

**MARITIME
REPORTER**
AND
ENGINEERING NEWS



Clipper Key West

**Blount-Built
Offshore Supply Vessel
Delivered To Hamilton, Inc.**
(SEE PAGE 10)

JUNE 1, 1980

When you spot Elbe One, you're not far from Gulf.



Hamburg is a fine port for going ashore. The trick is to get there without going aground.

The estuary of the Elbe is treacherous. Elbe 1 is moored at its mouth, well over the horizon from any landfall. Just to her north and south lie Grosser Vogelsland and Scharhorn Riff, the outermost shoals of the estuary, over 60 km from safe waters.

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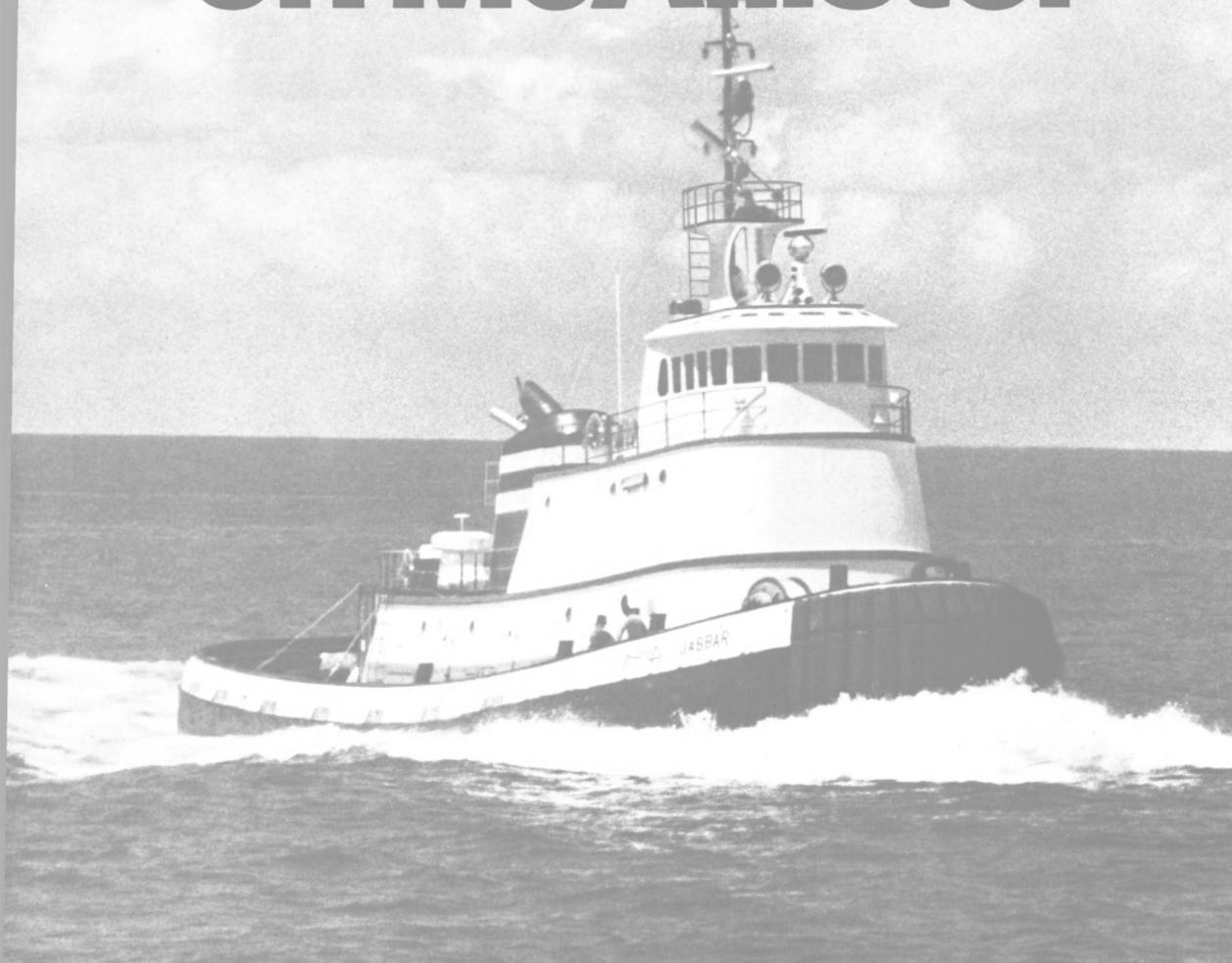
distillate or marine diesel fuels. They're formulated to MIL-L-2104B level performance with added alkaline reserve to neutralize the acidic products of combustion, plus the dispersant detergent qualities needed to maintain a high degree of component cleanliness.

