply vessel firm based in Great Yarmouth, England.

Zapata said that under terms of the agreement, Offshore Marine Limited will be purchased from Cunard Steam-Ship Company Limited, a Trafalgar House Limited subsidiary, for approximately \$50 million. Offshore Marine operates 24 oilfield supply vessels. The transaction is subject to British government approval.

Zapata Corporation is a diversified natural resources company, primarily involved in the development of energy and proteins. In addition to marine services, its businesses include offshore drilling, oil and gas operations, shipping, coal mining, commercial fishing and related processing, and construction and dredging.

Colmac Coil Doubles Plant Size—First Step In Expansion

Colmac Manufacturing of Colville, Wash., has doubled its plant size with the recent completion of a 19,440-square-foot addition.

"The plant addition is the first step in enlarging our capacity and improving our product flows," stated Roger McMillan, Colmac Coil president. "It will also give us additional space in which to house our new engineering and sales department."

Gus Dever, Colmac Coil general manager, also announced the start of "on hand" supply of Colmac Coils' most popular products for immediate delivery.

Colmac Coil Manufacturing is a division of Colmac Industries. Colmac Coil manufactures air-conditioning, heating, and refrigeration coils; it also specializes in marine coils.

Skinner And Stepnitz Appointed Managers For Metritape, Inc.

Ralph L. Skinner has been appointed sensor operations manager, and Claire A. Stepnitz instrument operations manager, for Metritape, Inc., Concord, Mass. designer and manufacturer of advanced marine level gauging equipment.

Mr. Skinner will direct all activities involved with sensor design, production, and field service. His extensive background includes development of scientific, oceanographic, and optical instruments for such organizations as Damon Corporation, Smithsonian Astrophysical Observatory, Modicon Corporation, and MIT Instrumentation Laboratory.



Ralph L. Skinner



Claire A. Stepnitz

Mr. Stepnitz brings to Metritape more than 20 years of experience designing scientific instruments, information displays, data collection systems, analog signal processing, and digital controls for Ionics, Inc., Bowmar/ALI, and ITT Federal.

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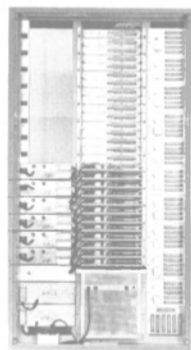
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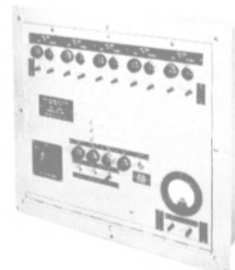
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ITO Announces Six Promotions—R.J. Nolan Named Executive VP

John J. Farrell Jr., president, International Terminal Operating Co. Inc. (ITO), one of the largest stevedoring and marine terminal operating companies in the United States, has announced several promotions and changes in ITO's executive structure.

Robert J. Nolan, formerly senior vice president, administration and legal, has been appointed to the position of executive vice president.

Arthur J. Boyle, formerly vice president, outports, has been appointed to the position of senior vice president, operations.

Capt. Donald K. Sweeney, formerly vice president, marketing and sales, assumes the position of vice president, outport operations.

Robert Dickinson, formerly assistant vice president, information services, has become vice president, marketing and sales.

Joseph P. van Daalen, formerly assistant vice president, has been appointed vice president, rates and pricing.

Robert Reddy, formerly assistant director, has been appointed to the position of director of data processing.

International Terminal Operating Company, founded in 1921 and acquired by Ogden Corporation in 1962, performs a complete range of stevedoring and marine terminal services in connection with the loading and discharging of all types of oceangoing vessels. ITO operates in all major ports along the North Atlantic Coast.

Technical Report On Sea-Shed Conversions Available From MarAd

The Maritime Administration has released a four-volume technical report on the Sea-Shed 'tween-deck, modular conversion system that allows container ships to carry loads too large or too heavy to be shipped in standard containers.

The Sea-Shed concept was developed to allow the increasingly containerized American merchant marine to transport outside cargo such as heavy industrial machinery and military equipment without sacrificing the economic benefits of unit handling. The decline in the number of U.S.-flag breakbulk vessels, and the trend toward the construction of full container ships, has deprived American commercial shippers and the military of ships capable of accepting oversized cargo, while at the same time worldwide demand for such items is growing.

The report was prepared by M. Rosenblatt & Son, Inc. of New York. Copies will be available from the National Technical Information Service, 5285 Port Royal Road, Springfield, Va. 22161. Order numbers and prices will be published at a later date.

Ogden Equips Fleet With Satellite Navigators

According to **Gerald A. Gutman**, president of Nav-Com Incorporated, the firm has received an award from Ogden Marine, Inc., equipping the Ogden fleet with Magnavox model MX-1142 Satellite Navigation Receivers.

As indicated by **Stanley S. Unger**, senior vice president of Ogden Marine, Inc., the Magna-

vox Satellite Navigators will substantially contribute to Ogden's continuing program of improving vessel operating efficiencies and a reduction of unnecessary fuel consumption.

The Magnavox model MX-1142 Satellite Navigator is reported to provide the most advanced techniques for precise navigation and high reliability. The unit also offers the future expansion capability of adding an integrated

Omega Navigation System by adding plug-in cards at a later date. The Integrated Omega Navigation capability provides continuous position information between satellite passes, and thus results in increased fuel savings when properly utilized.

For further information, contact **Walt Perlowski**, Marketing Manager, at Nav-Com Incorporated, 711 Grand Boulevard, Deer Park, N.Y. 11729.

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**H. Yates And R.E. Clark
Named To Key Posts
At Bath Iron Works**

President John F. Sullivan Jr. of Bath Iron Works, Bath Maine, has announced that Howard Yates and Richard E. Clark have been appointed to key posts in the shipyard's Finance Department.

Mr. Yates was appointed controller of general accounting for the shipyard. Previously, he had served as manager of financial planning and reporting. He has been employed at BIW since 1977, starting as a senior financial analyst. Prior to coming to Bath, he was senior auditor for Price Waterhouse Company in Boston.

Mr. Clark, who had been a senior financial



Howard Yates



Richard E. Clark

analyst in the controller's office at BIW for three years, was named manager of government financial reporting. He has been employed at the yard for eight years.

**Nav-Com Relocates
To Larger Quarters**

According to Nav-Com Incorporated's president Gerald A. Gutman, the company has relocated to larger quarters in Deer Park, N.Y., in order to keep pace with the rapid expansion the organization is experiencing.

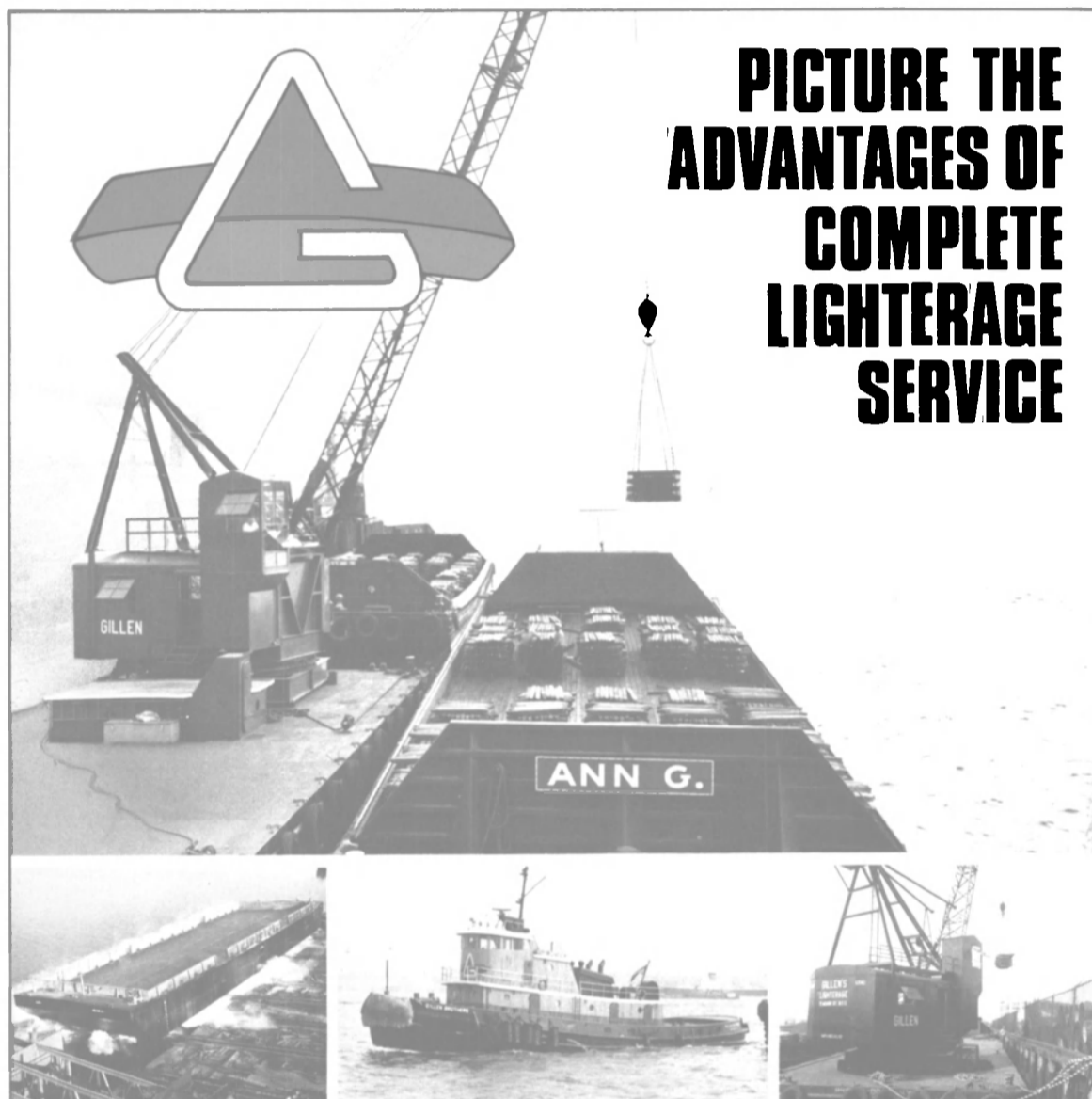


(Left to right) Nav-Com's marketing manager Walter Perlowski, executive vice president Jack Provenzano, and president Gerry Gutman in front of the new Nav-Com facility in Deer Park, N.Y.

The new facility provides 6,000 square feet of space, including executive offices, service facility, and warehousing.

The new complex will house both Nav-Com's commercial division and the systems division. The commercial division provides sales and service support of electronic communications and navigation equipment to the commercial marine industry. The systems division is engaged in the design and manufacture of custom computerized shipboard communications systems for the commercial marine industry. Nav-Com Incorporated provides sales and service support for all of the major manufacturers of electronic communications and navigation equipment, and features the marine communications and navigation equipment manufactured by the Magnavox Government and Industrial Electronics Company.

For further information, contact Walter Perlowski, Marketing Manager, at Nav-Com Incorporated, 711 Grand Boulevard, Deer Park, N.Y. 11729, phone (516) 667-7710, telex: 645744, Navcom NY Deer.



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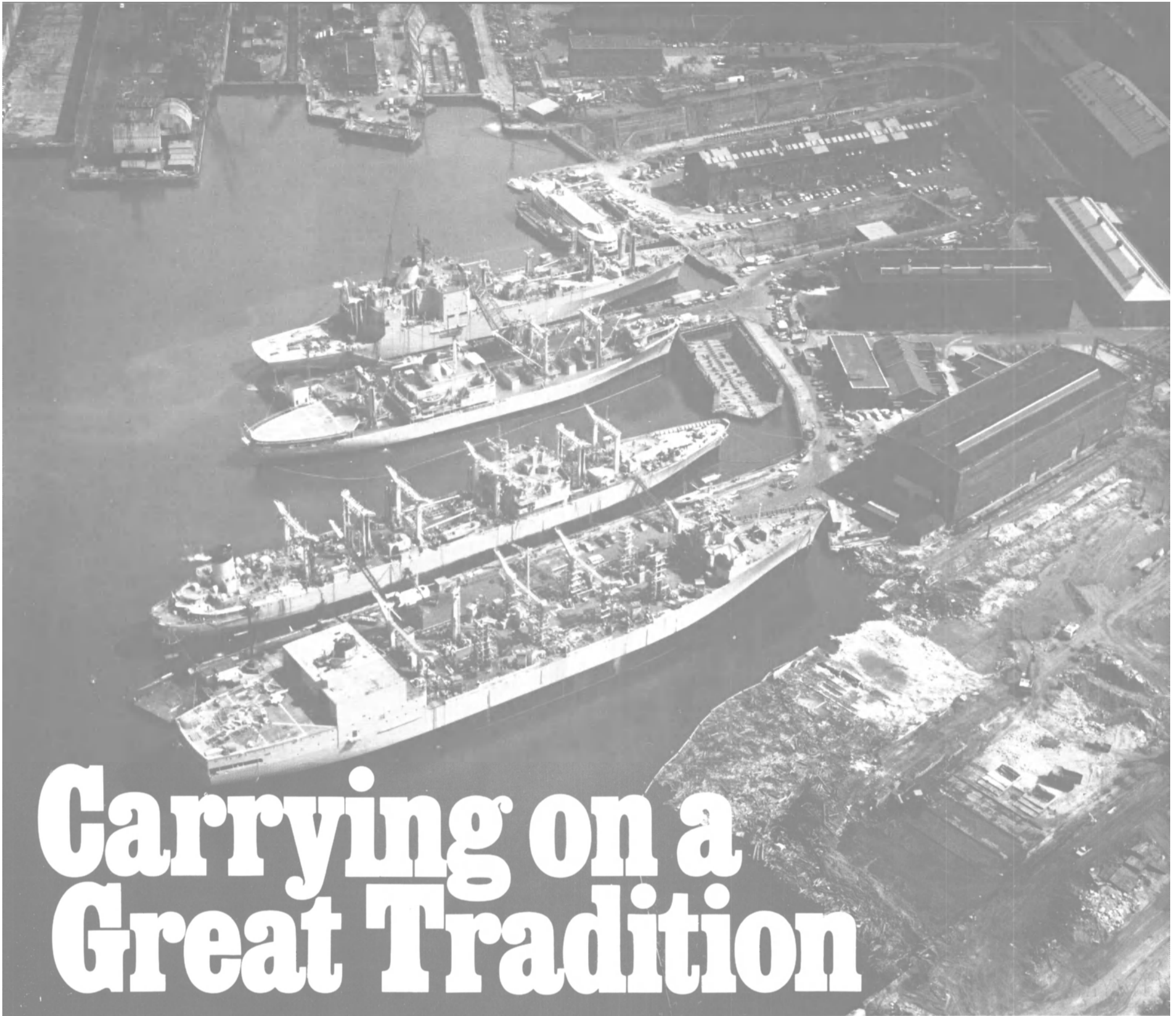


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Appledore And DnV To Assist In Operation Of Okpo Shipyard

A & P Appledore Limited and Det norske Veritas have signed a joint contract with Daewoo Shipbuilding and Heavy Machinery Limited, part of one of Korea's largest industrial trading groups, to provide operational and completion assistance for their major and unique shipbuilding complex, situated at Okpo Bay, Koje Island, Republic of Korea. Containing one of the widest and most versatile newbuilding docks in the world, the shipyard design was developed over the past four years by APA, who were also responsible for the design of the first mammoth shipbuilding yard in Korea, namely Hyundai at Ulsan.

The contract with Daewoo is to jointly supply the complete range of systems, production technology, and management software required to operate the shipyard. It will also involve the supply of certain key expatriate staff for periods of up to three years. Another im-

portant area of assistance is the organization of training for Korean shipbuilding personnel at all levels. The total period of the contract will be about three years.

When the Okpo yard is completed, around the end of this year, it should be one of the world's most productive shipyards and will be particularly adaptable for the present shipping demands for medium-size ships in the 30,000 to 180,000-dwt range. In addition to shipbuilding, Daewoo aims to embark upon offshore construction work, and the fabrication of specialist factories on barges at Okpo.

The building dock at Okpo has been designed for the simultaneous construction of two or more product lines such as shipbuilding, offshore, or floating nuclear power plants. With a length of 535 meters and a width of 131 meters (1,755 by 430 feet), the dock, which is to be served by a 900-ton goliath crane of 206 meters (676

feet) span, represents a huge production capability for Daewoo. Daewoo has taken an initial order from Westfal Larsen and Rederiet Odfjel of Norway for six chemical tankers of about 22,500 dwt. These ships will be delivered throughout 1982/3. Daewoo aims

D.D. Dougherty Appointed Systems Manager-North America For APL

Donald D. Daugherty has joined American President Lines (APL) Oakland, Calif., as manager of systems, North America, according to R.M. Rodgers, director, finance and administration, North America.

Mr. Daugherty's responsibili-

Maumenee, Roy And Snellman Promoted At Alabama Dry Dock



J.R. Maumenee



William J. Roy



Julius A. Snellman

The board of directors of Alabama Dry Dock and Shipbuilding Company recently elevated J.R. Maumenee from president of the corporation to chairman of the board and chief executive officer; William J. Roy was elevated from vice president-operations to president of the corporation, and Julius A. Snellman was elevated from vice president-administration to executive vice president.

Mr. Maumenee, who has served as president since 1964, joined the company in 1946. He has also served as executive vice president, vice president, secretary, and treasurer. He was named a director of the company in 1963.

Mr. Roy joined ADDSCO as an estimator in 1970 and was elected assistant vice president-operations in 1976, and vice president-operations in 1978.

Mr. Snellman, who has served as vice president-administration since 1976, joined the company in 1954 as manager of data processing. He has also served as auditor, assistant to the president, and secretary of the corporation.

The following officers were re-elected: M.A. Quina, vice president-sales; F.A. Dooley, vice president-finance and treasurer; J.C. Broadus, controller; Jeanette H. Wakefield, secretary; and Walter R. Meigs, assistant secretary.



At contract signing were, seated, L to R: Egil Abrahamsen, president, Det norske Veritas; I.K. Hong, president, Daewoo Shipbuilding & Heavy Machinery Ltd.; Peter Nash, managing director, A & P Appledore International Ltd., with other executives from the participating companies.

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to realize the full potential from the production facilities at Okpo before the end of 1983, by which time it is anticipated their ability to provide quality products in the fields of ships, offshore structures, and specialist industrial plants will have been achieved.

Michigan Wheel Announces Formation Of Propulsion Systems Group

H.L. VanderMey, president of the Michigan Wheel Division, Dana Corporation, has announced the formation of a propulsion systems group to market new systems for the increased propulsive and maneuverability efficiency of marine vessels. The systems involved in the new group will be composed of equipment aft of the vessel's main propulsion gear case.

According to Chuck Dijkstra, director of marketing, Michigan's aim is to continue to pioneer improvements to vessel efficiency as well as provide equipment that will increase vessel maneuverability.

David Johnson, the new propulsion systems manager, indicated that Michigan will be announcing further additions to its line of propellers and Kort nozzle systems. All new products are aimed at improvements in maneuverability, propulsion efficiency, and the lowest cost to the vessel owner/builder according to Mr. Johnson. Products marketed by this new group will be produced and assembled in Michigan Wheel Division's three plant locations in the U.S.A.

New Brochure Lists All Centrifugal Pumps Made By Dean Brothers

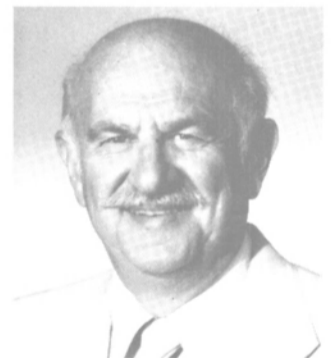
A new 12-page, two-color brochure provides a complete list of the centrifugal process pumps manufactured by Dean Brothers Pumps Inc., Indianapolis. This new brochure highlights Dean's R-500 Series, R-400 Series, pH

Series, the pH-340 and R-440 Series, DL Series, and DeanLine pumps.

Also featured is the new pHp Series self-priming chemical process pumps. Dean Brothers Pumps are designed for industrial, chemical, and refinery applications. The new brochure also tells about the quality features of all Dean units.

For more information and your own copy of the new Composite Brochure, write Dean Brothers Pumps Inc., Dept. MR, P.O. Box 68172, Indianapolis, Ind. 46268.

Julius Kurens Named Acting Director Of MarAd's Eastern Region



Julius Kurens

Julius Kurens has been designated as the acting Eastern Region director for the U.S. Maritime Administration, replacing Capt. Thomas A. King, who was recently appointed Superintendent of the U.S. Merchant Marine Academy at Kings Point, N.Y.

Mr. Kurens joined the Maritime Administration in 1963 as Eastern Region personnel officer. He has also served as administrative officer and as assistant director for administration prior to becoming deputy Region director in 1971.



“Give the customers what they want. This is what sets HBC Barge apart.”

What's the measure of a well designed barge? Listen to the people who design them to meet the customer's needs. HBC Barge Designer, Carl Malek:

“Some of our competitors offer options. But we know that giving our customers the barge they want means more than offering a limited list of options.

“Our customers can specify any applicable modifications. Such as: plating in a variety of gages, angles, cuts and shapes not possible with 'one-way' construction; temperature control systems; linings, coatings and insulations;

electrical or mechanical power sources, pumping and piping systems. Even special welding for certain applications.

“Our design experience, knowledge of materials and accessories, and our construction flexibility let us build a quality barge, to customer specs, delivered on-time, all at a competitive price. This combination has kept our customers coming back.”

Carl Malek can design your next barge, too. HBC Barge builds barges in any size and configuration you need, for chemicals and other liquids, coal, grain and other commodities.

Go beyond options and get what you want.

For more information on getting your next barge fleet built to your specs, contact:

HBC Barge™

HBC Barge, Inc.

Formerly named Hillman Barge & Construction Company.

Brownsville, Pennsylvania 15417

Phone: (412) 785-6100

**Marland Has New MSD
For Smaller Vessels—
Literature Available**

Marland Environmental Systems, Inc., Walworth, Wisc., a leading manufacturer of sewage treatment systems for large commercial vessels, has introduced a flow-through Type II Marine Sanitation Device (MSD) for workboats of small to medium crew size. The new device, named Sani-System® 40, is said to offer several advantages.

The Sani-System 40 comprises four compact modules designed to fit into the limited spaces available on a working vessel. Yet, with its compact size, it provides a daily treatment capacity of 40 gallons (151 liters), ample for a crew of eight. Use of an additional collection module can boost capacity by 50 percent.

An anaerobic system requiring no blowers, the system is said to be completely odor-free. It operates with fresh, salt, or brackish water; with any available voltage;

and with any standard manual or electric marine toilets. Regular maintenance is minimal, requiring but a minute or two every two weeks. And because the system has no moving parts other than the pump included in the treatment module, trouble-free operation is assured.

"We feel that the Sani-System 40 is the ideal unit for any boat with a complement up to 12," says Marland vice president Bob Daniels. "It complies with all Coast Guard and IMCO standards for a

Type II MSD, and is priced below any other device on the market."

More information on this and other Marland marine sewage treatment systems is available by writing to Bob Daniels, Marland Environmental Systems, Inc., Dept. M.R., 227 North Main Street, Walworth, Wisc. 53185.

**Waller & Associates To
Provide Engineering
Services For Ingram**

Waller & Associates, Inc., naval architects and marine consultants of Houston, has been chosen by American Tankships, Inc. and its parent Ingram Company of New Orleans to provide plan approval and engineering services to support Ingram's tanker construction program at National Steel and Shipbuilding Company, San Diego.

American Tankships has received an approval in principle from the Maritime Administration for Title XI loan guarantee to aid in financing construction of two product carriers. The 37,500-dwt vessels, designated the Ingram Class, will be powered by slow-speed diesels and have a speed of 15 knots. Total cost of the two ships is estimated at almost \$120 million. Construction of the first is scheduled to begin in May of 1981.

Waller & Associates is a diversified marine consulting group experienced in basic design of marine equipment, structural analysis, transportation evaluation, and construction management.

**G.F. Gallagher Appointed
Vice President-Engineering
At Bailey Refrigeration**

Sigurd Nilsen, president of Bailey Refrigeration Co., Inc., has announced the promotion of G.F. Gallagher to vice president engineering; he has served as chief engineer for the past 15 months.



G.F. Gallagher

Prior to joining Bailey, Mr. Gallagher had spent 18 years in United Brands (formerly United Fruit Company) in various managerial and operational positions in the transportation field. While at United Brands, he was responsible for engineering design of both ship and cargo refrigeration systems, including a patented refrigerated container system.

**You've got to play in a lot of games
before you can coach at Savannah.**



For 22 years, Roy Gradick has been on the same team.

Savannah.

Now he's one of our Leadermen.

Most of our key people are veterans like Roy. Seasoned players with 20 or more years at Savannah.

Fact is, at our yard, we have a very low turnover rate.

And in this game, like football, if you reduce your turnovers you always get the job done better.

That's why we're the best yard to do your major conversions, scheduled drydocking, or voyage repairs.

Because you won't run into aggravating, costly rookie mistakes. Isn't that the name of the game?

The Savannah Yard.

Savannah Machine & Shipyard Co.
P.O. Box 787, Savannah, Ga. 31402
Tel. (912) 233-6621

74 Trinity Place, Suite 1800
New York, N.Y. 10006
Tel. (212) 432-035C

*We just shortened
our name to
Savannah Shipyard Co.
Nothing else has changed.
Same owners, same
great Southern service.
Y'all come.*

William A. Howe Joins WABCO Division As VP-General Manager

William A. Howe has been named vice president and general manager of the WABCO Fluid Power Division of American Standard Inc. located in Lexington, Ky. He is responsible for all activities of the division in its manufacture of hydraulic/pneumatic cylinders and valves, systems, and related accessories that are used in the marine, oil exploration, transportation, construction, and manufacturing industries.

Prior to joining WABCO, Mr. Howe was vice president of business and product planning at The Mosler Safe Company, a division of American-Standard located in Hamilton, Ohio. His previous professional affiliations were with PepsiCo as the director of corporate planning, and with IBM in sales, marketing, finance, and planning positions.

San Francisco To Build New Fireboat Designed By Morris Guralnick

The City of San Francisco is preparing to advertise for tenders to build a new fireboat, which has been designed by Morris Guralnick Associates, Inc., according to an announcement made by Hugh F. Munroe, president and chief executive officer of the prominent San Francisco-based firm of naval architects and marine engineers.

The new vessel, to be built for fire protection on the extensive San Francisco waterfront, will replace the venerable fireboat Phoenix, which has served the city for more than 28 years.

Consistent with modern technology, the highly automated, 93-foot-long craft will be able to take off at virtually a moment's notice to fight a waterfront fire. Its twin diesel engines will drive the vessel in excess of 18 knots as demonstrated by extensive model tests. Water can be pumped at 6,000 gallons per minute under piers or over 45-foot-high ship decks and waterfront buildings. For fighting oil fires, there will be a 10,000-gallon-capacity foam system.

The new fireboat will be completely controlled by a three-man crew operating practically all of the modern firefighting equipment remotely from protected positions. Outstanding flexibility and maneuverability for firefighting will be available through the use of controllable-pitch propellers and water-jet thrusters. On arrival at the scene of a fire, all required power to drive the pumps will be transferred from the propulsion engines, leaving sufficient power for maneuvering. Special features to protect the vessel personnel have also been incorporated in the design.

Morris Guralnick Associates was selected to design the new

vessel by the City of San Francisco, following a competition for the contract that involved several other naval architectural firms. Coincidentally, Mr. Munroe also played an active part in the building of the Phoenix. He was in charge of construction of the retiring San Francisco fireboat, which was built by Plant Shipbuilding Company, Alameda, Calif., in 1952.

Brochure Available On Turbocharger Repair From Turbine Specialties

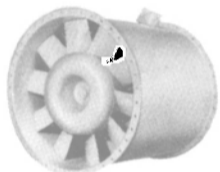
Turbine Specialties, Inc., specialists in the repair and rebuilding of damaged turbochargers, has recently published a new descriptive color brochure describing their capabilities in the repair and rebuilding of turbochargers. The brochure describes the re-

pair and rebuilding of turbine blades, turbine wheels, blower impellers, shafts, nozzle rings and cracked cases—all rebuilt to original specifications and dynamically balanced.

For a free copy of the Turbine Specialties capabilities brochure, write to J.T. Adams, Manager-Marketing, Dept. MR, Turbine Specialties, Inc., P.O. Box 207, Salina, Kan. 67401.

QUALITY-BUILT

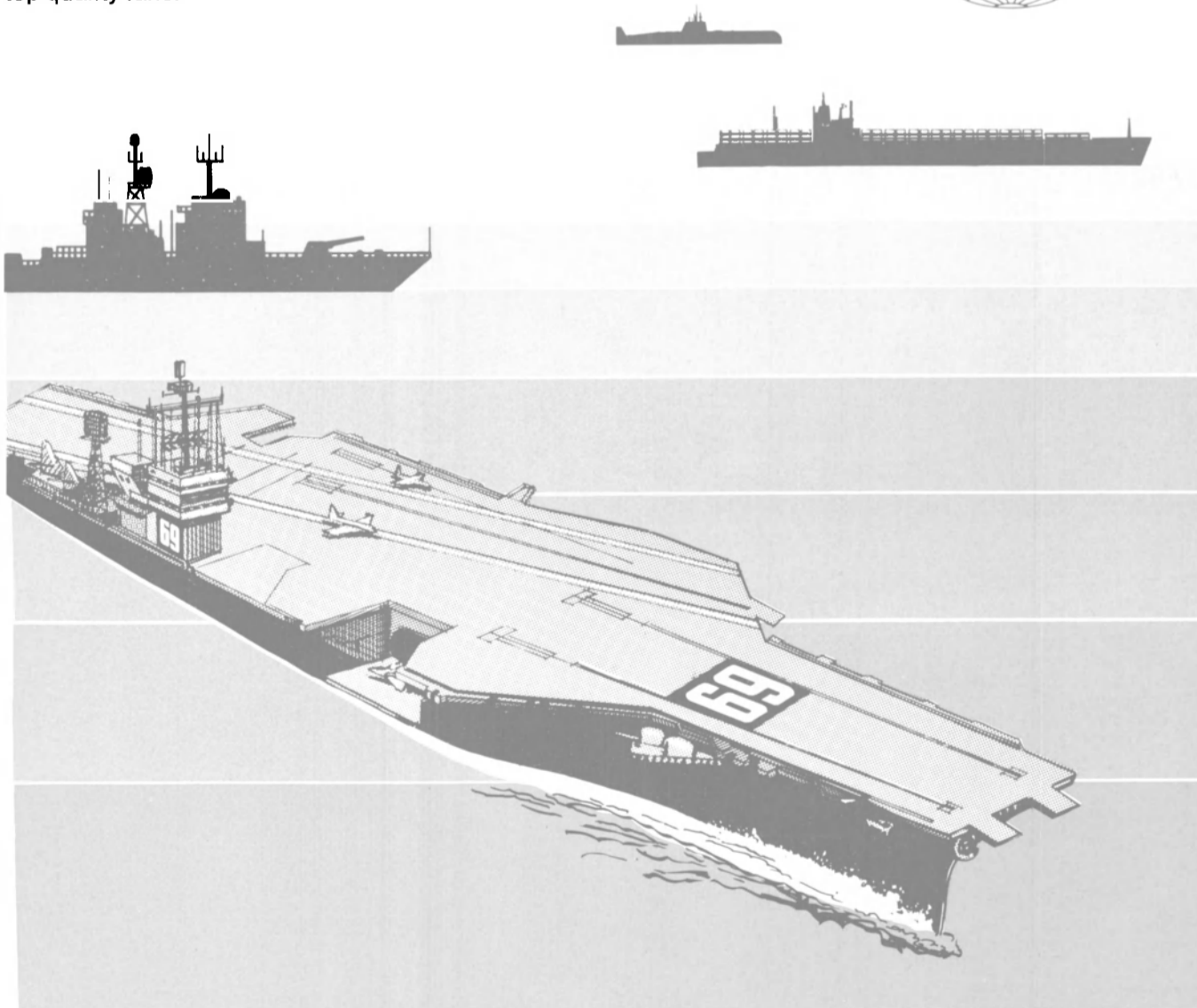
JOY™ Navy and Maritime Ventilation Fans Provide Long, Dependable Service.



Rugged, top-performing JOY axial, centrifugal and propeller fans are specially built for ship-board ventilation applications.

JOY fans are built with aluminum rotors cast in our own quality controlled foundry, heavy gauge casing and flanges. Rigid quality control standards and stringent testing procedures consistently assure top-quality fans.

Standard JOY fans have full approval of the U.S. Navy and U.S. Maritime Administration. Whether you need a standard or custom designed fan for navy or maritime applications contact Joy Manufacturing Company, Air Moving Products, New Philadelphia, Ohio 44663.



\$5.4-Million Engineering Contract Awarded By Navy To Comptek Research

Comptek Research, Incorporated, Buffalo, N.Y., has been awarded a \$5,411,059 cost-plus-fixed-fee contract for engineering support and computer software services in support of shipboard combat tactical data systems for new ship design programs and ship modernization overhaul programs as a result of negotiation. Work will be performed in Norfolk, Va., Arlington, Va., and Vallejo, Calif. The Naval Supply Center, Norfolk, is the contracting activity. (N00189-80-C-0761)

Halter Delivered 30 Big Commercial Vessels In First Half Of 1980

Halter Marine, Inc., New Orleans, delivered 30 large commercial vessels during the first six months of 1980. For that period, Halter president **Floyd J. Naquin** reported deliveries of 17 supply vessels, seven crewboats, five tugs, and one utility/fireboat from the company's six commercial shipyards.

Mr. Naquin said the production figures reflected a considerable increase in Halter's construction of crewboats and tugs. Halter Marine is already the world's largest builder of supply boats for the offshore petroleum industry.

"Efforts to strengthen our product mix in the marine market are now being realized. In fact, Halter Marine is building more types of

vessels now than ever before, especially innovative designs like diesel-electric supply boats, giant catamaran tugs, and surface effect ships," Mr. Naquin explained.

He said the firm's two consumer boat divisions had also delivered 20 fiberglass fishing boats, and 27 high-speed offshore racing and pleasure boats built by the Cigarette Racing Team, a wholly owned subsidiary of Halter. Commercial and consumer production figures were reported separately to give a more accurate picture of the company's output.

Prominent among the 52 vessels under construction at Halter's six commercial shipyards are seven large CATUGS, six of which Halter is building as a subcontractor to the Bethlehem Shipbuilding Division of Bethlehem Steel Corporation. The first of the \$20-million vessels was launched July 3, and construction of the second and third vessels is well under way.

Although the CATUGS are under construction at Halter's Chickasaw, Ala., division, all of the steel is cut and fabricated in New Orleans at the company's central steel cutting facility on the Industrial Canal. Mr. Naquin said the Industrial Canal Division is able to serve all of Halter's commercial divisions because of the use of high-speed plasma arc cutting machines, which are computer-directed.

"With these machines," explained Mr. Naquin, "we can cut just about all of the steel for a vessel, with far greater accuracy, mark and kit it for shipment to the erection site in far less time than it would take to do it on site.

As a matter of fact, these machines are so efficient, we now cut steel for other non-competitive shipyards."

He added that centralizing this phase of construction also standardizes the vessels while improving on modular construction techniques.

Halter has also initiated a design, construction, and test program for bulk mud tanks that are included in nearly all supply boats serving the offshore oil and gas fields. The new Halter-designed tanks promise more efficient discharge with less waste. The Industrial Canal tanks are built to the rigorous standards of the American Society of Mechanical Engineers (ASME), and have undergone extensive testing before being offered to the industry. Halter recently received its ASME code certification for pressure vessels, and now holds one of only two such code stamps issued to Gulf Coast area shipbuilders.

Mr. Naquin announced that Halter is also now ready to enter the ship repair business with the completion of one of the largest drydocks on the Gulf Coast. Located at Chickasaw, Ala., the new 4,000-ton deadweight-capacity drydock is 160 feet long and 120 feet wide. It can presently accommodate two supply boats simultaneously or a large derrick or pipe-lay barge, and vessels with drafts up to 30 feet. In the near future, this same dock will be extended to over 500 feet in length.

Adding to Halter's healthy backlog is a new contract for the construction of four surface effect ship "dashboats" that Halter

builds in a joint venture with Bell-Aerospace Textron. The 110-foot vessels for Command Marine, Inc. of Lafayette, La., offer high speed, stability, and a 2,000-mile range. They will be the first of their type to serve the offshore oilfields, and company officials feel that their leadership in these new vessels will help maintain Halter's position as one of the most innovative shipbuilders in the nation.

The Offshore Company Names Giles V. Wright Manager Of Purchasing

George T. Richardson, president and chief operating officer of The Offshore Company, Houston, has announced the promotion of **Giles V. Wright** to manager of purchasing.

In his new position, Mr. Wright will continue to be responsible for the procurement, exportation, and distribution of equipment and supplies for Offshore. He joined Offshore in 1963 and served as purchasing agent, a position he has held until his recent promotion.

James Rhodes Appointed Communications Director For Navidyne Corp.

Navidyne Corporation announces the appointment of **James H. Rhodes** to the newly created position of director of corporate communications. In that capacity, he will be responsible for all advertising, public relations, and internal communications programs, according to **A. Clifford Barker**, company president.

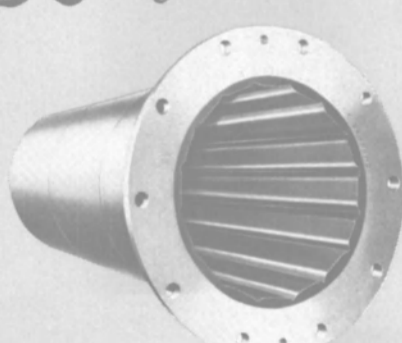


James H. Rhodes

Prior to joining Navidyne, Mr. Rhodes was senior writer and assistant account executive with Public Relations Institute, Inc., in Norfolk. Before that, he was a writer and editor with the consulting firm of Lulejian & Associates, Inc.

Founded in 1973, Navidyne has established itself in a position of leadership in the marine electronics industry. The company is the world's leader in sales of shipboard satellite navigation receivers, and has recently introduced a new Loran C navigator that draws heavily on the company's experience in Satnav technology. Headquartered in Newport News, Va. Navidyne maintains a worldwide network of sales and service agents.

WATER POWERED BEARINGS



Cutless rubber bearings need only a thin film of water to keep propeller shafts rotating smoothly and efficiently.

An exclusive "water wedge" design keeps a thin layer of water between the bearing and shaft. In effect the load is floating on the lubricating film.

Shaft friction and horsepower losses are minimal. Water does the job. And there's not a drop of oil or grease to worry about contaminating the waterways. Trouble-free Cutless marine bearings from Lucian Q. Moffitt, use them for maintenance or new construction.

LUCIAN MOFFITT, INC.
NATIONAL and INTERNATIONAL DISTRIBUTORS
 P. O. Box 1415, AKRON, OHIO 44309

Keep the boat working

The MV Dennis Hendrix does — at nearly 98% utilization of her engines at an estimated 80% load factor. Almost 17,000 hours, on MVI Caprinus® R Oil.

With only 1400 hours on her three 16-645-E5 EMD engines, the Dennis Hendrix was switched over to Shell's MVI Caprinus® R Oil. That was in the Summer of 1977. When launched, on July 16, 1977, the boat started working the Lower Mississippi pushing tows of up to 40 barges of 1500 tons each. On August 19, 1979, she was finally ready for her first scheduled overhaul. Total engine hours averaged 17,885. Individual engine hours were; port — 18,124, center — 17,421 and starboard — 18,110. Total *elapsed* time from the date of launch; 18,312 hours. And work on the Lower Mississippi usually means long runs with few interruptions. It was estimated that the load factor was averaging about 80% during these hours. In over two years, the engines averaged only 2.3% downtime.

The Dennis Hendrix was the first American Commercial Barge Line vessel to use Caprinus R. So, when the overhaul was scheduled, Shell went along to see the results. As is usual with Caprinus R oil, the engines were very clean, with relatively low deposit levels. Wear was low for the time and type of service. Used oil analysis showed that the premium MVI Caprinus R Oil had equilibrated at a TBN-E of 3.0, which means corrosion protection was adequate even though the engines were operated in 'no drain' service. Carbon deposits were as expected with an MVI oil, soft and flaky.

All three engines appeared about equal in appearance, and the port engine was selected for

detailed inspection. Top rings all rated 2A, #2 rings rated 2 and 2A and #3 compression rings all rated 1. These values are well within the normal range for engines at overhaul. Liner wear was normal for the hours. All three engines had done their job well. The oil had done its job well. MVI Caprinus R oil had helped the Dennis Hendrix stay on the job with minimum downtime and maximum reliability.

MVI oils have been proven in almost half a century of operation in medium-speed diesels. Shell's MVI Caprinus R Oil maintains that reputation of MVI oil and uses a modern additive package to meet the latest engine service requirements.

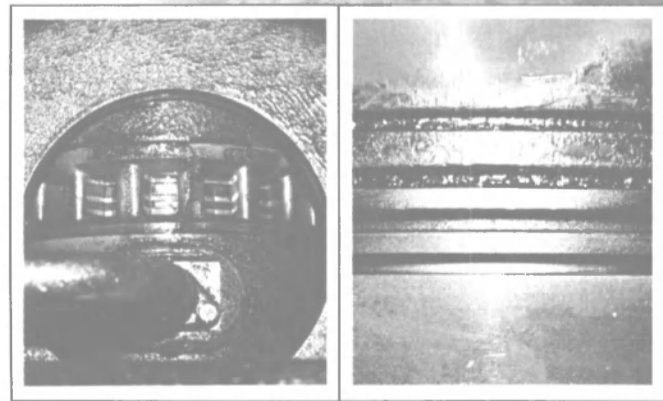
Shell doubling MVI capacity

Since Shell is *doubling* its MVI lube oil capacity, there is no need to switch to HVI oils, as suggested by some MVI-short suppliers. HVI oils form harder, denser carbon deposits that can block port areas and crowd rings in their grooves. With Caprinus R Oil, you can usually operate without changing oil in most engine types with good engine protection. A used oil analysis program can be the means to longer life and excellent engine protection with Caprinus R Oil.

For more information write Shell Oil Company, Manager, Commercial Communications, One Shell Plaza, Houston, Texas 77002.

Caprinus is a trademark and is used as such in this writing

Come to  Shell for answers



The light carbon deposits in the airbox are typical of a premium MVI oil such as Caprinus R. Soft deposits will clean up rapidly, and even after 17,000 hours, are not blocking air flow.

Pistons had no scuffing or scoring. Ring groove fill and ring wear were normal for the time and type of engine service. Rings were free.

B&W Yard Given Danish Gov't Guarantee For Bulk Carrier Construction

Burmeister & Wain Shipyard, Copenhagen, formerly a division of the B&W Group, has now become a limited company in its own right, having a share capital of 80-million Danish kroner and a

net capital of 112-million Danish kroner. To supplement this, the Danish Government has granted the newly established company an export credit of 225-million Danish kroner in connection with the construction of five 64,000-dwt fuel-saving bulk carrier-type ships. The first newbuilding of this series will be launched in the

near future with delivery scheduled for the end of this year.

At present, B&W Shipyard is engaged in trying to secure further contracts in the bulk carrier market for delivery in 1982. Much interest has been shown in these vessels, which fully loaded consume less than 40 tons fuel-per-day.

Burmeister & Wain Shipyard

A/S is to be headed by its previous managing director, Cato Sverdrup, with S.O. Lund as sales director.

In connection with the export credit guarantee to Burmeister & Wain, the Danish Industrial Minister Erling Jensen stated: "The export credit guarantee of 225-million Danish kroner is not a Government grant, but represents the Danish Government's opinion that B&W Shipyard is a company in good position as far as workmanship, management, and economy is concerned, not only to be able to finish the five ships on order but on longer terms create a basis for further contracts."

Stolpestad Named Manager Of Purchasing At Bath Iron Works

President John F. Sullivan Jr. of Bath Iron Works, Bath, Maine, announced the appointment of Arthur H. Stolpestad as manager of purchasing.



Arthur H. Stolpestad

In his new capacity, Mr. Stolpestad will be responsible for the purchase of all goods and services required for awarded contracts and shipyard support.

Prior to his appointment at Bath Iron Works, Mr. Stolpestad was purchasing manager for General Electric's Aircraft Engine Group in Lynn, Mass. Mr. Stolpestad had been with General Electric for 18 years, starting in the company's apprentice training program. He held a variety of management positions at General Electric, including manager of shop operations, buyer-contract administrator, shop supervisor and manufacturing engineer.

In 1966, he earned a degree in business administration from Tufts University.

Halvard Berg Named Commercial Manager At Barber Blue Sea

Halvard A. Berg has been named commercial manager of Far East imports for Barber Blue Sea, the multinational ocean carrier. In making the announcement, Ray Miles executive vice president, said Mr. Berg is responsible for directing within North America all aspects of the Far East service.

Mr. Berg previously held senior management positions with Barber Lines in the company's New York, Hong Kong, and Jeddah offices.



New government regulations say you must have two north-up radars.

Common sense says, "choose from these two"

Whether you already have one north-up radar and simply need a secondary or you have to bite the bullet and buy two new ones — our new 100 mile, 25 KW models, M310 or M311, are an exact fit for your situation.

Why? Because feature for feature, they're the lowest price way to meet all the government regulations and still get the powerful, dependable radars you need.

These 10" display units have 9 different ranges — from 1/4 mile to 100 miles, plus 3 pulse lengths and 3 pulse repetition frequencies. A variable range marker is standard. In the 3, 6, 12 and 24 mile ranges you can select short or long pulse lengths.

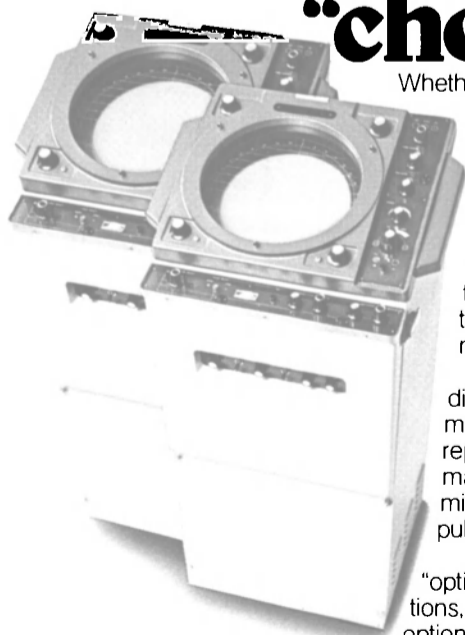
The "north-up" option is hardly "optional". We recommend it for all installations, and the regulations require it. Other options include "Clean Screen"™ interference

rejection, a second variable range marker, and gyro-stabilized movable azimuth scale.

The M310 with the transmitter/receiver unit "up" under the antenna offers maximum range performance. For ease of maintenance, the M311 puts the TR unit in the wheelhouse.

Epsco has been a leader in military, space, ocean shipping and commercial fishing navigation systems for 25 years. We give you the nation's best network of commercial dealers and authorized repair facilities. You are a professional working with professionals when you deal with Epsco.

For complete information on these new radars plus the full line of Epsco marine electronics, see your Epsco dealer or contact Epsco at 411 Providence Hwy., Westwood, MA 02090, (617) 329-1500.



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When it comes to protecting ships, the Vikings have a world of experience.

FOSTER WHEELER AND MOSS ROSENBERG OF NORWAY OFFER TWO INERT GAS SYSTEMS.

Moss Rosenberg has 60 years of shipbuilding experience, plus over 150 inert gas plants aboard ships around the world. Foster Wheeler has 50 years of marine experience, including a leadership role in boiler design and manufacture.

Now our combined experience is working together to bring you inert gas protection. Because Foster Wheeler is manufacturing two proven, reliable systems in the U.S. under license from Moss:

1. A flue gas scrubber system that provides inert gas by utilizing boiler stack gas output.

2. A compact gas generator system for ships with unsuitable or insufficient stack gas output.

That means we're not locked into one system or the other. We can deliver the inert gas protection you need, in a wide range of output capacities—for retrofitting or for new vessels.


We'll be glad to review your ship's requirements and evaluate your inert gas needs—as only marine and combustion experts can.

For details on this service, and a copy of our new brochure on inert gas systems, write or call Mr. Arthur Christenson.

We'll respond quickly and decisively. In the best Viking tradition.

Foster Wheeler Boiler Corporation, 110 South Orange Ave., Livingston, NJ 07039
(201) 533-2275

FOSTER  WHEELER



Carved animal head post
from a 9th century Viking ship—
designed to protect against
evil spirits.