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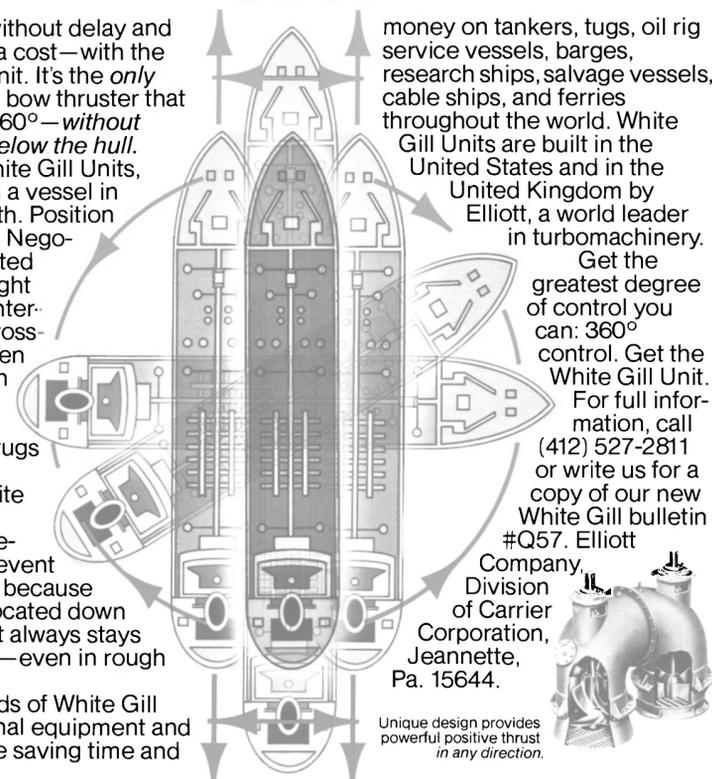
The White Gill Unit is especially designed to prevent fouling. And because the inlet is located down at the keel, it always stays under water—even in rough weather.

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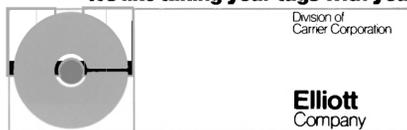
money on tankers, tugs, oil rig service vessels, barges, research ships, salvage vessels, cable ships, and ferries throughout the world. White Gill Units are built in the United States and in the United Kingdom by Elliott, a world leader in turbomachinery.

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A.A. Ramirez Named VP-Planning For Unit Of Dominion Bridge

Dominion Bridge's Houston-based Equipment Systems Division has announced the appointment of Agustin A. Ramirez as vice president of planning and business development. In this position, Mr. Ramirez will direct strategic planning and business development activities for the four companies that comprise the Equipment Systems Division—Clyde Iron, Provincial Crane, Morgan Engineering, and Wiley Manufacturing.

Mr. Ramirez joins Dominion Bridge from FMC Corporation, where he was most recently the marketing manager for FMC's Air Quality Control Operation located in Itasca, Ill. While at FMC, he also served as a business planner, planning manager, and product manager.

Literature Available On Schoellhorn-Albrecht Capstans, Deck Fittings

Capstans, winches, and deck fittings are featured in a brochure now available from the Schoellhorn-Albrecht Division of St. Louis Ship, a company of the Pott Industries Group.

Schoellhorn-Albrecht's primary product line is capstans, both powered and manually operated, but the company also manufactures a wide variety of deck fittings. The division is also a major stocking distributor for the well known Beebe Bros. products, including power winches, hand winches, car pullers, trolleys, and hoists.

The primary market area and strength of Schoellhorn-Albrecht has been centralized around the U.S. inland waterways. Now the 100-year-old company, which became a division of St. Louis Ship in 1979, is starting to expand into Gulf Coast and Pacific Coast regions, and hopes to more fully develop its products that are designed for and directly applicable to deepwater operations.

For a copy of the brochure and additional technical information, write to Steve Ferman, Manager, Schoellhorn-Albrecht Division, Department MR, St. Louis Ship, 611 East Marceau Street, St. Louis, Mo. 63111.

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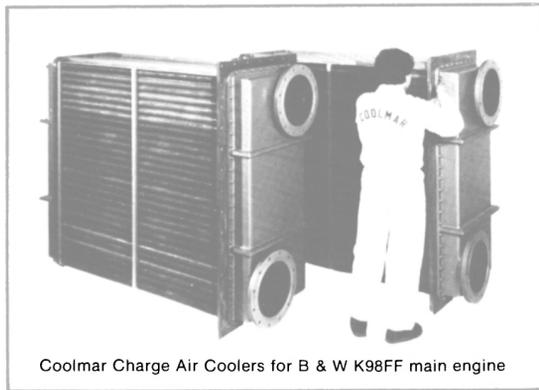
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June 1, 1980

**Seminar On Shipping
Fraud Prevention Slated
For New York June 26-27**

The recent growth of shipping fraud has been almost staggering. Certainly the threat that such frauds pose to individual companies—whether shippers, shipowners, brokers, freight forwarders, insurers, or bankers—is very real and worrying.

In May last year the United Kingdom's Institute of Chartered Shipbrokers held in London the first seminar of fraud prevention, attracting wide European support and interest. On June 26-27 this year, at the Waldorf-Astoria Hotel in New York, the Institute will hold the second international seminar in cooperation with the Association of Ship Brokers and Agents (USA) Inc. This seminar

will study both the problem and the ways in which managements can best prevent their companies from being unwittingly involved in these financially damaging international swindles.

For a copy of the program or other information write to Seminar Organiser, c/o Society of Maritime Arbitrators Inc., 26 Broadway, Suite 1200, New York, N.Y. 10004.

**R.R. McKay Appointed
Chief Executive
For Adams & Porter**

Richard R. McKay, president of Adams & Porter Associates, Inc., has been named chief executive officer, according to Clyde Hanks, chairman of the board and former chief executive officer. Mr. McKay joined the company in 1946.

Adams & Porter Associates is a Houston-based international insurance brokerage company founded in 1907.

**Edward Kaune To Be
General Manager Of
Todd-San Francisco**



Capt. Edward Kaune

Capt. Edward Kaune, USN (ret.), now serving as assistant general manager, has been selected to succeed Harrison G. Rowe as general manager of the San Francisco Division of Todd Shipyards Corporation, upon his retirement on August 1, 1980.

Carl R. Meurk, vice president-West Coast Operations of Todd Shipyards Corporation, stated Mr. Rowe had served the San Francisco Division in positions of ever-increasing responsibility with dedication and skill for 32 years, and the corporation will be fortunate to retain his services in a consulting capacity after his formal retirement.

In addition to this organization change, Richard Grothen, presently operations manager of the Seattle Division, will be transferred to San Francisco as assistant general manager for administration, a position that will complement the position of assistant general manager for production, held by James Arrol.

Mr. Meurk further stated that Tracy Ball has been appointed general superintendent, replacing William Mitchell who is retiring, and that Dick Gerdes has been appointed assistant to the general manager for commercial business development.

These organizational changes will place the San Francisco Division in a more advantageous position to be able to handle the expected increase in U.S. Navy repair and overhaul work, as well as increased commercial work, in the years to come.

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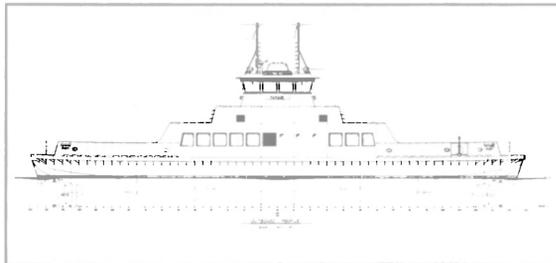
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Miami Car/Passenger Ferries Designed By Nickum & Spaulding

Nickum & Spaulding Associates, Seattle naval architects, recently completed the design for two 22-car ferries for service between Miami Beach and Fisher Island, Fla. William B. Rebozo, president of Island Developers, Ltd., operators of the ferries, said the Seattle naval architecture firm has produced the preliminary design and contract drawings (outboard profile shown above) for the

construction of the vessels. He plans to put the boats in service in 1981.