**Transoceanic Designated
As U.S. Forwarder
For NACAP Project**

Transoceanic Shipping Company, New Orleans, has been designated as international freight forwarders for the whole of the United States by NACAP of the Netherlands on a very extensive pipeline project in Argentina for Gas of Estado in Buenos Aires,

The largest percentage of the cargoes, materials and equipment will be moving through the Port of New Orleans.

The equipment and material is arriving in New Orleans by barge, rail, and truck, and going by ocean carrier and air to the job site.

The project, laying of a major gas pipeline in that country, consists of several hundred containers of pipe and pipelaying equipment, as well as rolling and mo-

bile equipment such as several hundred trucks, trailers, buses, ambulances, and parts.

It should be noted that this is the first major project that NACAP moved through the Port of New Orleans, and that Transoceanic was responsible for having this cargo routed and expedited there, and the handling of all materials, expediting, traffic coordination, etc., will be through Transoceanic.

**D.J. Conners Appointed
Sales Engineer, ALCO
Midcontinent Region**

David J. Conners has been appointed sales engineer for the ALCO Midcontinent Region headquartered in St. Louis. He will report directly to Ray Cathcart, regional manager, and be responsible for sales and service of the ALCO Power Boss diesel engines. Mr. Conners will also work closely with the ALCO distributors' network effecting complete factory liaison.

The new sales engineer comes from the corporate office in Auburn, N.Y., after completing an extensive company training program and holding the position of marketing analyst for ALCO Power Inc.

ALCO is a leading manufacturer of diesel engines used for marine propulsion, standby electric power generation, onshore and offshore oil exploration, pumping, and locomotive applications.

**Paul Baria Appointed
Vice President Of
Zapata Corporation**

Paul E. Baria has been named a vice president of Zapata Corporation, Houston. In that capacity, he will direct efforts to seek business development opportunities for Zapata and its divisions worldwide.

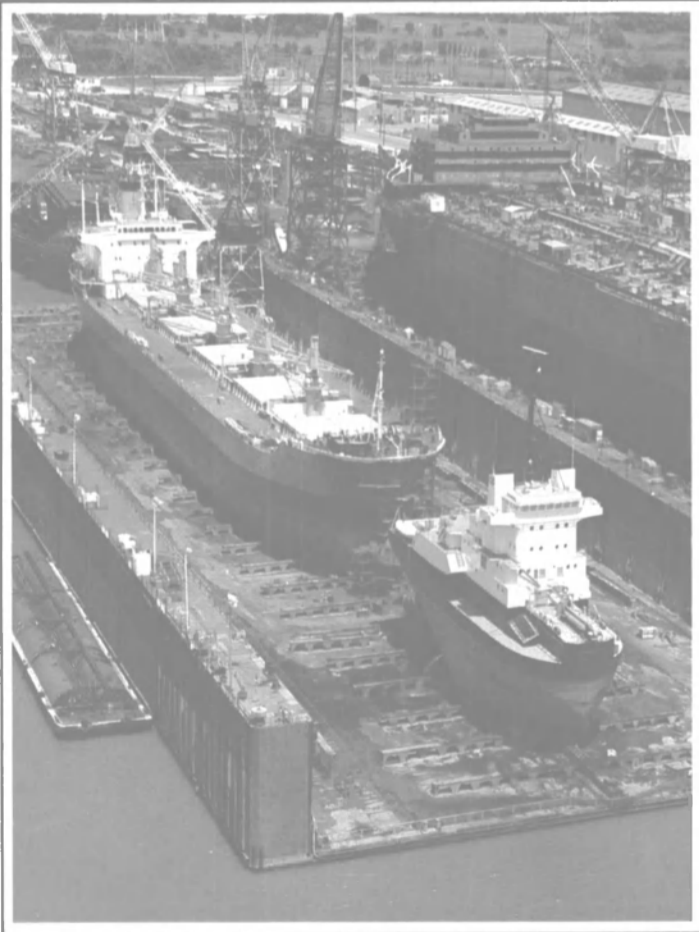
Since joining the company in 1972, Mr. Baria has served as vice president and general manager of Europe and Africa operations for Zapata Exploration Company, a Zapata subsidiary that actively participates in oil and gas exploration and development activities around the world. He has been involved in oil, gas, and mining operations of major companies since 1951, when he began his career in Venezuela.

**Roy Danziger And George
Valentini Join Staff Of
United TankContainers**

Lawrence D. Lavers, president of United TankContainers, Inc. in New York, has announced the appointments of Roy C. Danziger as director of transportation services, and George E. Valentini as operations manager. Mr. Danziger had been intermodal distribution manager for the chemicals division of Air Products Co., and Mr. Valentini was vice president-operations for Independent Cargo Services, a subsidiary of S.G.S. Control Services, Inc.

"United TankContainers, Inc. is the only U.S.-based company specializing exclusively in the leasing and operation of tank containers for the transportation of bulk liquids," Mr. Lavers said. "The addition of Mr. Danziger and Mr. Valentini should enhance significantly our capability of serving the chemical and transportation industries which are our principal markets."

For the Broad of Beam



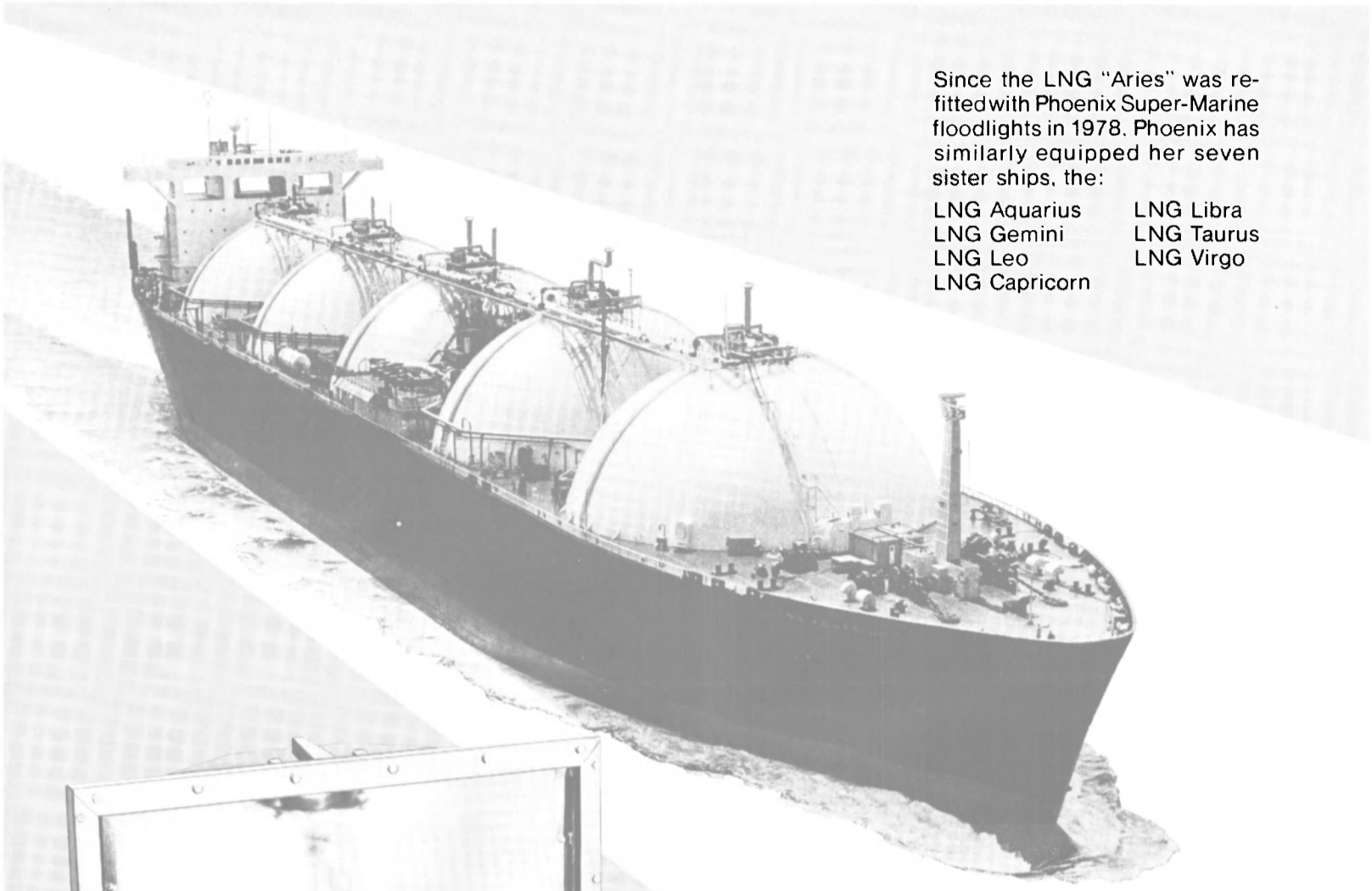
Avondale's drydock at the Main yard can accommodate any vessel that can navigate the Mississippi River. Our yard flexibility and efficiency allow for service of all ocean going vessels including drill rigs up to 215' wide, and of course... all types of inland vessels.

When your needs are yard needs; come to Avondale. The experience counts and you'll get quick turnaround. Quick, efficient and dependable. We feel good about being best.

**Avondale Shipyards, Inc.
Marine Repair Division**



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New Orleans, Louisiana 70150
(504) 436-5274
A subsidiary of Ogden Corporation.



Since the LNG "Aries" was re-fitted with Phoenix Super-Marine floodlights in 1978, Phoenix has similarly equipped her seven sister ships, the:

LNG Aquarius	LNG Libra
LNG Gemini	LNG Taurus
LNG Leo	LNG Virgo
LNG Capricorn	



Model MRS-E-400 wide-beam marine fixtures are UL 595 (salt water) listed and U.S. Coast Guard approved. Also available with UL 844 (hazardous location) listing.

Phoenix SUPER-MARINE® Fixtures light up "ZODIAC" fleet

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

The lighting plan, prepared by Phoenix's "CALL" (Computer Aided Lighting Layout) program, calculated in advance the illumination level of every area above deck.

Model MRS-E-400 Super-Marine fixtures with 400 watt High Pressure Sodium lamps were selected to provide high light output with low power consumption, plus longer service life.

Phoenix' wide selection of UL listed Super Rough Service marine floodlights and searchlights, plus computer-accurate "CALL" program, may provide the answer to your lighting problems — afloat or ashore.

Why not give us a call, or write for details.

PH-470

PHOENIX®
Super-Marine®
FLOODLIGHTS

PHOENIX® PRODUCTS COMPANY, INC.

4749 NORTH 27th STREET, MILWAUKEE, WI 53209 (414) 445-4100

Coastal Drydock Awarded \$9.4-Million Navy Overhaul Contract

Coastal Drydock and Repair Corporation, Brooklyn, N.Y., has been awarded a \$9,395,566 fixed-price contract for the regularly scheduled overhaul of the ammunition ship USS Santa Barbara (AE-28). The Supervisor of Shipbuilding, Conversion and Repair, USN, Brooklyn, N.Y., is the contracting activity. (N62794-70-C-0010)

Griff Lee, McDermott VP, Elected To National Academy Of Engineering

Griff C. Lee, vice president of research and development and technical services, J. Ray McDermott & Co., Inc., has been elected to the National Academy of Engineering for his pioneering role in the development of the offshore platform technology now used around the world.

The academy confers this pro-

fessional distinction in recognition of outstanding contributions to today's technology and the field of engineering.

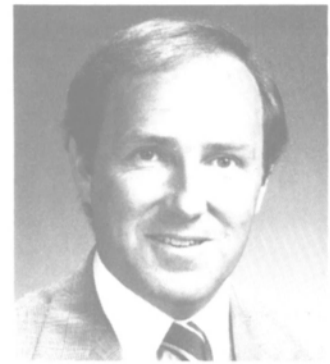
Mr. Lee has been with McDermott since 1954, serving in a variety of engineering and executive capacities. He has published numerous technical papers concerning offshore platform design, construction and installation, as well as papers about other aspects of marine construction technology. He holds a Bachelor of Science degree and a Master of Science degree in civil engineering from Tulane University and Rice University, respectively.

Currently, Mr. Lee serves on the offshore committee and task group for platform design criteria of the American Petroleum Institute, the advisory committee for offshore technology of Det norske Veritas, the special committee on fixed offshore platforms for the American Bureau of Shipping, the technical committee panel on offshore installations for Lloyd's Register of Shipping, and the tubular joint committee for the

American Welding Society. He is a member of the marine board of the National Research Council and served on its panel for verification of offshore structures and committee for offshore energy technology. He also serves on the board of advisors of the Tulane University School of Engineering and is a member of the Law of the Sea Institute.

James J. Murphy Named VP-Marketing For General Dynamics' Marine Group

James J. Murphy has been appointed vice president-marketing for the Marine Group of General Dynamics. P. Takis Veliotis, General Dynamics' executive vice president-marine, who made the announcement, said that Mr. Murphy will be responsible for coordinating the marketing activities of the Quincy Shipbuilding Division and the Charleston, S.C., facility, as well as for marketing commercial products and services of the Electric Boat Division in



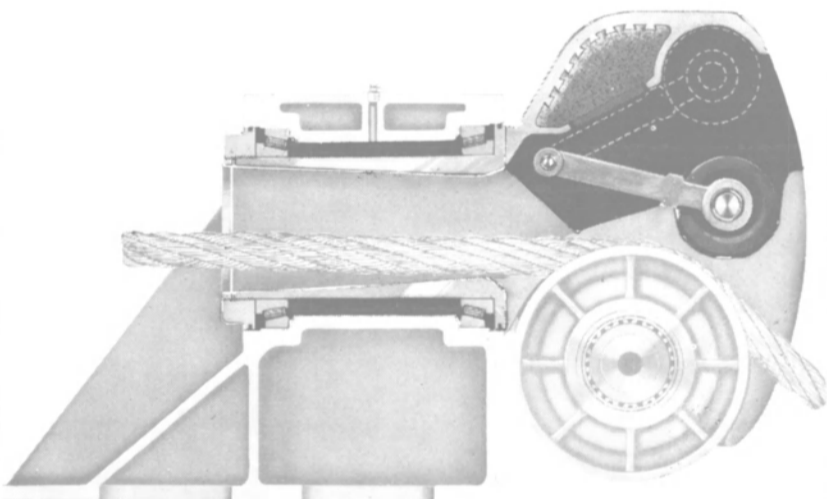
James J. Murphy

Groton, Conn., Quonset Point, R.I., and Avenel, N.J.

Mr. Murphy, who will be headquartered at Quincy, Mass., and will report to Mr. Veliotis, was previously vice president-marketing at the General Dynamics' Pomona Division in California. He joined General Dynamics in 1969, and has held various marketing positions in the company's corporate headquarters in the Washington, D.C., office. Before his Pomona assignment, he was vice president, General Dynamics International Corporation, with headquarters in Brussels.



Self-aligning, self balancing MARINE FAIRLEADERS



Designed for longer line life... built tough to reduce down time.

Self-aligning Berger Fairleaders won't flatten or foul your lines. Positive, smooth seating at any line tension, any lead direction, guarantees maximum line life. The heavy, one-piece, machined steel sheave—mounted on heavy-duty bearings—insures years of maintenance-free service.

SEND THE COUPON OR CALL TODAY FOR A FREE CATALOG WITH COMPLETE SPECIFICATIONS ON BERGER'S FULL LINE OF MARINE FAIRLEADERS.

Yes. Please send me a free catalog on Berger Marine Fairleaders.

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The largest builder of small ships in Australia

Our modern flow-line shipyard has all the extras: On site fabrication shop/machine shop, superb building & launch facilities. 'in house' computer system handling 32 operating channels, computer based N.C. Cutting and we are in close proximity to major suppliers.

WESTERN TIDE

Designed for off shore oil rig supply work, built of steel welded construction, tested and approved by the American Bureau of Shipping Regulations for Classification plus A1 (E) and AMS and ACCU. The two main engines are EMD General Motors marine diesels, each developing 2144 K'W at 900 rpm. Fully air conditioned accom. for 23. L.O.A. 59.75m. Displacement: 1850 tonnes. Speed: 13.65 Knots.



LADY ANN

60.53m Offshore Supply Vessel powered by 4 x 1,600 Daihatsu engines. All instrumentation is mounted in central console in wheelhouse, giving 360° visibility.



Write today for further details and your copy of our latest brochure.



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Middle East Sales Manager: John Skelton, P.O. Box 4134, Nicosia Cyprus. Telex: 2332 Micky's Attn. Skelton

Hamlin Named Manager Supply Marine Department Of Cities Service

J.L. Hamlin has been appointed manager, supply, in the Marine Department, Cities Service Company. He will be responsible for worldwide purchasing, warehousing, and distribution to the marine tanker fleet. He also holds the same position in Grand Bassa Tankers, Inc., a wholly owned subsidiary of Cities Service Company. He will be located in the Grand Bassa Tankers offices in Tulsa.



J.L. Hamlin

Mr. Hamlin was previously senior consultant, Productivity Information Systems, in the Information Systems Division. He was responsible for corporate-wide productivity consulting in that position.

Halterm Limited Names Three New Managers At Halifax Terminal

F.H. Howard, president of Halterm Limited, the container terminal operator located in the Port of Halifax, Nova Scotia, recently announced three appointments.

Brian Doherty becomes general manager, having been terminal manager from the start of the company's operations in 1969. Stefan Ullman, who has been operations manager, now becomes terminal manager, in charge of the container terminal. Bernard Casey has been deputy operations manager, and now assumes the responsibility for operations on the terminal.

Lucander And Dowhos Form Design Association

Nils Lucander, Lucander Designs of San Perlita, Texas, has announced the formation of a design association with Dave J. Dowhos of Thunder Bay, Ontario, Canada.

This association, says Mr. Lucander, came about because of a mutual need. The Texas firm is overloaded with design work of all kinds, while Mr. Dowhos, after several years of pleasure craft design, now wishes to enter the commercial design field. In addition, Mr. Dowhos has specialized in the mathematics of vessel de-

sign, an area where Mr. Lucander requires additional expertise due to the heavy work load in other areas.

The association's first design, sponsored by the local fisheries department, is a 34-foot 6-inch seiner for Lake Winnipeg in the Province of Winnipeg, Canada. It is to be built locally of aluminum alloy.


The new seiner uses Mr. Lucander's "Skeg-In-A-Tunnel" de-

sign concept, formerly used on river patrol boats in Guatemala. The new seiner can safely operate in as little as two feet of water and still have full protection for both propeller and rudder.

In addition, the firm has just been awarded a contract for the design of an 80-foot steel seiner by owner Stephen Gough of Campobello Island, New Brunswick, Canada.

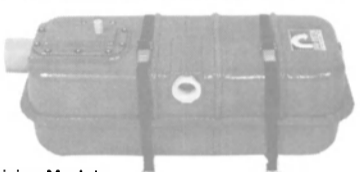
This new vessel will follow the

basic design criteria that Mr. Lucander developed in 1971, when he incorporated a propeller nozzle and a controllable-pitch propeller in the first shrimp trawler fitted with this energy-saving system. At the time, when fuel conservation was not a major factor, the trawler World Peace saved over 30 percent fuel when towing nets, over 50 percent when free running, as compared to standard trawlers.

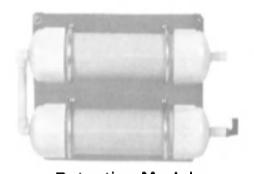


SANI-SYSTEM[®] 40

FOR ALL WORK BOATS




Receiving Module
12"H x 14"W x 33"L (30.5cm x 35.6cm x 84cm)

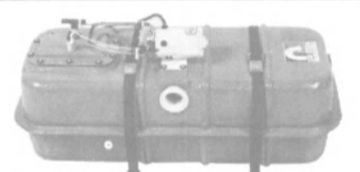


Retention Module
(Bulkhead Mounted)
11.5"H x 13"W x 6"D
(29.1cm x 33cm x 15.2cm)

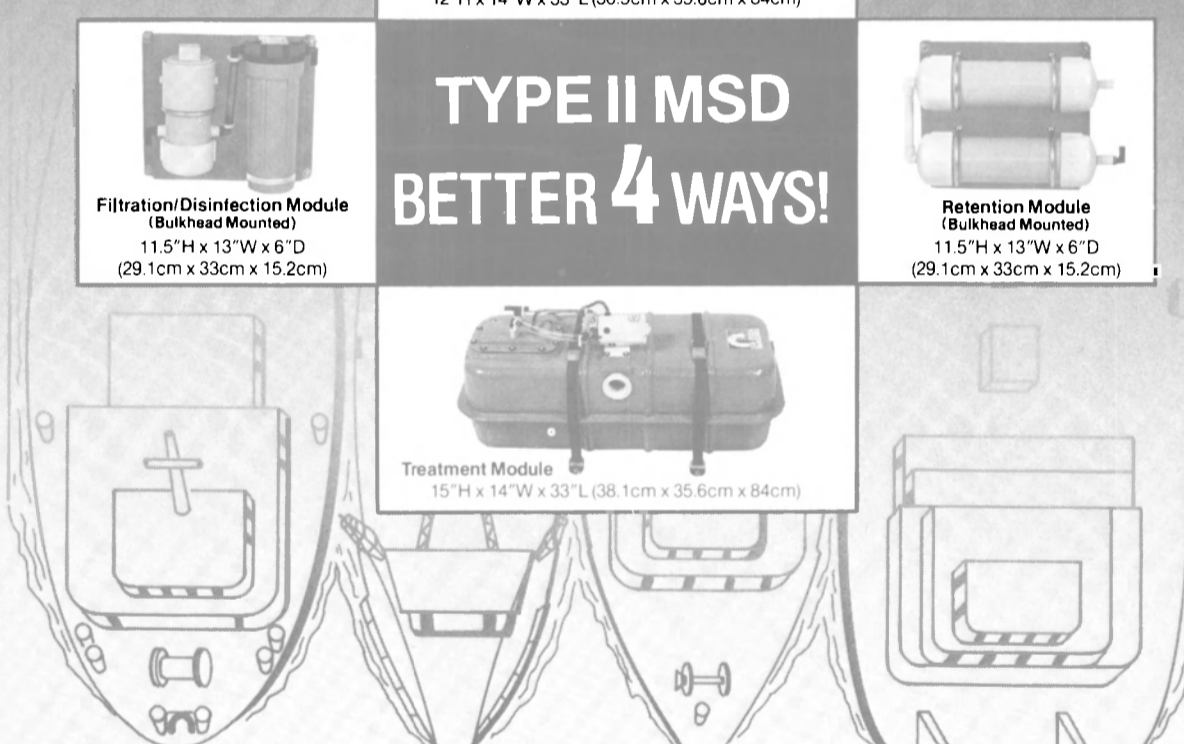
TYPE II MSD BETTER 4 WAYS!



Filtration/Disinfection Module
(Bulkhead Mounted)
11.5"H x 13"W x 6"D
(29.1cm x 33cm x 15.2cm)



Treatment Module
15"H x 14"W x 33"L (38.1cm x 35.6cm x 84cm)



1. It Fits!

Four compact modules that fit neatly into the limited available spaces on a busy working boat. Installs fast and easy and provides capacity for a crew of eight—even with multiple heads! Additional modules can increase capacity.

2. It's Trouble Free!

Sani-System[®] meets or exceeds USCG and IMCO standards for Type II MSD's. Works with fresh, salt or brackish water; with all voltages (very low power consumption); with two minutes maintenance a week! And it's built to keep working without troubles, virtually forever!

3. It's Odor-Free!

A unique anaerobic flow-through system needing no blowers, Sani-System[®] 40 is *totally free* of the odors that make most MSD's unwelcome guests on the best of boats!

4. It Costs Less!

The technology Marland developed becoming #1 in big ship MSD's pays off in the *economical design* of the Sani-System[®] 40! In fact, you can put it on your boat for less than any other Type II MSD!

If you want the most compact, most reliable, most economical MSD for your boat, it'll have to be Marland's Sani-System[®] 40. For all the details on Sani-System[®] 40 and Marland's complete line of MSD's for vessels of all sizes, contact:

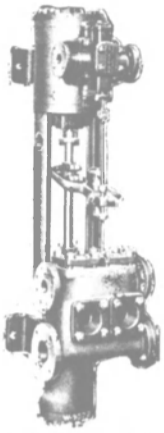
MARLAND ENVIRONMENTAL SYSTEMS, INC.

North Main St., Walworth, WI 53184 (414) 275-2171 • TWX: 910-278-2469 Marland
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PUMPS

UNUSED WORTHINGTON VERTICAL SIMPLEX PUMPS

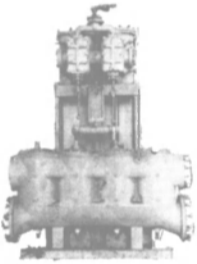


8 to 20 GPM—up to 350#. Also suitable for small boiler feed service. Steam WP 220# and 10# exhaust.

for Liberty Ships EC-2 & Victory Ships VC2, AP2 & AP3. (Fuel oil service) Liquid capacity from 7½ x 4 x 10—3" suction—2" discharge—1¼" steam—1½" exhaust. OAH 5'2"; OA depth 23"; OAW over air dome 2'2". Weight about 800#. Suitable

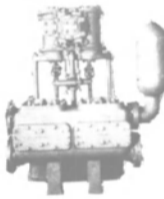
\$1195

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



1400 GPM @ 110 PSI — suction lift 11.5 ft. — steam back pressure 15 lbs. 14" Suction — 10" discharge — 2½" steam — 4" exhaust. Overall width 6'8" — overall height 9'1½" — depth 3'9½". Wt. approx. 10,000 lbs.

STEAM DRIVEN VERTICAL DUPLEX FIRE & GENERAL SERVICE PUMPS



10 X 11 X 12 — Worthington — 560 GPM @ 125# G. 8" Suction — 6" discharge pumps bronze fitted.

8" X 8" X 10" VERTICAL DUPLEX PUMP



Hendy design Suction 8" — discharge 6" — 160 GPM @ 100 PSI.

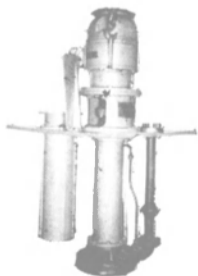
**PRACTICALLY
NEW**

LIDGERWOOD STEAM CAPSTAN



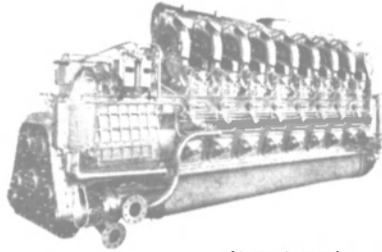
8 X 8—125 lb. working pressure. Reversible.

4 NEW UNUSED SUMP OR LOW PRESSURE DRAIN PUMPS



Bronze—40 GPM @ 40 PSI. 2" discharge—single impeller—CW rotation—32" from deck plate to base. Complete with flotation equipment. Totally enclosed 5HP 440/3/60 1725 RPM motor. Repair parts for motor & pump included.

G. M. 16-278A 1700 H. P. DIESEL ENGINES



Limited supply remaining

Complete, clean and in very good condition. As removed from U.S. Naval vessels. 1700 HP @ 750 R.P.M. Your inspection invited.

4-BLADE LST BRONZE PROPELLERS



Starboard — 7' diameter — pitch constant 4.699: Bore tapers from 6½" to 4¾". 14½" taper equal to 1"/foot on diameter. U.S. Navy reconditioned. Average weight 1760 lbs.

RECONDITIONED—GUARANTEED

DELAVAL PURIFIERS



LUBE OR FUEL OIL
225 G.P.H.

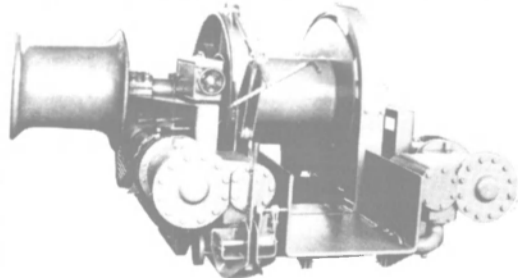
55N-13 (Lube Oil)
55N-23 (Fuel Oil)

300 G.P.H.

65N-13 (Lube Oil)
65N-23 (Fuel Oil)

2 HP — 440/3/60/1750 RPM —
Frame 224

STEAM MOORING WINCHES 12" x 14" — AUTOMATIC TENSIONING 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".

ALSO IN STOCK

12" x 14" Double Gypsy Unit

ALL UNITS CAN BE DEMONSTRATED RUNNING

CARTER BRONZE SELF-PRIMING BILGE & GEN. SERVICE PUMP



85 GPM @ 50 lbs. — 3500 RPM — 2" X 2". 5 HP —
115 VDC — 1750 RPM motor.

\$1466

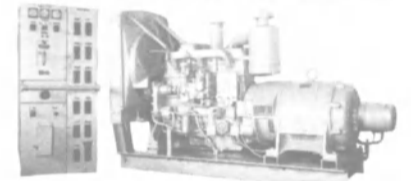
COFFIN FEED PUMPS — ALL SIZES — TYPE DE



3 TYPE DE-2
540 GPM 1870' NET HEAD

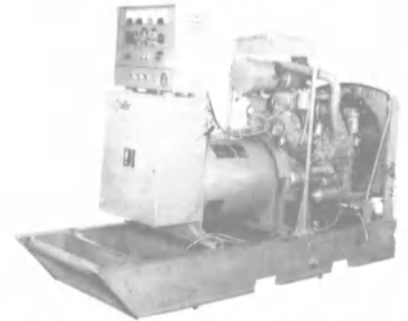
8450 RPM — 585 PSIG — 0°-200° superheat — exhaust pressure 15 lbs — NSPH 30 — typical serial 4683DE

CUMMINS 75KW 93.8 KVA DIESEL GENERATOR SET



440/3/60 Generator—1200 RPM—driven by 6-cylinder Cummins diesel with electric starting. Free standing switchgear.

GM 4-71-T TURBO-CHARGED 100 KW 440/220/3/60 10 WIRE DIESEL GENERATOR SET ALL VOLTAGES POSSIBLE



100 KW 440/220/3/60 generator driven by GM 4-71-T radiator cooled turbo charged diesel. P.F. 0.80—for T-2, etc. 1800 RPM. With switchgear. Generator is 10 wire—all voltages possible.

WITH SWITCHGEAR / ALARMS / DISCONNECT

PLEASE NOTE

Our Marine Dept. & Warehouse is
250 Scott St. at McHenry — Baltim

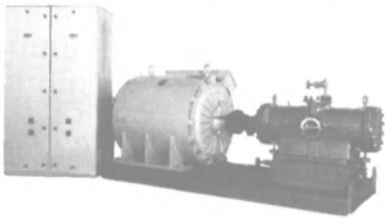


THE BOST

313 E. BALTIMO

Marin
CABLE: BOSIRON—BALTIMO

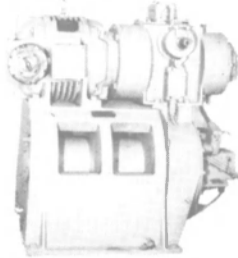
700 G.P.M. @ 150 P.S.I.
NEW — UNUSED
**MOTOR DRIVEN ROTARY
HORIZONTAL PUMPS**
WITH 4-SPEED 440/3/60 MOTOR



Inlet 8" — outlet 6". Powered by 4-Speed 440/3/60 motor. Motor is 100/75/50/37.5 HP — 1200/900/600/450 R.P.M. Motor has Cutler-Hammer control. Weight 10,000. Inquire for complete details.

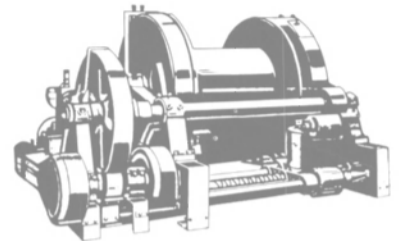
DAVIT — WINCH

Mfg. by Skagit
Rated 4000 lbs. @ 80 FPM
6500 LBS OF
BOAT & MAN
AT 40 F.P.M.



Motor: 13.5 HP — 440/3/60. Designed for 1/2" 6x37 wire rope. Divided drum with 2 spooling areas. Drum 8 1/2 wide — 4" flange — 10" diameter. Complete with level wind. Also capable of manual operation by crank in case of motor failure. Hand brake & speed limiting brake are provided for holding & lowering boat by gravity. Non-magnetic.

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

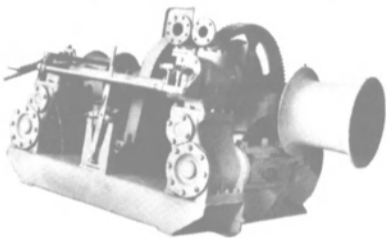


Heavy-duty Clyde with 36" diameter X 51" Face single drum. Flanges 68". CAPACITY: Up to 2800' of 2" wire rope. Normal line pull 40,000 lbs@ 50 FPM. Steam or air pressure required 125 to 250 PSI. Can be adapted to electric drive or increased steam or air pressure to a capacity of 82,000 lbs @ 20 FPM. 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.

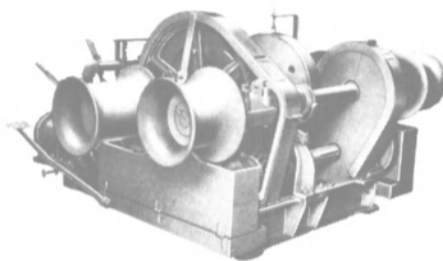
**9 X 12 2-SPEED ALL-STEEL
STEAM WINCHES**
for use as
MOORING WINCHES
OR GENERAL USE

20,000 LBS @ 110 FPM—7,450 @ 250 FPM



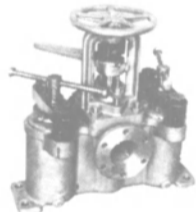
DRUM CAPACITY: 1250' of 1" wire in 9 layers or 2200' of 3/4" in 12 layers. Weight 11,300 lbs. DRUM DIMENSIONS: 22" diameter—20" between flanges; flange diameter 40"; two 16" gypsies. DRUM BRAKE: Contracting band type — asbestos lining — foot operated. WINCH DIMENSIONS: 12' long—8' wide — 5' 10" high. Reconditioned by U.S. Navy. Equal to new.

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



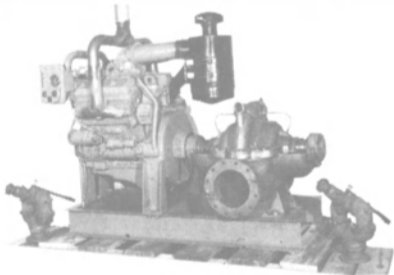
2-Speed — single drum — reverse throttle operation. LINE PULL: low gear 10,000 lbs — high gear 5,000. LINE SPEED: low gear 125 FPM based on 1st layer of 7/8" diam. rope — high gear 250 FPM based on 1st layer of 5/8" diam. rope. DRUM: 26" diam. — 20" long — 26" flange diam. Rope capacity of drum: 7/8"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

DUPLEX STRAINERS
4" and 6"



FOR
SALTWATER
OR
LUBE OIL

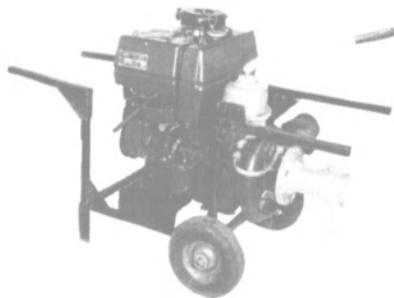
DIESEL DRIVEN FIRE PUMP



3510 GPM @ 350' HEAD or 161.7 PSI

Pump: 10" x 8" horiz. split case. Also 2000 GPM @ 110 PSI and 1450 RPM. Unused—all steel—will sell separately. Diesel: GM 6V-71 or 6-71 in-line, radiator or heat exchanger cooled.

**PORTABLE - EMERGENCY
3" DIESEL GENERAL
SERVICE AND FIRE PUMP**
70 GPM @ 105 PSI
WITH HAND PRIMING



ENGINE: Mfg. by V.M.—air-cooled model HR192A—13.5 HP—3000 RPM—rope start (crank optional). PUMP: Hale—cast iron—3"—N.P.T.—hand priming—weight 410 lbs. Carrier mounted with 2 pneumatic tires for easy handling or 2-man hand carry. Ideal for oil barge, tankers, dockside, etc use.

**T-2
EQUIPMENT**

Selected Items Listed

**T-2 UNUSED G.E.
MAIN PROPULSION
STEAM TURBINE WITH ROTOR**

10 Stage — 435# — 720°T.T.

Turbine complete with rotor — serial No. 109166 — 4925/5400 KW — 3600/3720 RPM — 10-stage — 435# — 720°TT — 28.5" VAC.

**WESTINGHOUSE
MAIN PROPULSION
GENERATOR STATOR**

From Ex-Pecos — in like-new condition. With A.B.S.

**WESTINGHOUSE
538KW TURBINE ROTORS**

**WESTINGHOUSE 538 KW AUX.
GENERATOR EXCITER ARMATURE
400 KW REVOLVING FIELDS**

We have both types:

110KW — 32KW — 5.5KW
110KW — 28KW — 5.5KW

**FOR G.E. 525 KW
T-2 TURBO GENS.**

● G.E. DORV-325M TURBINE ROTORS

**AMPLIDYNE
GENERATORS**

**NEW STYLE—LY148
ABS-READY-TO-GO**

IN STOCK
FOR
IMMEDIATE
DELIVERY

located at
Md. 21230

NEW PHONE
(301)
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N METALS CO.

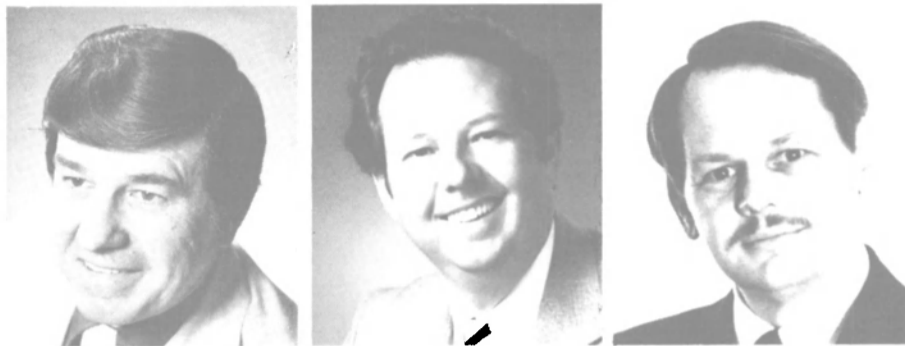
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**American Manufacturing Announces
Three Sales Appointments**



Mike Busichio

Ralph Bouren

D. Gary MacIsaac

American Manufacturing Company, Inc., Honesdale, Pa., has promoted **Mike Busichio** to Eastern regional manager from his previous position as New York branch manager. The announcement was made by **Joseph A. Berthelot**, vice president of sales.

Before coming to American in April 1979, Mr. Busichio was with Aircor, Inc. in Springfield, N.J., where he worked for 23 years as manager of marketing, sales, and distributor development.

Ralph Bouren has been promoted to assistant regional manager in charge of American's Chicago sales office. Prior to this promotion, Mr. Bouren was a territorial salesman covering the inland waterways trade from Minneapolis to Memphis. He has 21 years' experience with the company in orientation and sales.

D. Gary MacIsaac has been appointed a new salesman in the New York-New England area, reporting to Mr. Busichio. Mr. MacIsaac was instrumental in forming Cape Cod

Cordage, Inc., converter and manufacturer of rope products, which was sold to New Bedford Textile, Inc. in 1979. Besides being part owner of Cape Cod Cordage, he was responsible for product development, recruitment of manufacturers representatives, and was sales manager.

**Gene Ossi Establishes
New Automation Firm—
Brochure Available**

Electrologic Inc. of New Hyde Park, N.Y., was established recently by **Gene Ossi**, who has been associated with marine machinery for 40 years. The new company will provide turnkey electronic automation and annunciator console systems for diesel propulsion systems and diesel generators. Using plug-in integrated components, the systems are said to cut costs considerably.

The Electrologic console provides an audible alarm to alert

the engineering officer of machinery malfunctions. Three logic cards cover all monitoring needs. LED indicator lights simplify testing of the entire system. American Bureau of Shipping approval is available on request.

Using modern techniques and space-saving components, the system can be expanded to monitor up to seven engines from one console. Units are now being installed for Henry Gillen's Sons Lighterage, Don Jon Marine, and Creek Towing.

For a free brochure and additional information, write to **Gene Ossi**, Electrologic Inc., Dept. M.R., 149 Covert Avenue, New Hyde Park, N.Y. 11040.

**Trikora Lloyd Buys
Three Ships At Total
Cost Of \$45 Million**

P.T. Trikorra Lloyd, an Indonesian-flag line, marked the purchase of three vessels at a total cost of \$45 million in a recent "changing of the flag" ceremony held at Pier 5, Port Authority in Brooklyn, N.Y.

With these vessels, P.T. Trikorra Lloyd will own five ships on the United States/Southeast Asian route for a sailing frequency from the United States every third week. Formerly sailing under the Dutch flag and chartered to P.T. Trikorra Lloyd, the Amstelstroom, Amstelstraat and Amstelstrand have been renamed the Suhadiwarno Panjang, L. Jalabert Bontang, and Palembang, respectively.

"The size of our investment

best expresses our commitment to the trade between the United States and Southeast Asia and our confidence in the tremendous growth potential," said owner's representative **John Tumbelaka**.

The 17,400-dwt multipurpose cargoliner, with a capacity of 396 TEUs, were built by Marine Industries, Ltd., Sorel, Quebec, Canada. These vessels were designed to transport general cargo and bulk cargoes, as well as containers. This versatility permits optimum adaptation to prevailing freight markets. The ships are powered by M.A.N. medium-speed diesel engines, and have a cruising speed of 17.25 knots and a cruising range of 12,000 nautical miles.

P.T. Trikorra Lloyd, an independent carrier, serves the United States ports of New York, Baltimore, New Orleans, and Houston direct to Singapore, Jakarta, and Surabaya. In existence since 1964 with headquarters in Jakarta, P.T. Trikorra Lloyd started serving the U.S. in April of 1979.

General agents for the line are Kerr Steamship Company, Inc., with offices in major cities in the United States and Canada.

**Michael Warren Joins
Farboil As National
Accounts Manager**

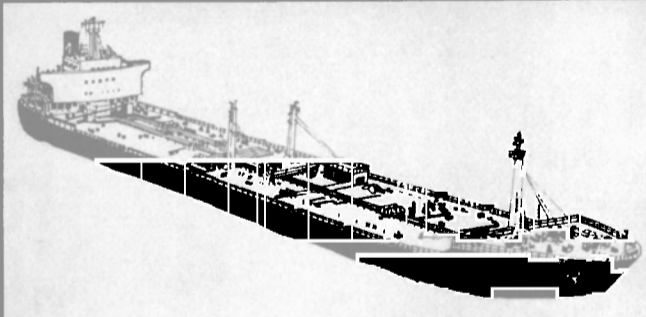


Michael J. Warren


Michael J. Warren has joined the Marine Division of Farboil Company as national accounts manager, it was announced by **Joseph F. Harrington**, vice president of sales. In this capacity, he will also have administrative responsibility for Farboil's New York City office, including the Northeast sales district.

Mr. Warren has spent the past 16 years in the marine products industry, and most recently was consultant to a major shipping line. Prior to that, he served as a safety engineer at the New York Naval Shipyard and as a chief engineer in the U.S. Navy. He graduated from the U.S. Merchant Marine Academy in 1955.

Baltimore-based Farboil, a Beatrice Chemical Company Division of Beatrice Foods Company, produces and markets worldwide a full line of protective coatings for deepwater and inland waterways vessels.



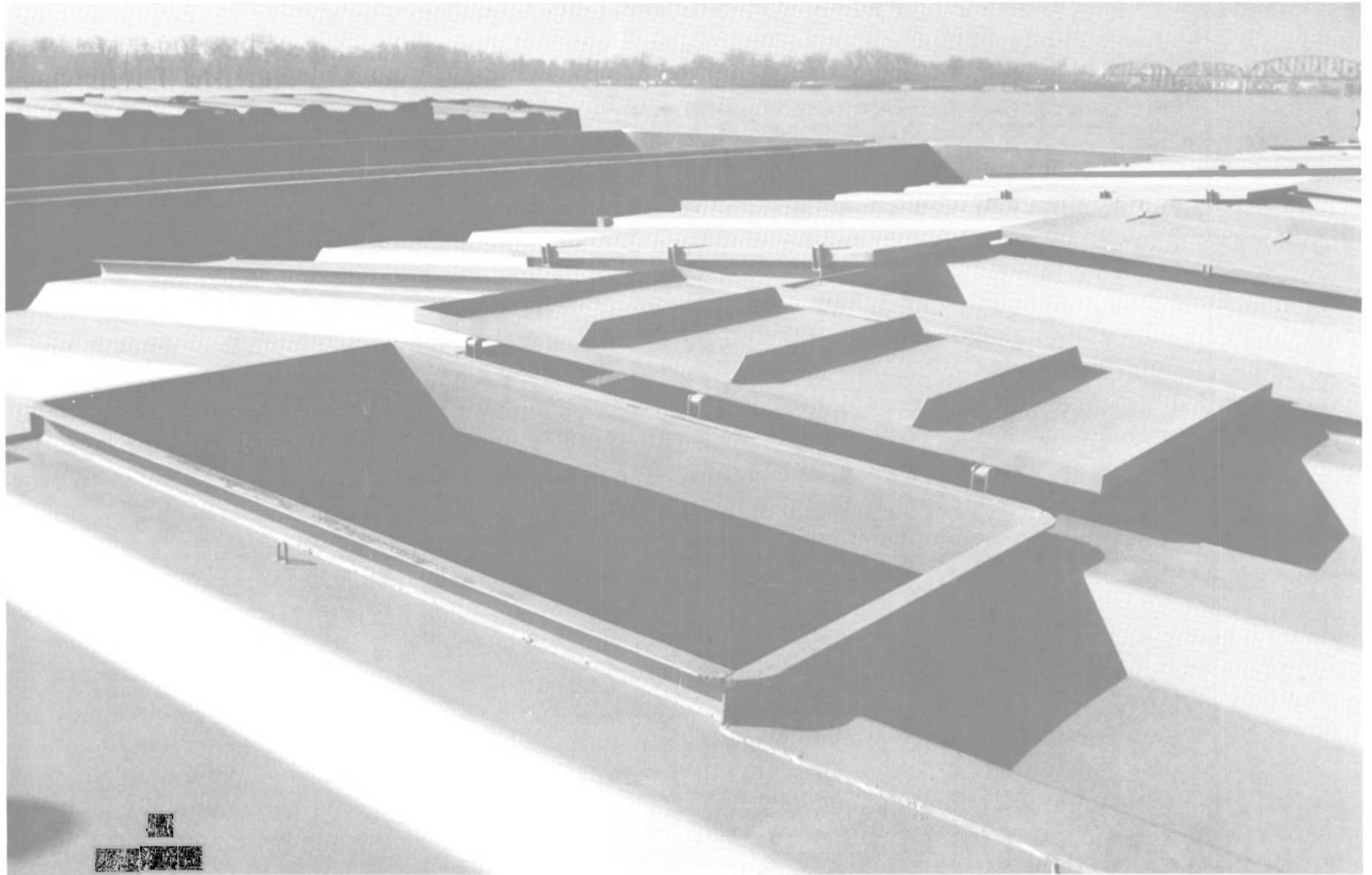
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Dravo SteelShip Delivers Towboat To Pleasants Power Station



Pushboat Pleasants "K", powered by twin Detroit Diesel engines, was delivered recently by Dravo SteelShip. Vessel will be operated on Ohio River at Willow Island, West Virginia, by Pleasants Power Station.

Dillingham Forms New Subsidiary To Operate In Gulf Coast Area

Dillingham Corporation has announced the formation of Ocean Transportation Services, a new subsidiary of Honolulu-based Dillingham Corporation's maritime group, to be located in the Houston area.

In making the announcement, David B. Ballash, Dillingham group vice president-maritime, said: "Ocean Transportation Services will be active in inland waterways and coastal towing, barging, and related marine services within the Gulf Coast area. The company will offer worldwide shipping operations, but will put special emphasis on the handling of cargoes bound to and from Central and South American countries."

William Abbott has been named general manager for Ocean Transportation Services, and will be headquartered at company offices in LaPorte, Texas.

Donald McElroy will be in charge of the company's marketing operations and will be located in Dillingham Maritime's New York City offices at 122 East 42nd Street, Suite 1700, New York, N.Y. 10017.

Hydranautics Awarded BP Magnus Field Platform Contract

Hydranautics, Inc., Santa Barbara, Calif., has been chosen by Matthew Hall Engineering Ltd. of London to provide the hydraulic heavy load moving equipment for use on British Petroleum's Magnus Field platform in the North Sea.