The ferries will be double-ended with a capacity of 22 cars and inside seating for 32 persons in two air-conditioned lounges. The superstructure is arranged on one side of the vessel to facilitate easy, straight-through loading and unloading of vehicles. Complete steering and engine controls are located in two identical control consoles, one at each end of the wheelhouse.

The vessels will have overall

length of 120 feet, beam over guards of 46 feet, and design draft of 7 feet. Displacement at design draft is 298 tons. The design calls for the hull to be fitted with six transverse watertight bulkheads. To make the boats both rugged and easy to maintain, the entire hull and superstructure are constructed of steel.

Propulsion is provided by two Caterpillar model D-353TA diesel engines with Twin Disc reduction gears, driving 4-foot 8-inch propellers, one at each end of the vessel.

Thomas G. Healey Joins Galveston Division Of Todd Shipyards Corp.

Thomas G. Healey has been named assistant secretary and assistant treasurer of the Galveston Division of Todd Shipyards Corporation. The announcement was made by John Meghrian, vice president-East/Gulf Coast Regions of the company.

sion areas to be covered are: water transit in developing nations; passenger movement in support of the offshore energy industry; new craft in service—an update; legislative and regulatory issues; and financial aspects of passenger ferry operation.

For additional information write to John J. Kelly, president, International Marine Transit Association, P.O. Box 29307, New Orleans, La. 70189.



Thomas G. Healey

Mr. Healey has 22 years' experience in the accounting field. Prior to joining Todd, he was controller and treasurer of Ocean Systems Inc. of Houston since 1969. He was previously associated with Union Carbide Corporation and Columbia Broadcasting System in New York City.

Mr. Healey succeeds Thomas A. Garland, who is retiring after 45 years with Todd's Galveston Division where he had been assistant secretary and assistant treasurer since 1967.

New Orleans Site Of Ferry Association Meeting November 5-7

The 5th Annual International Waterborne Transit Conference will be held in New Orleans at the Fairmont Hotel, November 5-7, 1980. Sponsored by the International Marine Transit Association, this conference will bring together many ferry operators from throughout the world. Further, it will be the first opportunity for many of those associated with the movement of personnel for the offshore industry to meet and exchange information with commercial ferry operators, with whom they have much in common.

Some of the program discus-

J.W. Siemer Elected President Of Bay And River Navigation

John W. Siemer, vice president and director, has been elected president of Bay and River Navigation Company, Richmond, Calif. He will succeed Capt. C.C. Rasmussen, who retired May 1.

J. Mandino Will Manage Service Facility For ITT Decca Marine



Joseph Mandino

ITT Decca Marine has recently appointed Joseph Mandino to head its Harborside, N.J., service facility. ITT Decca maintains this facility to provide sales and service to its commercial customers based in the New York port area. Mr. Mandino will coordinate all the sales and service activities of the facility while actively promoting customer relations.

Director of Engineering Services George Woods reports that Mr. Mandino brings over 21 years of service to IDM. He has served as a technician, as well as a branch manager of several ITT Decca dealerships.

New Nautical Knot!



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And we're still building liquid cargo and chemical barges: coal, grain, cement, sand, gravel and general commodity barges; standard, stubbo and

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HBC Barge

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Formerly named Hillman Barge & Construction Company



Offshore supply vessel Clipper Key West, built by Blount Marine Corporation for Hamilton, Inc. of Panama City, Fla., is third such vessel constructed by the Rhode Island yard for the same owner.

Blount Marine Delivers Offshore Supply Vessel

Blount Marine Corporation of Warren, R.I. recently delivered the 156-foot offshore supply vessel Clipper Key West to Hamilton, Inc. of Panama City, Fla. The vessel admeasures under 200 gross tons, and is equipped to carry up to 600 long tons of combined calcium chloride or liquid mud and deck cargo. Clear deck length inboard is 114 feet, with a clear inboard beam of 30 feet 8 inches. Her four mud tanks have a total capacity of 1,800 cubic feet.

Main propulsion is provided by two General Motors 16V149 diesels developing 1,800 bhp and driving Columbian Bronze stainless-steel propellers. Two 99-kw generator sets furnish electric power. A 36-inch Murray and

Tregurtha bow thruster is powered by a 210-bhp diesel. On sea trials at full draft, the vessel attained a speed of 12 knots.