The contract calls for four 260-

ton, push/pull piston gripper jacks, two 80-ton lift systems, a power supply, control unit and remote BOP list system control panel. The Hydranautics equipment will be used for rig skidding and lifting/lowering the blowout preventers on this northernmost platform in the North Sea. The Hydranautics equipment has a maximum moving capacity of 2,600 tons at 20 percent coefficient of friction.

The equipment is scheduled to be shipped late this year and will be installed and operating on the platform by the end of 1981.

In awarding the contract, Matthew Hall Engineering stated that Hydranautics provided the best track record capability and price for performing the rig-skidding and lifting functions in the Arctic conditions on the platform. Matthew Hall Engineering is responsible for the management of the platform topside design.

Hydranautics rig-skidding systems have been used continuously on all four BP Forties platforms since drilling began in 1974.

Collins Elected President And General Manager Of Houston Systems Mfg.

T. Jay Collins has been elected president and general manager of Houston Systems Manufacturing Company, a wholly owned subsidiary of The Offshore Company, following the resignation of William F. Haley.

Mr. Collins, who in 1972 joined the Corporate Planning Department of Southern Natural Resources, Inc., the parent company of The Offshore Company, previously worked for Shell Oil Company as a chemical engineer. He was manager of the Corporate

Dravo SteelShip Corporation of Pine Bluff, Ark., has announced delivery of the M/V Pleasants "K" to Pleasants Power Station of Allegheny Power System for operation on the Ohio River at Willow Island, W.Va.

The vessel is a standard SteelShip design, 56 feet long by 20 feet wide by 7 feet deep. She is powered by twin Detroit Diesel 12V-71N, keel-cooled marine engines developing 340 bhp each, driving two Coolidge 60-inch-diameter, four-blade, stainless-steel propellers.

The engine room, designed for easy maintenance, is equipped with 4-inch I-beams to facilitate moving of main engines and light plant, and there is a large removable section in the engine room top so that principal machinery can be hoisted from the vessel in a minimum amount of time.

The vessel is fitted with two steering and four flanking rudders. Equipped with two pumps, one electric motor driven and one

main engine driven, the steering and flanking systems are separate, yet the pumps are automatically paralleled for fast steering when desired by the pilot.

The electrical system is powered by a Detroit Diesel 3-71, 30-kw generator, which produces power for all shipboard use. This includes three 10-ton Beebe deck winches, two 14-inch Carlisle & Finch searchlights, four floodlights, and numerous other pieces of equipment.

The heavily framed and braced hull is fabricated of 3/8-inch plate except the after bottom which is 1/2-inch, and the headlog, bow and stern corners which are 3/4-inch.

The hull is divided into five watertight compartments and carries 11,700 gallons of fuel.

Dravo SteelShip Corporation currently has two 110-foot spud barges, two 75-foot tugboats, two 60-foot crane pushboats, three 88-foot pushboats, and several other pieces of marine equipment under construction.

Planning Department of The Offshore Company from 1974 to 1976. Since that time, he has served overseas as a division engineer and division manager for The Offshore Company's operating subsidiaries.

Houston Systems Manufacturing Company is primarily engaged in the fabrication of ma-

chinery and equipment used in the oil and gas industry. Its parent company, The Offshore Company, is one of the largest operators of mobile offshore drilling equipment in the world and a member of the Southern Natural Resources group of companies engaged in various energy and natural resources related businesses.

Multipurpose Cargo Vessel 'Sarita' Delivered By Hitachi



Hitachi Zosen's Hiroshima yard recently delivered the cargoliner Sarita to Callisto Shipping Ltd. Vessel is powered by fuel-saving Hitachi/B&W 8L67GFC diesel.

The 22,210-dwt, multipurpose cargo vessel Sarita, built at the Hiroshima (Innoshima) Works of Hitachi Zosen, was delivered recently to her owner, Callisto Shipping Limited, Liberia. She is the last of five sister ships constructed in series at Hiroshima.

Designed to carry general and bulk cargoes and containers, the Sarita is equipped with a 250-ton, heavy-duty derrick to handle plant equipment and other kinds of heavy cargo. Two of her five cargo holds are specially designed to carry extra-long items such as columns and towers for chemical plant or refinery use.

Sarita is powered by a constant-

pressure, turbocharged Hitachi/B&W 8L67GFC diesel engine that offers fuel savings of about 6 percent compared with a conventionally designed engine. A bow thruster is fitted to facilitate maneuvering in port.

The vessel has an overall length of 178.27 meters, beam of 26.5 meters, depth of 14.2 meters, and design full-load draft of 10.41 meters (585 by 87 by 46.6 by 34 feet). She is built to Lloyd's Register of Shipping Classification.

Maximum continuous output of her main engine is 15,000 bhp (11,000 kw), which produced a maximum trial speed of 20.524 knots.

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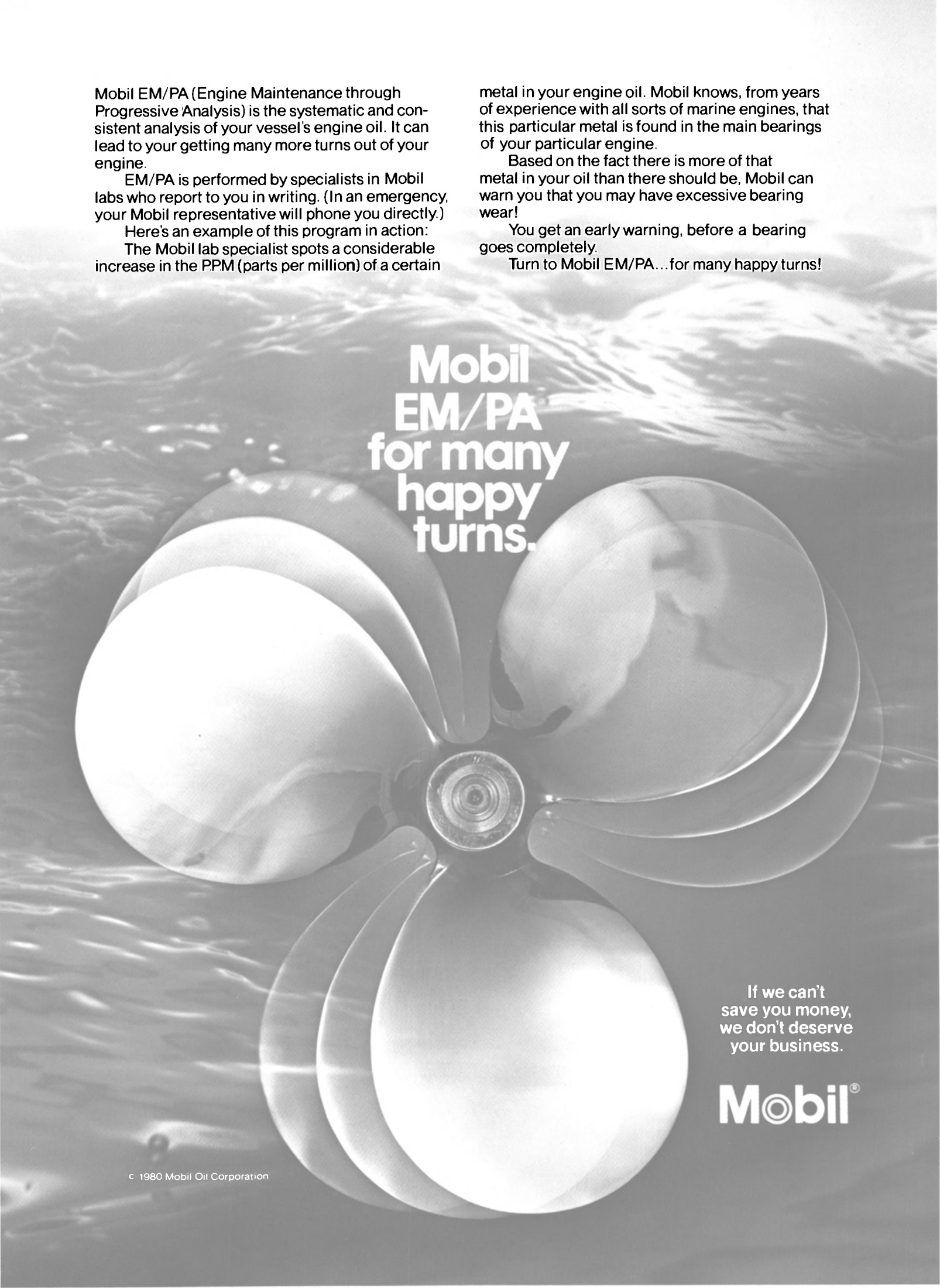
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metal in your engine oil. Mobil knows, from years of experience with all sorts of marine engines, that this particular metal is found in the main bearings of your particular engine.

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Frederic Ingram Elected Vice President Of Ingram Corporation

Frederic B. Ingram Jr. has been elected a vice president of Ingram Corporation, New Orleans, it has been announced by James A. O'Neill Jr., Ingram president.



Frederic B. Ingram Jr.

Mr. Ingram joined the firm in 1976 as a dispatcher in the Scheduling Department of C. Rowbotham & Sons (Management) Ltd., London, which is a wholly owned Ingram subsidiary. He joined Ingram Oil Company in New Orleans in June 1978.

David Jackson Appointed Vice President For Sun State Marine

David Jackson has been appointed vice president of Sun State Marine Inc., Jacksonville, Fla., according to an announcement released by company president Frank V. Oliver Jr.

Sun State Marine is the foremost hauler of petroleum products on the St. Johns River, operating nine pusher tugs and eight tank barges with capacities from 8,500 to 26,000 barrels. The company was founded in 1938 by Mr. Jackson's father, and is located in Green Cove Springs, Fla.

As vice president of Sun State, Mr. Jackson will be responsible for the company's day-to-day management, including administration, sales, and operations. In addition to his professional experience, he grew up in a family that has been associated with the Jacksonville maritime industry for nearly 40 years. He joined Sun State as general manager in March of this year, following work in marine operations at Florida Towing Company in Jacksonville.

New MMC Gauging System Meets IMCO Guidelines—Literature Available

Developed to meet IMCO standards for inert gas tank measurement, Marine Moisture Control Company, Inc. of Inwood, N.Y., has developed vapor control valves designed for use with MMC's portable gauging tapes to assure closed-tank vapor integrity with maximum gauging accuracy.

The system consists of MMC vapor control valves, available in

four different configurations which are installed at tank top, plus MMC portable gauging tapes, which provide several individual gauging functions plus sampling capabilities. MMC tapes are available for reading tank ullage, ullage-interface, and temperature; providing a gas seal to prevent the escape of inert gas or dangerous vapors to the atmosphere;

while also providing a fixed datum reference point. They are portable, battery operated, and certified as intrinsically safe by Factory Mutual and BASEEFA.

The system may also be used for primary gauging of cargo tanks when a permanent remote-reading tank gauging system is not fitted to the vessel.

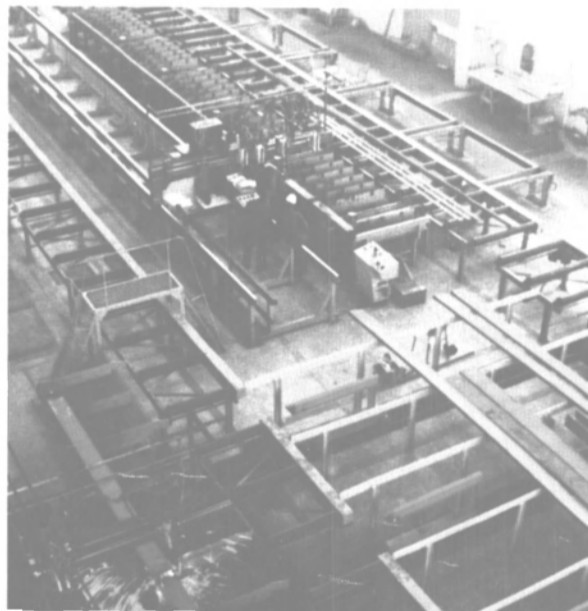
The MMC closed tank portable

gauging system anticipates present and future requirements by effectively and efficiently complying with IMCO requirements for portable marine gauging.

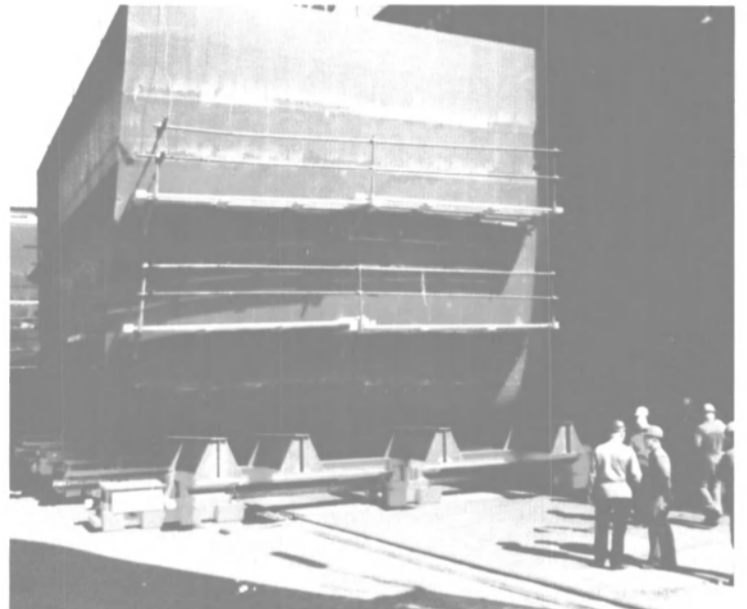
Full information may be obtained by writing to Charles S. Schmukler, Marine Moisture Control Company, Inc., Dept. MR, 449 Sheridan Boulevard, Inwood, N.Y. 11696.

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**Farrell Lines Announces
Three New Appointments—
Breslin To VP-Controller**

James P. Horn, president and chief operating officer of Farrell Lines Incorporated, has announced three personnel appointments and promotions.

James F. Breslin has been appointed vice-president-controller,

succeeding Robert E. Schenk who is retiring. Prior to joining Farrell Lines, Mr. Breslin held the position of controller with the Fred F. French Investing Company, Inc. Before that, he was Long Island manager for Deloitte, Haskins & Sells.

Julian F. Corish has been promoted to regional manager, Southern Region, which includes the states of Oklahoma, Texas, New

Mexico, Arkansas, Louisiana, Mississippi, Alabama, Florida, South Carolina, the lower half of Tennessee, and the western half of North Carolina. He was formerly marketing manager-Southern Region.

Stephen R. Crouch has been appointed manager, U.S. inland intermodal operations. He was formerly manager, intermodal operations, Southern area.

**Gaston Joins Bulkfleet
Marine As Manager Of
Engineering Services**



Richard J. Gaston

Richard J. Gaston has joined Bulkfleet Marine Corporation, Houston, as manager of engineering services. His responsibilities include maintenance and repair, crew training, supplying the boats, and assisting in the construction of new vessels.

A graduate of the U.S. Merchant Marine Academy, Mr. Gaston previously worked as port engineer in the inland waterways for the East Coast branch of Exxon U.S.A., and as a chief engineer for McAllister Brothers, Inc.

Bulkfleet Marine Corporation, based in Houston, is engaged in the design, construction, and operation of tug-barge units chartered to oil and chemical companies for transporting materials along the U.S. Gulf, East, and West Coasts.

**W.H. Lockwood Appointed
Assistant Vice President
At Interocean Management**

William H. Lockwood Jr. has been named assistant vice president of Interocean Management Corporation, a subsidiary of the Philadelphia-based IOT Corporation.



William H. Lockwood Jr.

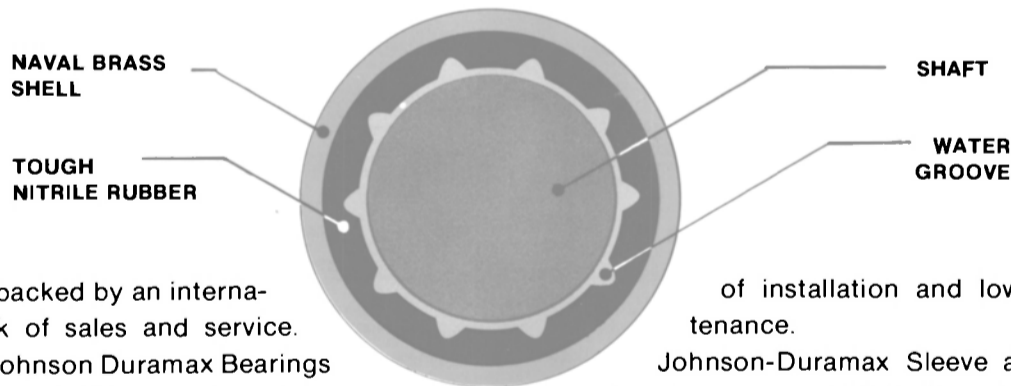
Announcing the appointment, George P. Steele, president of Interocean Management, said that Mr. Lockwood's new responsibilities would include the overall operational management of several of the corporation's fleet of 20 managed vessels.

Mr. Lockwood previously held the position of manager/ship construction within Interocean with special responsibilities for coordinating the delivery of two 165,000-dwt vessels and two 309,000-dwt vessels, the last of which—the U.S.T. Pacific—was delivered in late 1979.



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Three New Managers Appointed By CDI Marine Company



T.P. Reardon



J.R. Phillips



James C. Gibson Jr.

Paul I. Beining, president of CDI Marine Company, has announced the appointment of several new managers in conjunction with a change in organizational structure.

T.P. Reardon is appointed manager, Southeast Region, which consists of offices in Jacksonville, Fla., Charleston, S.C., and Pascagoula, Miss. Mr. Reardon, who joined CDI Marine in 1979 from Tenneco, Inc. (Deepsea Ventures),

will continue his duties as manager, Jacksonville office. He was senior engineer with Deepsea Ventures, where he was responsible for the development of highly innovative shipboard equipment to be used for the deep ocean mining of manganese nodules.

J.R. Phillips is appointed manager, Mid-Atlantic Region, which consists of Hampton, Va., and Chesapeake, Va., offices. Mr. Phillips, with Newport News Ship-

building prior to joining CDI Marine in 1976, will continue as manager, Chesapeake office. Prior to his management assignment with CDI Marine Company, he had extensive experience in piping design and development for various classes of U.S. Navy ships.

James C. Gibson Jr. is appointed manager, Northeast Region, which consists of offices in Boston, Groton, Conn., and Philadelphia. Mr. Gibson has recently retired from the U.S. Navy with the rank of captain, after a distinguished career covering all areas of management of Navy ship design and maintenance.

CDI Marine Company, a major division of CDI Corporation of Philadelphia, is a prominent supplier of naval architectural and marine engineering services to shipyards, both Navy and commercial, and to their supporting industries. CDI Marine Company has a current work force of over 600 naval architects, marine engineers, designers and draftsmen

assigned throughout 10 offices, with headquarters located in Jacksonville, Fla.

Hayward Marine Products New Name For Former Mechanical Marine

To strengthen its ability to serve the marine industry, Hayward Manufacturing Company has formed a new division to be called Hayward Marine Products. The new division combines Mechanical Marine with Hayward Products.

This new division will be responsible for design, manufacture, and sales of all marine products from Hayward for both new vessel installations and retrofitting or repair. The division will be actively involved with the development of new products, new services, and acquisitions.

Hayward Marine Products is headed by Dan Coleman, vice president, and will continue to headquarter in Hayward's offices in Elizabeth, N.J.

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tinuously and efficiently. Units are compact, easy to install and maintain. Thousands are in use worldwide aboard small fishing boats, supply vessels, tugs, work boats, etc.

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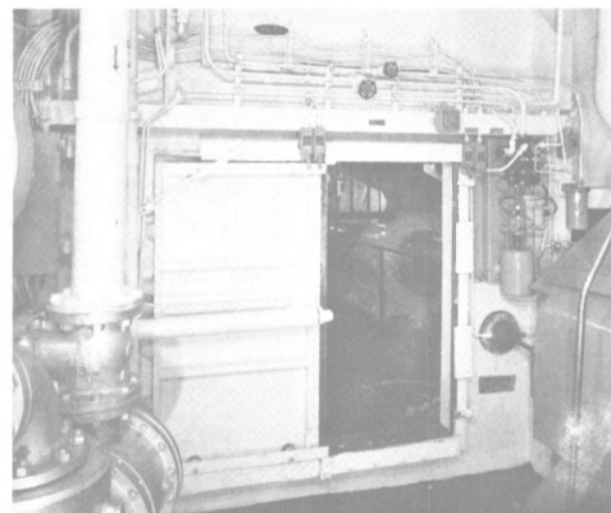
Write for further information about the full line of De Laval marine and offshore equipment. Alfa-Laval, Inc., Dept. MR-2, 2115 Linwood Ave., Fort Lee, New Jersey 07024. Phone 201-592-7800 for the name of your nearest Alfa-Laval marine representative.



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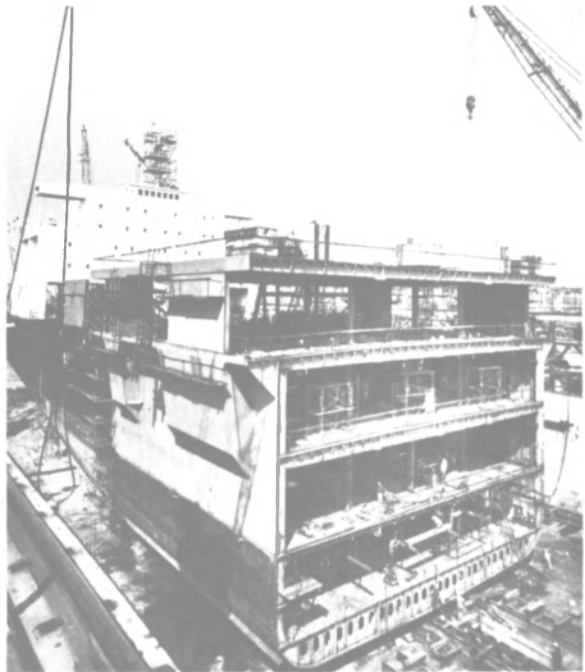
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SPLICED SHIP — In an unusual vessel conversion project, Sun Ship of Chester, Pa., recently cut the SS Ponce in half. The purpose was to splice a completely new hull section into the center portion of the roll-on/roll-off (RO/RO) trailership. Shown in the foreground is the pre-outfitted midbody soon after it was positioned just forward of the Ponce's original stern section in Sun Ship's drydock. Next step was attachment of the ship's bow to the new midbody. As part of the conversion, the Ponce will also be re-powered with modern, automated Foster-Wheeler steam boilers. The 90-foot hull sec-

tion will increase the ship's length to 790 feet and boost trailer-carrying capacity by 35 percent, or 410 forty-foot over-the-road trailers. One of 10 RO/RO ships built by Sun Ship, the Ponce was delivered to the Puerto Rican Maritime Shipping Authority (PRMSA) in 1968. It is assigned to carry cargoes from major East Coast ports to San Juan, Puerto Rico.

Miles Heads Barber Blue Sea Activities In North America

Raymond R. Miles, executive vice president of Barber Blue Sea (BBS), has moved to New York to assume the additional responsibility of the ocean carrier's North American activities. He had been working at the company's headquarters in Oslo.



Raymond R. Miles



Ole J. Hafsten

Announcing the appointment, Erik Waage-Nielsen, president, commented that North America has been developing as a key center of worldwide operations for Barber Blue Sea.

"Mr. Miles is thoroughly familiar with our global operations, and this New York assignment is a further step in consolidating our activities in North America," he said.

Prior to Mr. Miles's appointment, Ole J. Hafsten headed up Barber Blue Sea's North American operations. In New York since 1973 as vice president and general manager, Mr. Hafsten guided the company during a period when it converted from conventional ships to new equipment, including the versatile SuperCarriers introduced last year. He is returning to Oslo, where he will serve as vice president, planning and development.

Before being appointed executive vice president for BBS in 1978, Mr. Miles held executive positions with Ocean Transport & Trading, Ltd. of Great Britain, one of the three partners in BBS. His last position with Ocean, which he joined in 1972, was as a director of the liner division in Liverpool.

The other partners in the BBS operations are Wilh. Wilhelmsen of Norway and Bros-trom Shipping Company of Sweden. BBS operates services from all coasts in North America to destinations in the Middle East, Southeast Asia, the Far East, and Venezuela.

First Vessel Extruded From Covered Hall At Cammell Laird

The first vessel extruded from Cammell Laird Shipbuilders' covered construction hall—one of the biggest of its kind in the U.K.—is a Type 42 guided-missile destroyer for the Royal Navy. This operation took place when



Cut fuel costs? How?

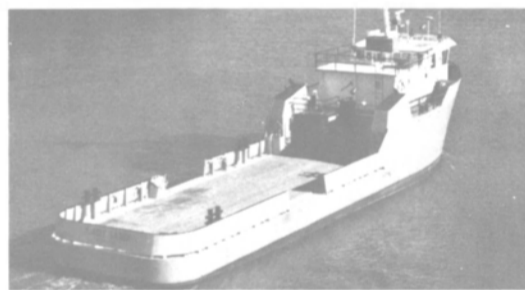
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the destroyer, which is to be named HMS Liverpool, was moved with the aid of hydraulic rams at 20 centimeters (7.8 inches) per minute a distance of 115 meters (337.3 feet) down the slipway. It is the largest and most intricate shipbuilding operation ever carried out in the yard, which is part of the state-owned British Shipbuilders.

Cammell Laird's building hall came into operation in 1978, when HRH Princess Anne laid the destroyer's keel, and the vessel's extrusion from the hall on to a conventional outside slipway from which she will be launched in September marked another major development in shipbuilding at Birkenhead.

A new building method and extrusion process developed by the company has been used in the production of this highly sophisticated vessel, and it has created considerable interest among naval shipbuilders worldwide.

"These new methods," said Tony Smith, chairman and chief executive of Cammell Laird, "have demonstrated that our advanced shipbuilding plant and technology, although primarily designed for merchant ship construction, lends itself remarkably well to the building of warships, and this, together with the expertise of our workforce, have produced a vessel consistent with the Royal Navy's quality requirements."

The building method is a departure from the traditional sequence of building the hull structure first, followed by machinery installation and outfitting. The method is a combination of the "extrusion" process and the "open-boat" principle. Advantage can be taken of the excellent conditions within the hall—those of good lighting, ventilation, access, cranes, and cleanliness.

With the "open-boat" technique, decks over the machinery space are left off, providing ideal access for installing major items of equipment such as gearboxes, turbines, etc., in an environment totally free from the effect of weather. Work also proceeds in parallel elsewhere under cover on fabrication and outfitting the multiple-deck "sandwich" structures located above the machinery, which support the "open-boat" method and enable work to be undertaken in both areas simultaneously.



PACTOW EXPANDING — Pacific Towboat and Salvage Company of Long Beach, Calif., took advantage of the recent christening of a new bunkering barge to call attention to the firm's current \$12-million equipment expansion program, which also includes adding two large barges and three harbor tugs to its growing fleet. In ceremonies marking the event, Long Beach Commission president James H. Gray (left, above) presented

color aerial portrait of Pactow's Pier D operations to Pacific Towboat president Thomas D. Opatz (center) and board chairman John J. Turner. New vessels will double Pactow's present bunkering capacity of one million barrels per month in the Long Beach harbor area.

McDermott Division Gets Two Contracts For Irish Sea Gas Projects

McDermott Engineering-London, a division of McDermott International, Inc., has received two contracts from Hydrocarbons Great Britain Ltd., a wholly owned subsidiary of British Gas Corporation, for work that will play a major part in the development of the Morecambe Gas Field.

The Morecambe Field is located in the Irish Sea approximately 30 miles west of Lancaster, England. The contracts involve both offshore and onshore projects.

The offshore project calls for McDermott to prepare the conceptual design for the development of the entire Morecambe Field. This work will include the design of the offshore platforms, their drilling, production, and accommodation facilities, and offshore in-field pipeline systems.

Onshore, McDermott will provide engineering and procurement services for the terminal that will handle the gas from the Morecambe Field. This onshore terminal will be constructed at West Field Point near Barrow-in-Furness.

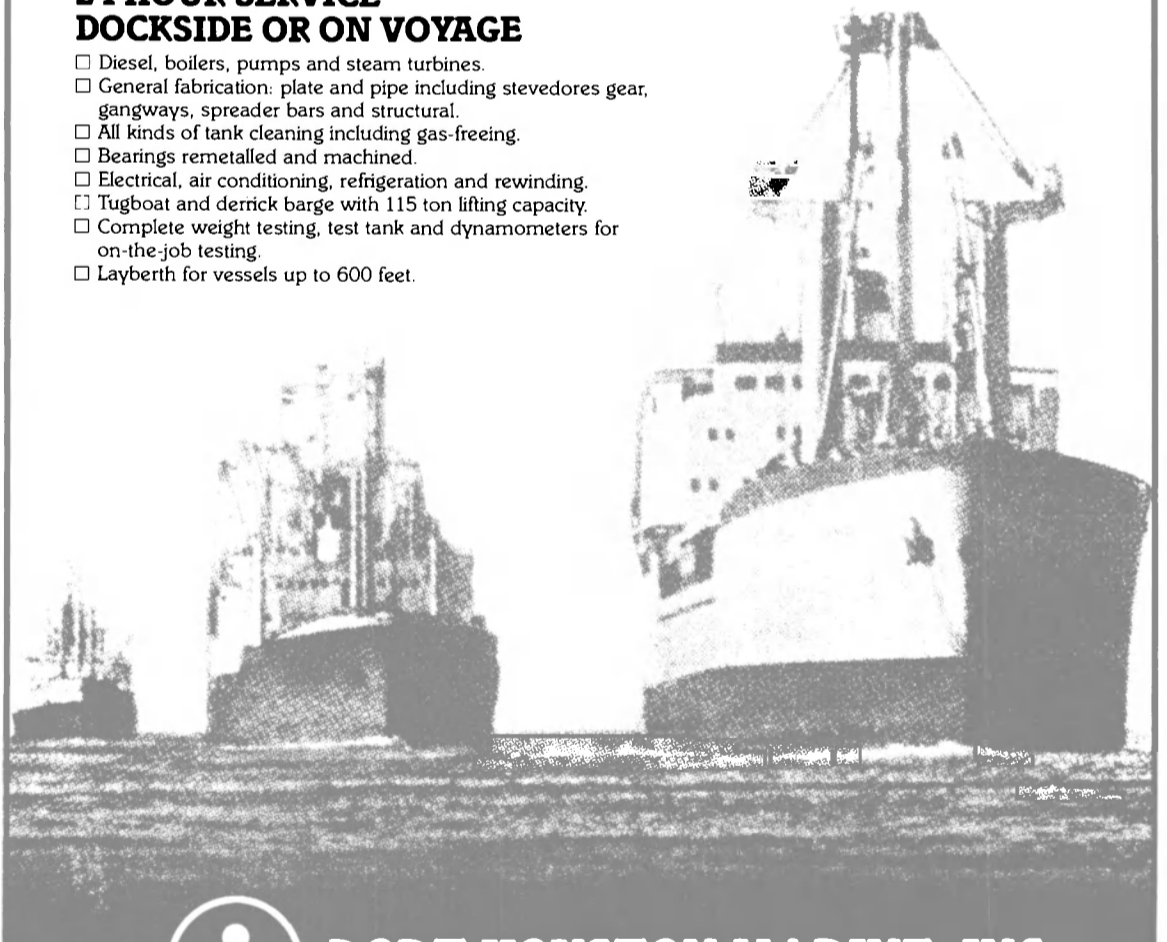
Work for both the offshore conceptual design and the onshore terminal will be done in McDermott's London office, the headquarters of McDermott Engineering in Europe.

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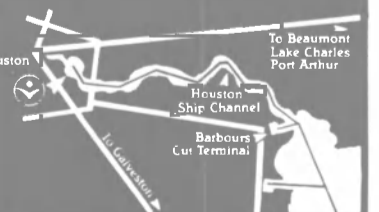
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New Company Plans To Build Two Bulk/Container Ships At Cost Of \$156 Million

First American Bulk Carrier Corporation, a new company owned by the Pension Fund of the Marine Engineers' Beneficial Association (MEBA) and General Shipholding S.A., a firm organized in Luxemburg, has applied to the Maritime Administration for construction differential subsidy (CDS) for two 40,000-dwt combination dry-bulk/container carriers. The new company also plans to apply for operating differential subsidy (ODS) and Title XI financing guarantees for the two ships.

Estimated to cost \$78 million each, the vessels would be powered by slow-speed diesel engines. The ODS, if approved, would pay for up to 50 percent of that amount. Livingston Shipbuilding Company of Orange, Texas, is the proposed builder, with deliveries set for September 1982 and April 1983.

Each of the seven-hold ships would have two onboard, 30-ton gantry cranes, and capacity to carry about 1,300 TEUs.

The combination carriers would operate on a triangular trade route, unique for the U.S. flag, hauling mineral sands or alumina from Australia to U.S. Gulf or East Coast ports; non-preference bulk loads such as phosphate and grain from the U.S. to Europe; and containerized cargoes from Europe to Australia and New Zealand. It is estimated that the triangular voyage would be made in 114 days — 85 days at sea, 26 days in port, and three days in canal transits.

A typical itinerary for the service could be loading containers at Southampton, Hamburg, Zeebrugge, and Livorno for carriage to Melbourne, Sydney, and Fremantle, Australia, and Auckland, New Zealand; transport of mineral sands from Geraldton, Australia, to Gulfport, Miss.; and shipment of grain from New Orleans to Antwerp.

First American's application for CDS indicates that the break-even point for the two vessels would be about \$5.8 million of cargo revenue annually at 80 percent of capacity.

The application further lists the directors of First American as **Jesse M. Calhoun**, MEBA president and board chairman of its Pension Fund; **Leon Shapiro**, national vice president of MEBA and secretary-treasurer of the union's District No. 1; and **Jules Bingham**, a senior partner of Bingham, Bigotte & Company of New York, shipping agents and brokers.

Cameron Refits Drill Rig 'Western Pacesetter II' In Record-Breaking Five Days

Downtime was cut by approximately two-thirds when the Western Pacesetter II, a semisubmersible drilling rig, was refitted at Cameron Offshore Service Inc.'s Industrial Marine Division in Cameron, La., for work in the North Sea. With the cost of rig tow time, and a tug on call at \$8,000 a day, savings were considerable.

In a record-breaking five days, the rig was overhauled and refitted for operation in deeper water. The Pacesetter operated for the past five years in the Gulf of Mexico, and will now be operating at a 900-1,000-foot depth off the shore of Ireland.

Planning for the work at Cameron started

in January, according to **Lilton Chesson Jr.**, president of Cameron Offshore. Principals from Cameron Offshore and Western Oceanic Inc. met approximately twice a month to schedule the refitting. Supplies were stockpiled at Cameron in advance of the rig's arrival. Divers reviewed the water depth at Cameron's Industrial Marine dock, and the depth was confirmed to be 35 feet at dockside, with a mid-channel depth of 40 feet. The rig would draw 22 feet when docked.



Drill rig Western Pacesetter II has been refitted by Cameron Offshore Service for operation in water depths of 900-1,000 ft. in North Sea off coast of Ireland.

As the rig docked at Cameron, after a tow from the Gulf up the Calcasieu River ship channel, a rush of activity got underway. Industrial Marine had two crews of 45 men working 12-hour shifts, and Western had four 20-man crews. Workmen, purchasing agents, safety and construction engineers worked around the clock. Materials were loaded and unloaded, supplies were put in, additional risers and riser racks were added for deepwater operation, and damages incurred during five years of operating in the Gulf were repaired.

Robert (Mack) McCowin, superintendent of the Western Pacesetter II, commented, "I've never seen a rig refitting run on schedule, but we made it."

Walter Carrico, manager for Industrial



Marine, said that the five-day job would probably have taken 10 to 15 days if done offshore with workboats. "We had this job well planned," he said, "and were able to complete it according to schedule and with no major problems."

The Cameron Offshore complex is a one-of-a-kind facility, similar only to a smaller-scale operation in Aberdeen, Scotland. It takes the general store approach to serving the oil industry, and includes over 80 acres on a deepwater channel one mile from the open Gulf.

Cameron Offshore supplies marine base packages that serve as support bases for several oil companies. Services include pipe storage and handling, office space, water, fuel and drilling mud, and chemicals. Industrial Marine, located within the complex, is a maintenance operation that performs welding, sand-blasting, offshore platform hook-ups, platform rig moves, and general repairs.

Bonito Offshore Asks For Title XI Guarantee On Jackup Drilling Rig

Bonito Offshore Inc., Houston, has applied for a Title XI guarantee to aid in financing the construction of one jackup drilling rig.

Bonito plans to operate the rig, which will be capable of drilling in up to 250 feet of water, in the Gulf of Mexico. The company listed either Bethlehem Steel, Beaumont, Texas, or Ingalls Shipbuilding, Pascagoula, Miss., as the proposed builder, with delivery for late 1981 or early 1982.



TRANSTAINER FOR MTC—Marine Terminals Corporation recently accepted delivery on another Paceco rubber-tired Transtainer® crane for its terminal operation at Berth 233, Terminal Island, San Pedro, Calif. Paceco, Inc. of Alameda, Calif. is a subsidiary of Fruehauf Corporation, Detroit. The 30-ton crane is the third Transtainer delivered to Marine Terminals at the Terminal Island site. The 74-foot-span crane is capable of stacking containers four high and six wide, leaving room for a truck roadway. It is equipped with a Paceco telescopic spreader with hydraulically actuated, side-acting flippers, in lieu of fixed corner guides, to handle 20-foot to 40-foot containers. Paceco's Gulfport, Miss., manufacturing facility fabricated the structure, and Paceco's Field Operations Department was in charge of erection on site.

August 15, 1980

Calendar Of Coming Events

International Symposium on Ocean Engineering & Ship Handling Sept. 17-18
Sponsored and organized by the Swedish Maritime Research Centre.

Park Avenue Hotel, Gothenburg, Sweden. Contact the Gothenburg Convention Bureau, Parkgatan 2, S-41138 Gothenburg, Sweden.

Shipboard Energy Conservation '80 Sept. 22-23
Symposium sponsored by The Society of Naval Architects and Marine Engineers and presented by the New York Metropolitan Section.

Waldorf-Astoria Hotel, New York City. Contact John C. Daidola, c/o M. Rosenblatt & Son, Inc., 350 Broadway, New York, N.Y. 10013; (212) 431-6900.

Ship Operations Symposium Sept. 23-25
Sponsored by the Maritime Association of the Port of New York, and others.

Downtown Athletic Club, New York City. Contact the sponsor at 80 Broad Street, 34th Floor, New York, N.Y. 10004; (212) 425-5704.

Exhibition & Congress: Ship, Machinery, Marine Technology International Sept. 23-27
Organized by Hamburg Messe and Congress GmbH.

Fair Grounds Exhibition Centre, Hamburg, West Germany. Contact the organizers at Tungiusstrabe 18, Messehaus Postfach 302360, Hamburg 36, West Germany; telex 0212609.

International Oil Pollution Prevention Exhibition & Conference Sept. 23-27
Organized by Hamburg Messe and Congress GmbH.

Fair Grounds Exhibition Centre, Hamburg, West Germany. Contact Millard F. Smith, c/o Slickbar, Inc., 250 Pequot Avenue, Southport, Conn. 06490; (203) 255-2601.

Marine Technology '80 Oct. 6-8
Conference & Exposition sponsored by the Marine Technology Society.

Shoreham Americana Hotel, Washington, D.C. Contact MTS at 1730 M Street, N.W., Suite 412, Washington, DC 20036; (202) 659-3251.

AAPA Annual Convention Oct. 19-23
Sponsored by the American Association of Port Authorities.

Omni International Hotel, Norfolk, Va. Contact AAPA 1980 Convention Planning Committee, Virginia Port Authority, 1600 Maritime Tower, Norfolk, Va. 23510; (804) 622-1671.

MariChem 80 Oct. 21-23
Third International Conference and Exhibition on the Transportation, Handling, and Storage of Bulk Chemicals.

Organized by BML Business Meetings Ltd.
Royal Lancaster Hotel, London, England. Contact Ronald A.B. Sim, 2 Station Road, Rickmansworth, Herts WD3 1QP, England; telex 924312 Gastech.

WGA Annual Convention Oct. 22-24
Ninth annual convention and technical symposium of the Wild Goose Association for professional navigators.

Bradford Hotel, Boston, Mass. Contact Bahar Uttam, c/o JACOR, 300 Unicorn Park, Woburn, MA 01801; (617) 933-6805.

Dieselpcare 80 Oct. 28-29
Second International Conference on Marine Diesel Propulsion.

Organized by Intec Press, Ltd., London.
New York Hilton Hotel, New York City. Contact M. Randolph Long, Intec Press, Ltd., 310 East 46th Street, New York, NY 10017; (212) 697-4893.

SNAME Annual Meeting Nov. 13-15
Sponsored by The Society of Naval Architects and Marine Engineers.

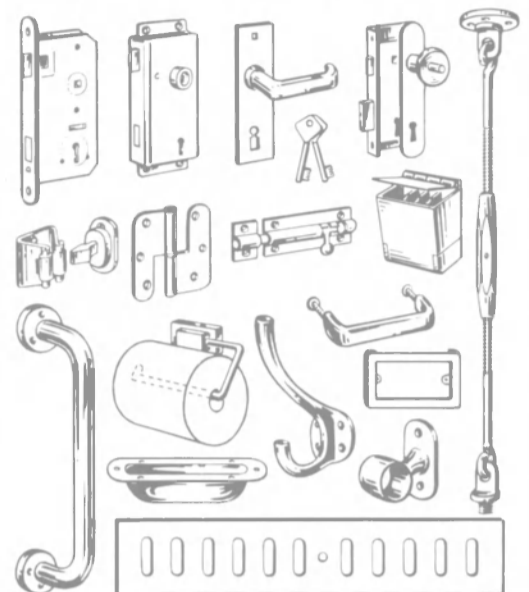
New York Hilton Hotel, New York City. Contact SNAME, One World Trade Center, Suite 1369, New York, NY 10048; (212) 432-0310.

EUROPORT '80 Nov. 18-22
Exhibition & Conference organized by the Europort Group.

RAI Halls and Congress Centre, Amsterdam, The Netherlands. Contact Peter K. Johnson, Europort Inc., 6006 Bellaire Boulevard, Suite 101, Houston, TX 77081; (713) 666-5188.

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Carriere Named Manager Of Lykes M&R Division In San Francisco

Joseph H. Carriere, a veteran of 34 years' service with Lykes Bros. Steamship Co., Inc., a subsidiary of The LTV Corporation, has been transferred from New Orleans headquarters to the company's San Francisco office as manager of the West Coast Main-

tenance and Repair Division, according to executive vice president Robert J. Brennan.

Mr. Carriere joined the Lykes fleet as an engineer in 1946 after graduating from the U.S. Merchant Marine Academy. During his sea year at the Academy, he also sailed as a cadet aboard ships of the Lykes fleet.

Mr. Carriere was serving as chief engineer with the Lykes

fleet in 1960 when he was appointed port engineer at the port of New Orleans, his first shore-side assignment. He also served as port engineer at the port of Galveston from 1966 until 1972, when he returned to New Orleans as supervisory port engineer following delivery of the first of Lykes's new SEABEE-class barge, container, and heavy-lift ships.

Evergreen Handt Merged Into Evergreen Marine— Hansen Named President

Evergreen Line, New York, has announced the consolidation of Evergreen Handt Corporation into Evergreen Marine Corp. (N.Y.) Ltd., which will assume full responsibility for the U.S. East Coast/Far East container service in addition to its function as owner's representative. Evergreen Marine will also oversee the Far East/Panama service.

Svend Hansen Jr., former president of Evergreen Handt, has been named president. Capt. S.Y. Kuo and Y.F. Chang, executive vice presidents at the owner's office, have been named to the same positions at the newly organized company. Evergreen Handt officers who retain their positions are Capt. M.H. Wei, executive vice president; Richard Huang, vice president (business), and J.E. Celosse, vice president (operations).

The change applies also to the Evergreen Handt offices in Charleston and Atlanta. All office locations, organization, staff, telex and telephone numbers, as well as agents in other areas, remain unchanged.

Evergreen Marine Corporation (Calif.) will continue its function as owner's representative office in North America, including overall supervision of all U.S. services and central equipment control.

F.M. Cangemi Appointed Senior Vice President Of Barber Steamship



Frank M. Cangemi

Frank M. Cangemi has been named senior vice president for corporate operations of Barber Steamship Lines, Inc., U.S. general agent for Atlantrafic Express Service, Barber Blue Sea, Barber Lines, and Nordana Line.

Announcing the appointment, Robert H. Pouch, president, said Mr. Cangemi's duties will cover the daily operation of the North Atlantic Region. This area comprises New York, New Jersey, and New England. He will also be responsible for marketing and sales service in New York. Mr. Cangemi was previously vice president-commercial manager for Far East Imports in the New York divisional office of Barber Blue Sea. He joined Barber Steamship Lines in 1968 after 17 years with Funch Edye & Co., Inc.

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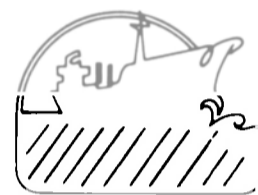
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TECHNICAL BRANCH CHIEF POSITIONS

CHIEF, MARINE FIRE RESEARCH BRANCH CHIEF, MARINE SYSTEMS BRANCH

The Research and Development Center is a component of the Coast Guard Office of Research and Development. It is the Coast Guard's only in-house R&D facility and is located on the southeastern Connecticut shoreline. The R&D Center's mission is to conduct applied research and development in support of the Coast Guard's operational and regulatory programs. As a result of the recent establishment of new branches in the Ocean Science and Technology Division, we are currently recruiting for chiefs of the Marine Fire Research Branch and the Marine Systems Branch.

CHIEF, MARINE FIRE RESEARCH BRANCH Supervisory Fire Protection Engineer. \$29K-\$45K

The mission of the Marine Fire Research Branch is to conduct applied research and development, test and evaluate operational techniques, concepts, systems, equipment and materials with the specific objectives of increasing the effectiveness of the commercial vessel safety, marine environmental protection, port safety and law enforcement programs and engineering support programs through the application of marine fire research and full-scale shipboard fire testing and evaluation of fire prevention systems and concepts. The branch coordinates and directs the Fire and Safety Test Detachment in Mobile, Alabama.

Desirable attributes of the branch chief are technical experience, supervisory ability, and a solid technical background in Marine Fire Protection. This technical background should include professional knowledge of the theories, principles, practices and techniques of materials engineering and fire protection engineering to conduct applied research in materials and fire safety projects.

CHIEF, MARINE SYSTEMS BRANCH

Supervisory Naval Architect
General Engineer (Marine Systems), \$29K-\$45K

The mission of the Marine Systems Branch is to conduct applied research and development, test and evaluate operational techniques, concepts, systems, equipment and materials with the specific objectives of increasing the effectiveness and efficiency of the search and rescue, enforcement of laws and treaties, domestic and polar icebreaking, and commercial vessel safety programs through applied research, development, test and evaluation of marine vehicles and systems. The branch is expected to be extensively involved in seagoing activities of advanced marine vehicles.

Desirable attributes of the branch chief are technical experience, supervisory ability, and a solid technical background in naval architecture, marine, mechanical and systems engineering and operations research. This technical background should include professional knowledge of the theories, principles, practices and techniques of naval architecture, marine, mechanical and systems engineering and operations research to conduct applied research in marine vehicles, systems development and evaluation.

For both positions: Candidates for these positions must have technical knowledge appropriate to the position obtained through either graduate education or technical experience or a combination thereof. At a minimum, a doctoral degree plus three years' experience or a combination of a lesser degree plus additional experience which demonstrates a technical ability at the doctoral level is required. Additionally, experience or training in supervisory practices is desirable.

Submit Federal application forms (SF-171) and a current list of publications, if applicable, to P.O. Box A-4737, U.S. Coast Guard Academy, New London, CT 06320, not later than 9 September 1980. These are career Civil Service Merit Pay positions.

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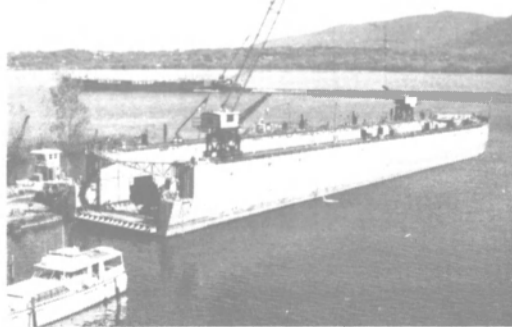
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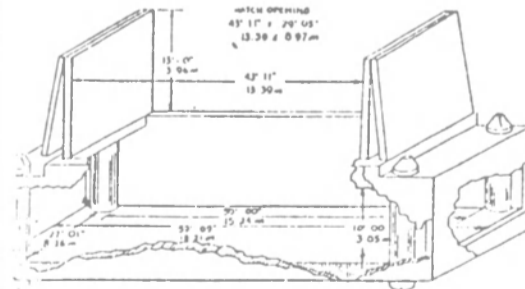
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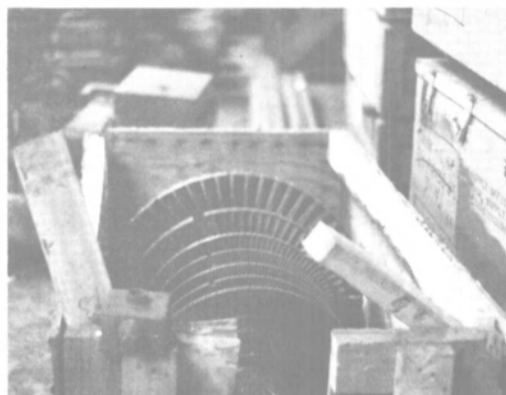
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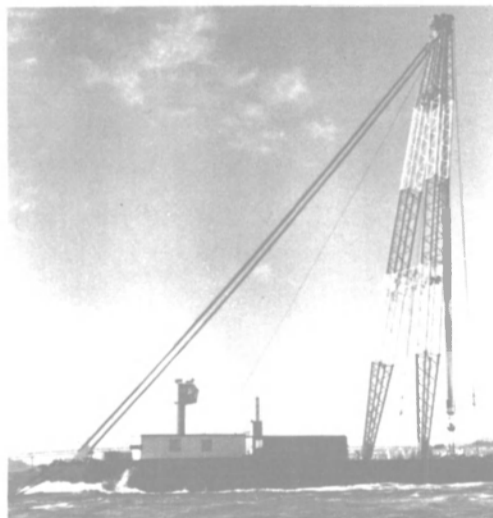
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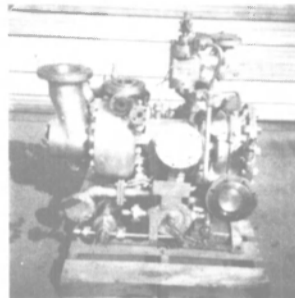
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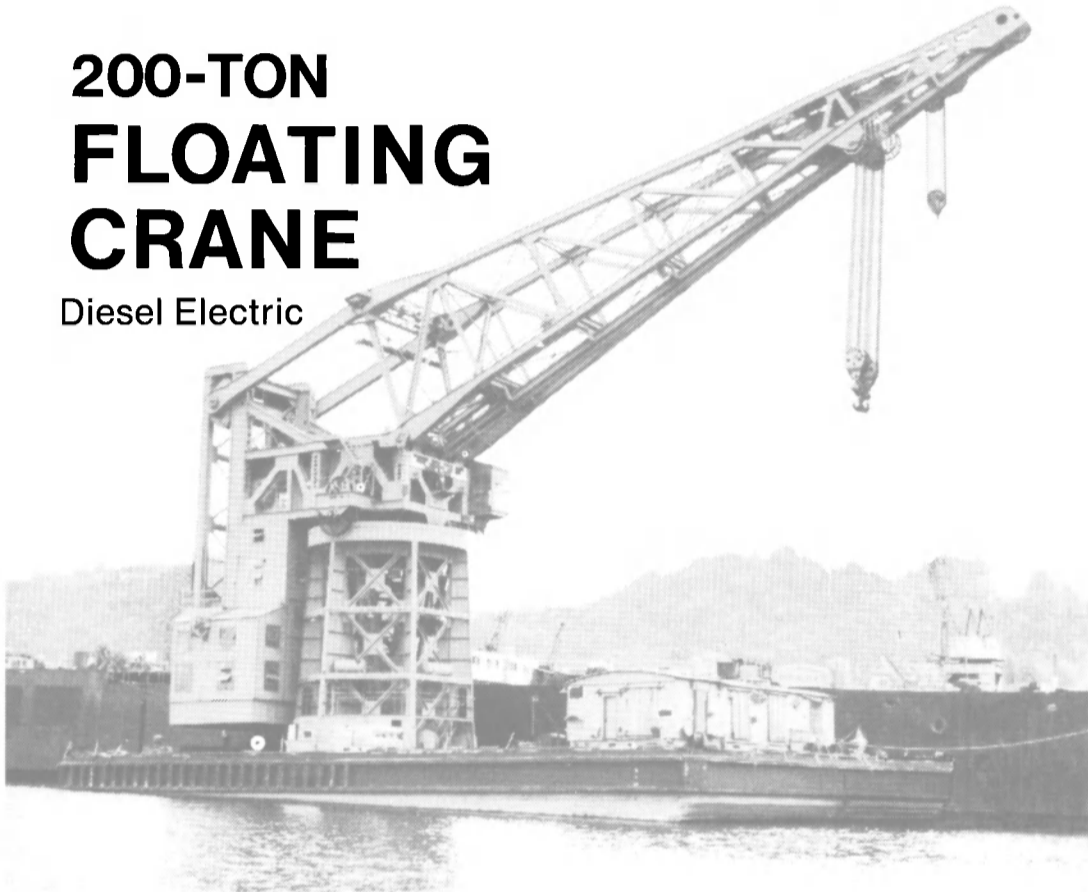
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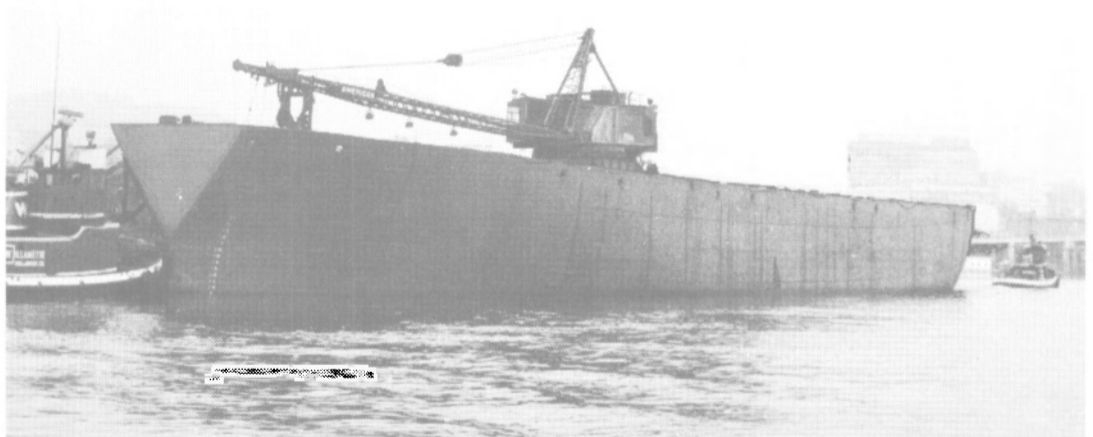
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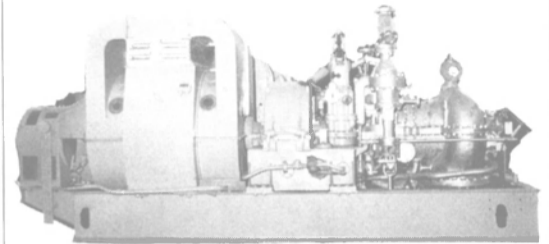
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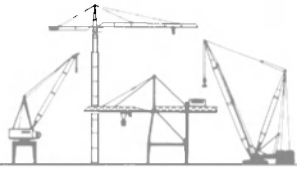
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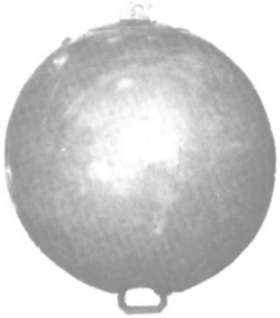
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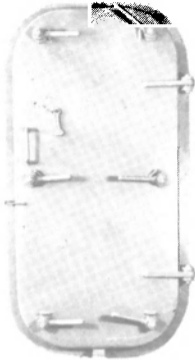
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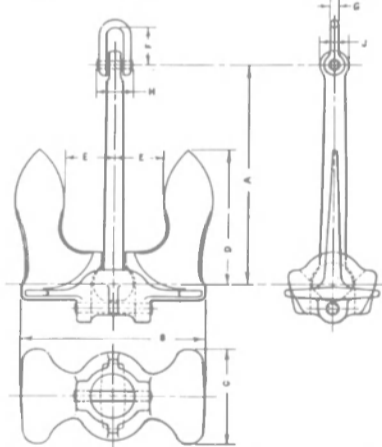
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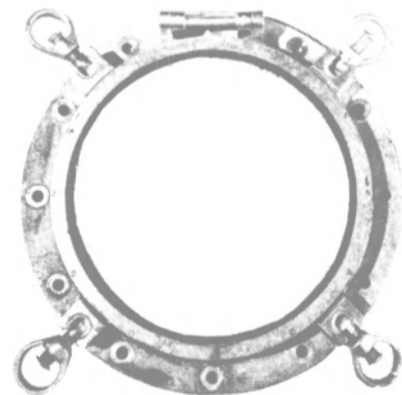
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Coolmar Heatexchangers B.V., P.O. Box 54156 3008 JD Rotterdam, (The Netherlands) Waalhaven Z.Z. 52
Hartzell Propeller Fan Company, 901 S. Downing Street, Piqua, OH 45356
Joy Manufacturing Co., 338 So. Broadway, New Philadelphia, Ohio 44663
Zidell Explorations, 3121 S.W. Moody St., Portland, Ore. 97201

FENDERING SYSTEMS—Dock & Vessel

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

Johnson Rubber Co. (Marine Div.), 16025 Johnson St., Middlefield, Ohio 44062
Morse Chain Company, Div. Borg Warner, So. Aurora St., Ithaca, N.Y. 14850
Seaward International, Inc., 6269 Leesburg Ave., Falls Church, Va. 22044

FINANCING—Leasing

Continental Illinois National Bank, 231 S. LaSalle, Chicago, IL 60693
General Electric Credit Corp., P.O. Box 8300, Stamford, Conn. 06904
Greyhound Leasing & Financial Co., Greyhound Tower, Phoenix, AZ 85077
Kidder, Peabody & Co., Inc., 10 Hanover Square, New York, N.Y. 10005
Salomon Brothers, One New York Plaza, New York, N.Y. 10004
Warburg Paribas Becker, Inc., 2 First National Plaza, Chicago, Ill. 60670

FITTINGS & HARDWARE

Custom Alloy, 2040 N. Loop W., Houston, TX 77018
Robvon Backing Ring Co., 675 Garden St., Elizabeth, N.J. 07207

FURNITURE

Bailey Joiner Co., Inc., 74 Sullivan Street, Brooklyn, N.Y. 11231
IDT Corp. (Intersystems Design & Technology Corp.), P.O. Box 1590, Summerville, S.C. 29483

GANGWAYS

Rampmaster Inc., 1226 N.W. 23rd Ave., Fort Lauderdale, Fla. 33311

HATCH & DECK COVERS—Chain Pipe

Hayward Marine Products, 900 Fairmount Avenue, Elizabeth, NJ 07207
MacGregor-Comarain, Inc., 135 Dermody St., Cranford, N.J. 07016
Marine Moisture Control Co., 449 Sheridan Blvd., Inwood, N.Y. 11696
Julius Mock & Sons, Inc., 20 Vesey St., New York, NY 10017

HULL CLEANING

Butterworth Systems Inc., 224 Park Ave., Florham Park, N.J. 07932
Phosmarin Equipment (Phoceenne Sous-Marine S.A.), 21 Boulevard de Paris, 13002 Marseille, France
Sub Enterprises, Inc., P.O. Box 16531, Irvine, CA 92713

HYDRAULICS

Voss, Inc., Building J, 7029 Huntley Road, Columbus, Ohio 43229

INERT GAS—Generators—Systems

Camar Corporation, P.O. Box 460, Worcester, MA 01613
Foster Wheeler Boiler Corp., 110 So. Orange Ave., Livingston, N.J. 07039
Fredrikstad mek. Verksted, N. American Agents, American United Marine Corp., 575 Madison Ave., New York, N.Y. 10022

INFORMATION—Marine

Maritime Data Network, 300 Broad Street, Stamford, CT 06901

INSULATION—Cloth, Fiberglass

Bailey Carpenter & Insulation Co., Inc., 74 Sullivan St., Brooklyn, N.Y. 11231
Dupont Company, Nemours Bldg.-RM C31H6, Centre Rd. Bldg., Wilmington, DE 19898
IDT Corp. (Intersystems Design & Technology Corp.), P.O. Box 1590, Summerville, S.C. 29483

INSURANCE

Adams & Porter, 1819 St. James Place, Houston, Texas 77027
Adams & Porter, 5 World Trade Center, Suite 6433, New York, N.Y. 10048
Alexander & Alexander, Inc., 1185 Ave. of the Americas, New York, N.Y. 10036
Midland Insurance Co., 160 Water St., New York, N.Y. 10038
Whitehall Brokerage, Inc., 17 Battery Place, New York, NY 10004

KEEL COOLERS

Johnson Rubber Co. (Marine Div.), 16025 Johnson St., Middlefield, Ohio 44062

LADDERS

Duo-Safety Ladder Co., 513 West 9th Ave., P.O. Box 497, Oshkosh, Wisc. 54901

LIGHTING EQUIPMENT—Lamps, Fixtures, Searchlights

ACR Electronics, Inc., 10-99 3901 North 29th Avenue, Hollywood, FL 33020
Oceanic Electrical Mfg. Co., 157 Perry Street, New York, N.Y. 10014
Oreck Corp., 100 Plantation Rd., New Orleans, LA 70123
Perko Inc., P.O. Box 6400D, Miami, Florida 33164
Phoenix Products Company, 4785 North 27th Street, Milwaukee, WI 53209
Port Electric Supply Corp., 157 Perry Street, New York, N.Y. 10014

LNG CONTAINMENT

McDonnell Douglas Astronautics Co., 5301 Bolsa Ave., Huntington Beach, CA 92647

LUMBER

R.N. Templeman, Inc., 3000 Perdido St., New Orleans, LA 70119

MACHINE TOOLS

Climax Manufacturing Company, P.O. Box 230, Newberg, OR 97132
Master Machine Tools, Inc., 1300 East Avenue A, Hutchinson, Kansas 67501

MACHINERY MAINTENANCE, REPAIR, OVERHAUL, AND TESTING

A.L. Burbank & Co., Ltd., Marine Thermostat Dept., One World Trade Center, Suite 2811, New York, NY 10048
General Electric Company—Bldg. 2, Rm 216, Schenectady, N.Y. 12345
Schnitzer-Levin Marine Co., 445 Littlefield Ave., So. San Francisco, CA 94080

MOORING SYSTEMS

Samson Ocean Systems, Inc., 99 High Street, Boston, Mass. 02110

NAVAL ARCHITECTS, MARINE ENGINEERS, SURVEYORS

Advanced Marine Enterprises, Inc., Suite 500, 2341 Jefferson Davis Highway, Arlington, Va. 22202
Agemar, Avenida 3E No. 71-51, Edif. Acuario (Planta Baja) Apartado 1465, Maracaibo, Venezuela
American Standards Testing Bureau, Inc., 40 Water Street, New York, N.Y. 10004
Amirikian Engineering Co., Chevy Chase Center Bldg., Suite 505, 35 Wisconsin Circle, Chevy Chase, Md. 20015
J.L. Bludworth, P.O. Box 2441, Corpus Christi, TX 78403
Del Breit Inc., 326 Picayune Place (Suite 201), New Orleans, LA 70130
CCS Marine Associates Ltd., 2784 Crescentview Drive, N. Vancouver, B.C. Canada V7R2V1
C.D.I. Marine Co., Regency East, Suite 222, 9951 Atlantic Blvd., Jacksonville, Florida 32211
CTS & Associates, 11320 S.W. 108 Court, Miami, Fla. 33176
CADCOM, 107 Ridgely Ave., Annapolis, MD 21401
Childs Engineering Corp., Box 333, Medfield, Mass. 02052
John P. Colletti & Associates, P.O. Box 13378, Pittsburgh, PA 15243
Columbia-Sentinel Engineers Western, Inc., P.O. Box 21542, Seattle, WA 98111
Crandall Dry Dock Engrs., Inc., 21 Pottery Lane, Dedham, Mass. 02026

CRANE CONSULTANTS INC., 15301 1st Ave., So. Seattle, Washington 98148

C.R. Cushing & Co., Inc., One World Trade Center, New York, N.Y. 10048

Norman N. DeJong & Associates, Inc., 1734 Emerson St., Jacksonville, Fla. 32207

Design Associates, Inc., 3308 Tulane Ave., New Orleans, La. 70119
Designers & Planners Inc., One State Street Plaza, New York, N.Y. 10004

Parker C. Emerson & Associates, 17935 Cardinal Drive, Lake Oswego, Oregon 97034
Christopher J. Foster, Inc., 16 Sintsink Drive East, Port Washington, N.Y. 11050

Friede and Goldman, Ltd., 225 Baronne St., New Orleans, La. 70112
Gibbs & Cox, Inc., 40 Rector Street, New York, N.Y. 10006
John W. Gilbert Associates, Inc., 58 Commercial Wharf, Boston, Mass. 02110

L.R. Glasten & Associates, Inc., 610 Colman Bldg., 811 First Ave., Seattle, Wash. 98104

Phillip Gresser Associates, Ltd., 3250 South Ocean Blvd., Palm Beach, FL 33480

Morris Guralnick Associates, Inc., 620 Folsom Street, Suite 300, San Francisco, CA 94107

Hampton Roads Engineering, Inc., 119 E. Little Creek Rd., Norfolk, VA 23505

J.J. Henry Co., Inc., Two World Trade Center—Suite 9528, New York, N.Y. 10048

Hydronautics, Incorporated, 7210 Pindell School Road, Howard County, Laurel, Maryland 20810

Jantzen Engineering Co., 6655-H Amberton Drive, Baltimore, Md. 21227

James S. Krogen & Co., Inc., 3333 Rice St., Miami, Fla. 33133
Littleton Research and Engrg. Corp., 95 Russell St., Littleton, Mass. 01460

Lucander Designs, P.O. Box 711, San Perlita, TX 78590

Alan C. McClure Associates, Inc., 2600 South Gessner, Houston, TX 77063

John J. McMullen Associates, Inc., 1 World Trade Center, New York, N.Y. 10048

MacLear & Harris, Inc., 28 West 44 Street, New York, N.Y. 10036

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., 195 Paterson Avenue, Little Falls, NJ 07424

Maritime Service Company, 1357 Rosecrans St., Suite B, San Diego, CA 92106

Rudolph F. Matzer & Associates, Inc., 13891 Atlantic Blvd., Jacksonville, Fla. 32225

Mechanical Resources Inc., 191 Cambridge Avenue, Jersey City, N.J. 07307

George E. Meese, 194 Acton Rd., Annapolis, Md. 21403

Metricape, Inc., 33 Bradford Street, Concord, MA 01742

Nelson & Associates, Inc., 1405 N.W. 167th Street, Miami, FL 33169

Nickum & Spaulding Associates, Inc., 911 Western Ave., Seattle, WA 98104

Robert B. Niederberger, P.E., 507 Evergreen Road, Severna Park, MD 21146

Norgaard and Clark, 114 Sansome St., San Francisco, CA 94104

Ocean-Oil International Engineering Corporation, 3019 Mercedes Blvd., New Orleans, La. 70114

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 SW 57th Ave., Fort Lauderdale, Fla. 33317

M. Rosenblatt & Son, Inc., 350 Broadway, New York, N.Y. 10013 and 657 Mission St., San Francisco, Calif.

Sargent & Herkes, Inc., 611 Gravier St., New Orleans, La. 70130

Schmahl and Schmahl, Inc., 1209 S.E. Third Ave., Fort Lauderdale, Florida 33316

Seacor Systems Engineering Associates, Corp., P.O. Box 2030, 19 Cherry Hill Industrial Park, Perina Blvd., Cherry Hill, NJ 08003

Seaworthy Engine Systems, 36 Main Street, Essex, CT 06426

George G. Sharp, Inc., 100 Church St., New York, N.Y. 10007

T. W. Spaetgens, 156 West 8th Ave., Vancouver, Canada V5Y 1N2

R.A. Stearn, Inc., 253 N. 1st Ave., Sturgeon Bay, WI 54235

Richard R. Taubler Inc., 8 Columbia St., Milford, Del. 19963

Thames Engineering Consultants Inc., P.O. Box 589, New London, Ct. 06320

Timisco, 622 Azalea Road, Mobile, AL 36609

Corning Townsend III, 18 Church St., Georgetown, CT 06829

Undersea Systems, 112 W. Main St., Bay Shore, N.Y. 11706

Wesley D. Wheeler Associates, Ltd., 104 East 40 St., Suite 207, New York, N.Y. 10016

Thomas B. Wilson, 920 North Avalon Blvd., Wilmington, CA 90744

XPLO Corporation, 229 Fifth Street, Gretna, LA 70053

NAVIGATION & COMMUNICATIONS EQUIPMENT

American Hydromath Co., Buckwheat Bridge Rd., Germantown, N.Y. 12526

Collins Marine Corp., Pier 32, San Francisco, CA 94105

Communication Associates, Inc., 200 McKay Road, Huntington Station, N.Y. 11746

Comsat General Corp., 950 L'Enfant Plaza, S.W., Washington, D.C. 20024

Dantronics Co., P. O. Box 673, Rye, NY 10580

Electro-Nav, Inc., 1201 Corbin St., Elizabeth Marine Terminal, Elizabeth, N.J. 07201

EPSCO, Inc., 411 Providence Highway, Westwood, Mass. 02090

Furuno U.S.A., 271 Harbor Way, S. San Francisco, CA 94080

Galbraith Pilot Marine Division, 166 National Road, Edison, NJ 08817

Harris Communications, RF Communications Division, 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

Intermarine Electronics, Inc., Flowerfield Bldg. #7, St. James, N.Y. 11780

Iatron Corp., 5 Alfred Circle, Bedford, MA 01730

Krupp Atlas-Elektronik, 550 Mamaroneck Avenue, Harrison, NY 10528

Maritel, Inc., 139 Old Solomon's Island Road, Annapolis, MD 21401

Motorola Communications & Electronics Inc., 17-22 Whitestone Expressway, Whitestone, NY 11357

Nav-Cam, Inc., 711 Grand Blvd., Deer Park, NY 11729

Navidyne Corp., 11824 Fishing Point Drive, Newport News, VA 23606

Navigation Communications Systems, Inc., 20100 Plummer Street, Chatsworth, CA 91311

North American Philips Communication Corp., 91 Mckee Road, Mahwah, N.J. 07430

RCA Service Co., Building 204-2, Camden, N.J. 08101

Radar Devices, Inc., 2955 Merced Street, San Leandro, CA 94577

Raytheon Marine Co., 676 Island Pond Road, Manchester, N.H. 03103

Raytheon Ocean Systems Company, Westminster Park, Risho Avenue, East Providence, RI 02914

Rockwell International, Collins Telecommunications Products Division, Cedar Rapids, IA 52406

Simrad Inc., 1 Labriola Court, Armonk, N.Y. 10504
Sperry Marine Systems Div., Charlottesville, Va. 22901, Division of Sperry Rand Corp.
Texas Instruments Inc., P.O. Box 226080, M/S 3107, Dallas, TX 75265
Tracor, Inc., Industrial Products Div., 6500 Tracor Lane, Austin, Texas 78721

OILS—Marine—Additives

Ferrous Corporation, P.O. Box 1764, Bellevue, WA 98009
Gulf Oil Company—U.S. (Domestic Oils), 909 Fannin Street, Houston, TX 77001
Gulf Oil Trading Co., 1290 Ave. of Americas, New York, N.Y. 10019
Shell Oil Co., 1 Shell Plaza, Houston, Texas 77002
Mobil Oil Corporation, 150 East 42nd St., New York, N.Y. 10017
Texaco, Inc. (International Marine), 135 East 42nd St., N.Y., N.Y. 10017

OIL/WATER SEPARATORS

Alfa-Laval, Inc., 2115 Lindwood Avenue, Ft. Lee, NJ 07024
Butterworth Systems Inc., 224 Park Ave., Florham Park, N.J. 07932

PAINTS—COATINGS—CORROSION CONTROL

Belzona Molecular Metalife Inc., 224 7th Street, Garden City, NY 11530
"CONSOL" manufactured by Hanline Bros., Inc., 1400 Warner St., Baltimore, MD 21230
Devoe Marine Coatings Co., P.O. Box 7600 Louisville, KY 40207
Eureka Chemical Company, 234 Lawrence Ave., So. San Francisco, CA 94080
International Paint Co., 17 Battery Place North, Suite 1150, New York, N.Y. 10004
Kaiser Aluminum & Chemical Corp., 300 Lakeside Drive (Room 1139KB) Oakland, CA 94643
Mobil Chemical Co., Maintenance & Marine Coatings Dept., P.O. Box 250, Edison, N.J. 08817
The Skybryte Co., 3125 Perkins Ave., Cleveland, OH 44114

PETROLEUM SUPPLIES

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

PIPE—HOSE—Cargo Transfer, Clamps, Couplings

Camlock Flange Sales Corp., 449 Sheridan Blvd., Inwood, L.I., N.Y. 11696
Hydro-Craft, Inc., 4223 Edgeland, Royal Oak, Mich. 48073
Kubota, Ltd., 22, Funade-cho 2-chome, Naniwa-Ku, Osaka, Japan
Penco Division/Hudson Engineering Co., 1114 Clinton St., Hoboken, N.J. 07030

PLASTICS—Marine Applications

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

PULSION EQUIPMENT—Bowthrusters, Diesel Engines, Gears, Propellers, Shafts, Turbines

Alco Power Inc., 100 Orchard St., Auburn, N.Y. 13021
Alsthom-Atlantique, 2 quai de Seine, 93203 Saint-Denis, France
Arma 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, One State Street Plaza, New York, N.Y. 10004
Burmeister & Wain Alpha Diesel AS, DK-1400 Copenhagen K, Denmark
Caterpillar Tractor Company, Engine Division, Peoria, IL 61629
Colt Industries' Fairbanks Morse Engine Division, Beloit, Wisc. 53511
Combustion Engineering, Inc., Windsor, Connecticut 06095
Coolidge Propellers, 1601 Fairview Ave. East, Seattle, Wash. 98102
Electro-Motive Division, General Motors Corp., LaGrange, Ill. 60525
Elliott Company, (Div. of Carrier Corp.), Jeanette, PA 15644
General Electric Co., Diesel Power Products, 2901 E. Lake Rd., Erie, PA 16531
MTU of North America, Inc., 10450 Corporate Drive, Sugar Land, TX 77478
Maritime Industries, Ltd., 6307 Laurel St., Burnaby, B.C. Canada V5B 3B3
Michigan Wheel/Gulf Coast, P.O. Box 1528, Pascagoula, MS 39567
Motive Power Corp., P.O. Box 365, Mineola, NY 11501 70124
Omnithruster Inc., 15418 Cornet Ave., Santa Fe Springs, CA 90670
Oosterhuis Industries, P.O. Box 30587, New Orleans, LA 70190
Port Electric Turbine Div., 155-157 Perry St., New York, N.Y. 10014
Propulsion Systems Inc., 21213 76th Ave., So., Kent, WA 98031
Schattel of America, Inc., 8375 N.W. 56 Street, Miami, Fla. 33166
Skinner Engine Company, P.O. Box 1149, Erie, PA 16512
Tacoma Boatbuilding Co./Escher Wyss, 1840 Marine View Dr., Tacoma, WA 98422
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
Voith Schneider of America—U.S. Agent: Eli Sharprut, 347 Evelyn St., Paramis, N.J. 07652

PUMPS—Repairs—Drives

Penco Division/Hudson Engineering Co., 1114 Clinton St., Hoboken, N.J. 07030
Transamerica DeLaval, Inc., IMO Pump Div., P.O. Box 321, Trenton, NJ 08602
Warren Pumps, Inc., Bridges Ave., Warren, Mass. 01083

REFRIGERATION—Refrigerant Valves

Bailey Refrigeration Co., Inc., 74 Sullivan St., Brooklyn, N.Y. 11231
Port Refrigeration Div., 157 Perry Street, New York, N.Y. 10014

ROPE—Manila—Nylon—Hawsers—Fibers

American Mfg. Co., Inc., Willow Avenue, Honesdale, Pa. 18431
Jackson Rope Co., Reading, Pa. 19603
Samson Ocean Systems, Inc., 99 High Street, Boston, Mass. 02110

RUDDER ANGLE INDICATORS

Electric Tachometer Corp., 68th & Upland St., Philadelphia, Pa. 19142
Henschel Corp., 14 Cedar St., Amesbury, Mass. 01913
Hose McCann Telephone Co., Inc., 524 W. 23rd St., N.Y. 10011
Sperry Marine Systems Div., Charlottesville, Va. 22901, Division of Sperry Rand Corp.

SANITATION DEVICES—Pollution Control

Argo Marine Pollution Systems Division, 140 Franklin St., New York, N.Y. 10013
Envirovac (Division of Dometic Inc.), 1260 Turret Drive, 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
Microphor, Inc., P.O. Box 490, Willits, CA 95490
Red Fox Industries, P.O. Drawer 640, New Iberia, LA 70560
Research Products Blankenship, 2639 Andjon, Dallas, Texas 75220
St. Louis Ship FAST Sewage Systems, 611 East Marceau St., St. Louis, Mo. 63111
Sigma Treatment Systems, 2 Davis Ave., Frazer, PA 19355

SCAFFOLDING EQUIPMENT—Work Platforms

Patent Scaffolding Co., 2125 Center Ave., Fort Lee, N.J. 07024
Spider Staging Sales Co., P.O. Box 182, Renton, Washington 98055
Trus Joist Corp., P.O. Box 60, Boise, Idaho 83707

SHAFT SEALS, REVOLUTION INDICATOR EQUIPMENT

Bird-Johnson Co., 100 Norfolk St., Walpole, MA 02081
Electric Tachometer Corp., 68th & Upland St., Philadelphia, Pa. 19142
Henschel Corp., 14 Cedar St., Amesbury, Mass. 01913
Penco Division/Hudson Engineering Co., 1114 Clinton St., Hoboken, N.J. 07030

SHIPBREAKING—Salvage

American Ship Dismantlers, Inc., Division of Schnitzer Industries, 3300 N.W. Yeon Avenue, Portland, Ore. 97210
The Boston Metals Co., 313 E. Baltimore St., Baltimore, Md. 21202
Levin Metals Corporation, 1310 Canal Blvd., Richmond, CA 94807
Zidell Explorations, Inc., 3121 S.W. Moody St., Portland, Ore. 97201

SHIPBUILDING STEEL

Arma Steel Corp., 703 Curtis St., Middletown, Ohio 45042
Bethlehem Steel Corp., One State Street Plaza, N.Y. 10004

SHIPBUILDING—Repairs, Maintenance, Drydocking

A.D.M. (Amsterdam Drydock Mfg.), Moatschappij bv, P.O. Box 3006, 1003 AA, Amsterdam, Holland
AMT, Inc., 2400 N.W. 39th Avenue, Miami, FL 33142
Asmar Shipyards Co., Astilleros y Maestranzas de la Armada, Prat 856, Piso 14, Casilla 150-V, Valparaiso, Chile, S.A.
Astilleros Espanoles S.A., 17 Padilla, P.O. Box 815, Madrid, Spain
Astilleros Unidos de Veracruz, S.A., San Juan de Ulua S/N, Apdo. Postal 647, Veracruz, Ver., Mexico
Avondale Shipyards, Inc., P.O. Box 52080, New Orleans, La. 70150
Bergeron Industries Inc., P.O. Box 38, St. Bernard, La. 70085
Bethlehem Steel Corp., One State Street Plaza, N.Y. 10004
Blount Marine Corp., P.O. Box 368, Warren, RI 02885
Boeing Marine Systems, P.O. Box 3707, Mail Stop 14-11, Seattle, WA 98124
Ira S. Bushey & Sons, Inc., 764 Court Street, Brooklyn, N.Y. 11231
Cantieri Navali Riuniti, Via Cipro, 11, 16100 Genova, Italy
Carrington Slipways Pty, Ltd., Old Punt Road, Tomago, N.S.W., Australia 2322
Centromor, One World Trade Center, Suite 3557, New York, N.Y. 10048
China Shipbuilding Corp., c/o Allegro Transportation Supply Co., One Penn Plaza, Room 1606, New York, NY 10001
Coastal Dry Dock & Repair Co., Building 131, Brooklyn Navy Yard, Brooklyn, N.Y. 11205
Conrad Industries, P.O. Box 790, Morgan City, La. 70380
Curacao Drydock Co., Inc., P.O. Box 153, Willemstad, Curacao, Netherlands Antilles
Curacao Drydock, 26 Broadway, Suite 741, New York, N.Y. 10004
Delattre-Levievier, Tour Fiat, Cedex 16, 92084 Paris La Defense, France
Dorbyl Ltd., Military Road, 1 Industrial Sites, West Bank, 5201 East London Republic of South Africa
Dravo Steelship Corp., R.4, Box 167, Pine Bluff, Ark. 71602
Empresa Nacional Bazan, Paseo de la Castellana 65, Madrid 1 Spain
Equitable Shipyards, Inc., P.O. Box 8001, New Orleans, La. 70122
FMC Corp., Marine & Rail Equipment Div., 4700 N.W. Front Ave., Portland, Oregon 97208
Galveston Shipbuilding Co., P.O. Drawer 2660, Galveston, TX 77553
HBC Barge, Inc., Grant Building, Pittsburgh, PA 15219
Halifax Industries, Ltd., P.O. Box 1477, Halifax, Nova Scotia, Canada, B3K 5H7
Halter Marine, Inc., P.O. Box 29266, New Orleans, La. 70189
Havre de Grace, Havre de Grace, Md.
Hitachi Shipbuilding & Engrg. Co., Ltd., 47 Edoberi 1-Chome, Nishi-Ku, Osaka, Japan
Hong Kong United Dockyards Ltd., P.O. Box 534, Kowloon Central Post Office, Kowloon, Hong Kong
Hudson Shipbuilders, Inc., P.O. Box Q, Pascagoula, MS 39567
Jackson/New York, 29 45 Richmond Terrace, Staten Island, NY 10303
Jeffboat, Inc., Jeffersonville, Ind. 47130
Keppel Shipyard Ltd., P.O. Box 2169, 325, Telok Blangah Road, Singapore 4
Kockums Shipyard, S-201, 10 Malmo 1, Sweden
Lockheed Shipbuilding and Construction Co., 2929 16th Avenue, S.W., Seattle, Wash. 98134
J. Ray McDermott & Company, Inc., 1010 Common Street, New Orleans, LA 70160
MacGregor Land & Sea, Inc., 135 Dermody Street, Cranford, NJ 07016
Mangone Shipbuilding Co., 819 South 80th Street, P.O. Box 5446, Houston, TX 77012
Matton Shipyard Co., Inc., P.O. Box 645, Cohoes, New York 12047
J. Ray McDermott & Co., Inc., P.O. Box 60035, New Orleans, LA 70160
Misener Industries, Inc., 5353 Tyson Avenue, P.O. Box 13625, Tampa, Fla. 33681
Mississippi Marine Towboat Corp., P.O. Box 539, Harbor Front Industrial Park, Greenville, MS 38701
Monark Boat Co., P.O. Box 210, Monticello, Ark. 71655
Nashville Bridge Company, P.O. Box 239, Nashville, TN 37202
National Steel & Shipbuilding Corp., San Diego, Calif. 92112
Newark Shipbuilding & Repair, P.O. Box 5426, Houston, TX 77012
Newport News Shipbuilding & Dry Dock Co., 4101 Washington Ave., Newport News, Va. 23607
North American Hydraulics, P.O. Box 278, Brampton, Ontario Canada L6Y 2L1
O.A.R.N. (Officine Allestimento-Riprazioni Navi), P.O. Box 1395, Genoa, Italy 16100
Paceco, Div. Fruehauf Corp., 2350 Blanding Ave., Alameda, Calif. 94501
Pearlson Engineering Co., P.O. Box 8, Kendall Branch, Miami, Fla. 33156
Perth Amboy Dry Dock Co., Perth Amboy, N.J. 08862
Port Allen Marine Service, Inc., P.O. Box 108, Port Allen, LA 70767
Port Houston Marine, Inc., 7220 J.W. Peavy Drive, Houston, TX 77012
Port of Portland, P.O. Box 3529, Portland, OR 97208
S.E.B.N., Societa Esterazio Bacini Napoletani, Via Marinella Varco N.6 (80133) Naples, Italy

St. Louis Shipbuilding—Federal Barge, Inc., 611 East Marceau, St. Louis, Mo. 63111
STE Marie Yard & Marine, Inc., 741 East Portage Ave., Sault Ste Marie, MI 49783
Savannah Shipyard Co., P.O. Box 787, Savannah, GA 31402
Sembawang Shipyard Ltd., Sembawang, P.O. Box 3, Singapore 9175

The Service Machine Group, Inc., P.O. Box 2664, Morgan City, LA 70308

Setenave-Estaleiros Navais De Setubal, P.O. Box 135, Setubal, Portugal

Sudoimport, 5 Kalyaevskaya, Moscow K-6, USSR

Swiftships Inc., P.O. Box 1908, Morgan City, LA 70380

Tacoma Boatbuilding Co., Inc., 1840 Marine View Drive, Tacoma, WA 98422

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

Tug Barge Systems, Inc., subsidiary of Ingram Corp., 4100 One Shell Square, New Orleans, La. 70139

Union Dry Dock & Repair Co., Foot of Pershing Road, Weehawken, N.J. 07087

Wiley Manufacturing, a unit of AMCA International Corp., P.O. Box 97, Port Deposit, MD 21904

Zigler Shipyards, P.O. Box 2607, Morgan City, La. 70380

SHIP STABILIZERS

Sperry Marine Systems Div., Charlottesville, Va. 22901, Division of Sperry Rand Corp.

SMOKE INDICATORS

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

STUFFING BOXES

Johnson Rubber Co. (Marine Div.), 16025 Johnson St., Middlefield, Ohio 44062

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

TANK CLEANING

Butterworth Systems Inc., 224 Park Ave., P.O. Box 352, Florham Park, N.J. 07932

Penco Division/Hudson Engineering Co., 1114 Clinton St., Hoboken, N.J. 07030

Salwico, Inc., 77 River St., Hoboken, N.J. 07030

TANK LEVELING INDICATORS

Transamerica DeLaval, Inc., Gem Sensors Div., Spring Lane, Farmington, CT 06032

Vu-Gage System, 150 E. 42nd St. (Room 910), New York, NY 10017

Zesco, Inc., 3131 Brian Park, Suite 1095, Houston, TX 77042

TECHNICAL MANUAL PREPARATION

Benhof, Inc., 2468 N. Jerusalem Road, N. Bellmore, NY 11710

TERMINALS—Oil-Transfer

Caicos Petroleum Services Div., Federal Chicago Corp., 2222 North Elston Avenue, Chicago, IL 60614

Delong Corp., 29 Broadway, New York, N.Y. 10006

Houston Marine Services, Inc., First State Tower, (Suite 509), Houston, TX 77015

Transportation Concepts & Techniques Inc., 1020 West Main Street, Charlottesville, VA 22903

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

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

Chotin Transportation, Inc., 580 Walnut St., Cincinnati, Ohio 45202

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

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

Gulf Fleet Marine Corporation, Canal Place One, Suite 2400, New Orleans, LA 70130

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

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

McDonough Marine Service, P.O. Box 26206, New Orleans, La.

Moran Towing & Transportation Co., Inc., One World Trade Center, Suite 5335, New York, N.Y. 10048

Suderman & Young Co., Inc., 918 World Trade Bldg., Houston, Texas 77002

Tureamo Coastal & Harbor Towing Corp., One Edgewater St., Clifton, Staten Island, N.Y. 10305

UNDERWATER SERVICES—Contracting

SeaTec International Ltd., Blackburn Industrial Center, Gloucester, MA 01930

VALVES AND FITTINGS

Dayer Corporation, Norris Division, P.O. Box 1739, Tulsa, OK 74101

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

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

Marland Environmental Systems Inc., N. Main St., Walworth, WI 53184

Rockwell International, Flow Control Division, 400 N. Lexington Avenue, Pittsburgh, PA 15208

Stacey Valve Co., 29 Meserole Ave., Brooklyn, N.Y. 11222

Voss, Inc., Building J, 7029 Huntley Road, Columbus, Ohio 43229

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

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

WINCHES AND FAIRLEADERS

Bloom Inc., Highway 20, West Four Miles, Independence, IA 50644

Clyde Iron, a unit of AMCA International Corp., Suite 102, 2300 West Loop South, Houston, TX 77027

Gearmatic Co. Ltd., 7400 132nd Street, Surrey, B.C., Canada

Markey Machinery Co., 79 South Horton St., Seattle, Washington 98134

Smith-Berger Manufacturing Corporation, 3236 16th Avenue S.W., Seattle, WA 98134

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Kearfott Marine Products, A Singer Co., 550 South Fulton Avenue, Mt. Vernon, N.Y. 10550

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Seacoast Electric Supply Corp., 1505 Oliver St., Houston, TX 77007

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The Third International Conference and Exhibition
on the Marine Transportation
Handling and Storage of Bulk Chemicals
Royal Lancaster Hotel
London, October 21-23 1980

MariChem 80

Conference Programme

This programme is subject to amendment

Session 1

LEGISLATION AND REGULATION

1. A review of the IMCO Standards for Procedures and Arrangements for the discharge of Noxious Liquid Substances.

N. Hurford, Department of Industry, Warren Spring Laboratory, Stevenage, Herts.

2. Operators' views on Legislation and Regulation Issues in the Chemical Shipping Industry.

a. C. J. Spruyt, Gotaas-Larsen, London.

b. T. G. Berkel, President, Chemical Carriers Association, New York.

NB. Two different papers will be presented under this general heading; definitive paper titles will be given later.

3. Overflow Control — Proposals for a linked ship-shore system.

R. C. Gray, British Shipbuilders, Newcastle-upon-Tyne.

4. Slops and residue disposal — a new approach

E. A. Stoyke, Dow Chemical GmbH, Stade/Stadersand, Germany.

Session 2

OPERATIONS AND SAFETY

1. Explosion hazards and relevant safety measures at vapour recovery plants.

K. Schampel, Physikalisch-Technische Bundesanstalt, Braunschweig.

2. Safety considerations relevant to shipping terminals for hazardous bulk material.

D. J. Bryce, Health & Safety Executive, London

3. Emergency planning in ports

A. A. Damsteeg, Voorschoten, The Netherlands.

4. Parcel tanker training for an effective endorsement.

G. McGuire, Hazardous Cargo Handling Unit, Leith Nautical College.

5. Advances in special training in Norway for personnel on ships carrying liquid chemicals in bulk.

Capt. J. E. Johnsen, Ship Research Institute of Norway, Oslo.

6. Chemical tanker training courses in the Netherlands.

A. J. Barendregt, Chemical Laboratory "Dr. A. Verwey", Rotterdam.

7. Risk analysis applied to the transportation of hazardous cargoes: some examples related to public risk.

T. K. Jenssen, Det norske Veritas, Oslo.

8. How safe are chemical tankers?

D. Butcher, N.E. London Polytechnic, London.

Session 3

TANK CONTAINERS IN THE CHEMICAL TRADES

Panel Session

Speakers J. A. Ross, Trafpak Ltd; R. Boneham, Bell Lines Ltd; Dipl. Ing. B. Schulz-Forberg, B. A. M., Berlin; P. T. Mabbit, British Railways Board; Ch. Leclair, Department of Navigation, Paris; M. Querci, Ministry of Transport, Paris; Lt. K. Eldridge, U.S. Coast Guard, Washington, D.C.

Session 4

TECHNICAL DEVELOPMENTS

1. Tank coatings — a discussion session with contributions from Clouth Gummiwerke, Camrex, Technigaz, etc.

2. A cost-benefit analysis for installation of separate deck-mounted cargo tanks on parcel/chemical carriers.

A. Wiborg, Shipping Consultants A/S, Oslo.

3. Developments in cargo pumping arrangements.

M. Mohn Westlake, Frank Mohn UK Ltd., and M. Sigmundstad, Frank Mohn AS, Nesttun, Norway.

4. Experience with cargo monitoring systems.

Capt. A. Eian, Autronica A/S, Trondheim, Norway.

5. New developments in toxic gas detection using a silicon semi-conductor sensor.

Sema Electronics Ltd.

6. A survey of some failures typical for tanks and piping systems in austenitic stainless steel. Preventative measures.

S. Evant & A. Berg, Det norske Veritas, Oslo.

7. Corrosion resistance of stainless steels to chlorinated hydrocarbons.

S. Nordin, Nyby Uddeholm AB, Uddeholm.

Conference Registration Form

Fee per delegate £186.50 (including VAT) or equivalent in other currencies. Total fee payable must accompany this form. The Conference fee covers attendance at all sessions, lunch on October 22 and 23, an evening cocktail/buffet party on October 22, a volume of Preprints of Conference Papers and full Conference documentation. The Conference fee does not cover travel, hotel accommodation or other items not listed above.

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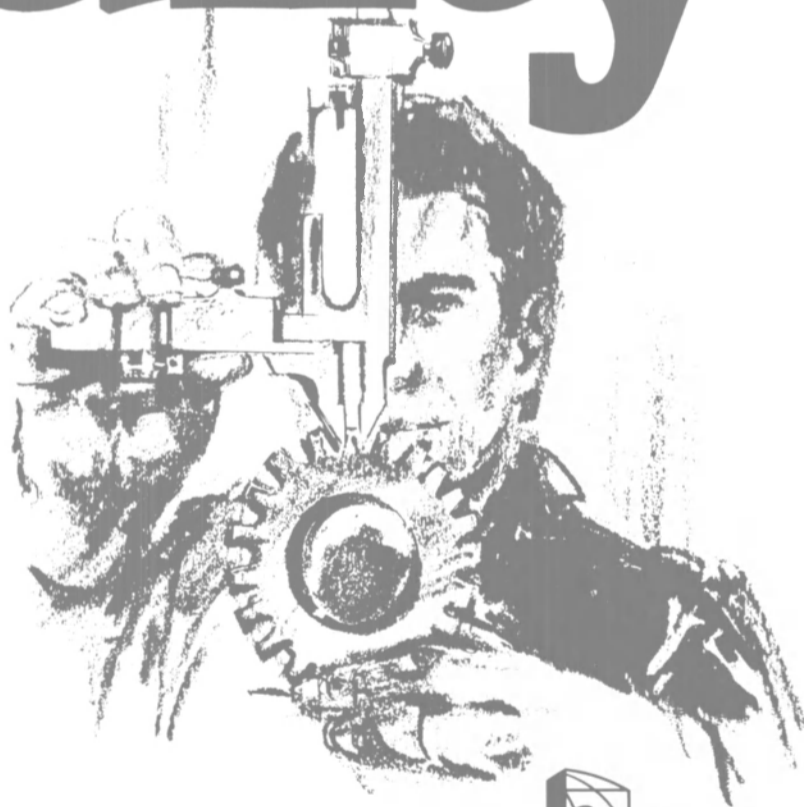
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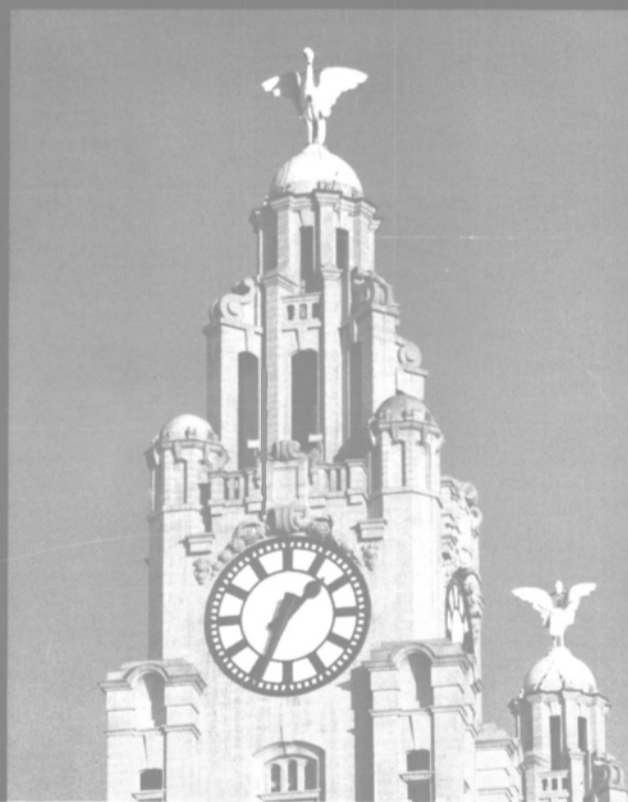
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