Steering is S.S.I. electric-hydraulic with an automatic pilot. Two radars, Sitex 22 and 23, a Marconi CH100 SSB radio, Motorola Triton VHF radio, Raytheon 6000 Dual C Loran, and Data Marine depth recorders complete the pilothouse equipment.

The Clipper Key West was built under U.S. Coast Guard supervision for Gulf service, and is classed Maltese Cross A-1 by the American Bureau of Shipping. She joins the supply vessel Clipper Paradise Island and Clipper Cozumel, built by Blount for the same owner.

Norshipco Appoints Two New Officers, Promotes Five Others



Carlos E. Agnese

Frederick A. Ganter

Charles H. Eure Jr.

John L. Roper 3rd, president and chief executive officer of Norshipco, Norfolk, Va., has announced the appointments of two new company officers and promotions for five current officers. The new officers are Carlos E. Agnese, assistant vice president of marketing and contract administration; and Frederick A. Ganter, assistant vice president and general sales manager. Both Mr. Agnese and Mr. Ganter held previous positions with Norshipco.

Officers promoted include Charles H. Eure Jr., executive vice president of operations and secretary; R.B. Richardson Jr., executive vice president of finance and risk management; G.W. Roper II, senior vice president of administration and assistant secretary; E.L. Pickler Jr., senior vice president of marketing, sales, engineering, and contract administration; and J.G. Price, senior vice president of production.

Shipbuilders Council Trends And Projections

SHIPBUILDING AND REPAIR: TRENDS AND PROJECTIONS 1972 - 1980
(in millions of dollars except as noted)

ITEM	1972	1974	1975	1976	1977	1978 ¹	1979 ¹	1980 ¹
Industry²								
Value of work done	3,281	4,825	5,615	5,896	6,461	6,834	6,884	6,724
Total Employment (thousands)	144.6	162.2	166.9	166.3	175.5	170.2	155.7	139.0
Production Workers (thousands)	118.0	129.0	133.4	132.1	139.4	135.3	123.8	110.5
Value added	1,881	2,547	2,923	3,287	3,806	3,806	3,834	3,745
Product³								
Value of work done total	3,201	4,712	5,513	5,833	6,248	6,629	6,677	6,523
Non-propelled new ships	362	460	643	645	494	662	679	528
Self-propelled new military ships	1,100	1,714	1,768	1,957	2,221	2,349	2,366	2,324
Self-propelled new non-military ships	816	1,290	1,806	1,825	1,893	1,902	1,917	1,881
Repair of military ships	387	533	554	644	741	891	870	925
Repair of non-military ships	484	713	688	715	756	780	800	820
Shipbuilding and repair, n.s.k.	52	2	54	47	143	45	45	45

¹ Estimated by Maritime Administration and Shipbuilders Council of America

² Includes value of all products and services sold by the shipbuilding and repair industry

³ Includes value of work done on ships only n.s.k. — not specified by kind

Source: Bureau of Census, Bureau of Labor Statistics, Maritime Administration, Shipbuilders Council of America

PRIVATE SHIPYARD REVENUES: ESTIMATED ANNUAL AVERAGE January 1, 1980 - December 31, 1984 (millions of dollars)

MERCHANT FLEET	Low	High
Ship Construction		
Tankers	\$ 80	\$ 160
LNG Carriers	70	150
Dry Cargo/Other Ocean-going Vessels	85	300
Small and Nonpropelled Vessels (including barges)	420	600
Great Lakes Vessels	70	150
Ship Repair & Conversion	700	1,000
Subtotal	\$1,425	\$2,360
NAVAL FLEET		
Ship Construction & Conversion	\$1,800	\$2,400
Ship Repair & Alteration	900	1,300
Subtotal	\$2,700	\$3,700
OTHER SHIPWORK		
Offshore Drilling Units	\$ 100	\$ 300
U.S. Coast Guard, Corps of Engineers, Fisheries, etc.	80	125
Subtotal	\$ 180	\$ 425
Aggregate Total	\$4,305	\$6,485

Note: Estimates represent average annual dollar receipts for shipyard work excluding value of purchased material and nonship products of builders. They approximate annual average "value of work done" modified to exclude contract retentions, claims, etc.

Source: Shipbuilders Council of America.

Literature Available On Crane Packing's New Package Seal Design

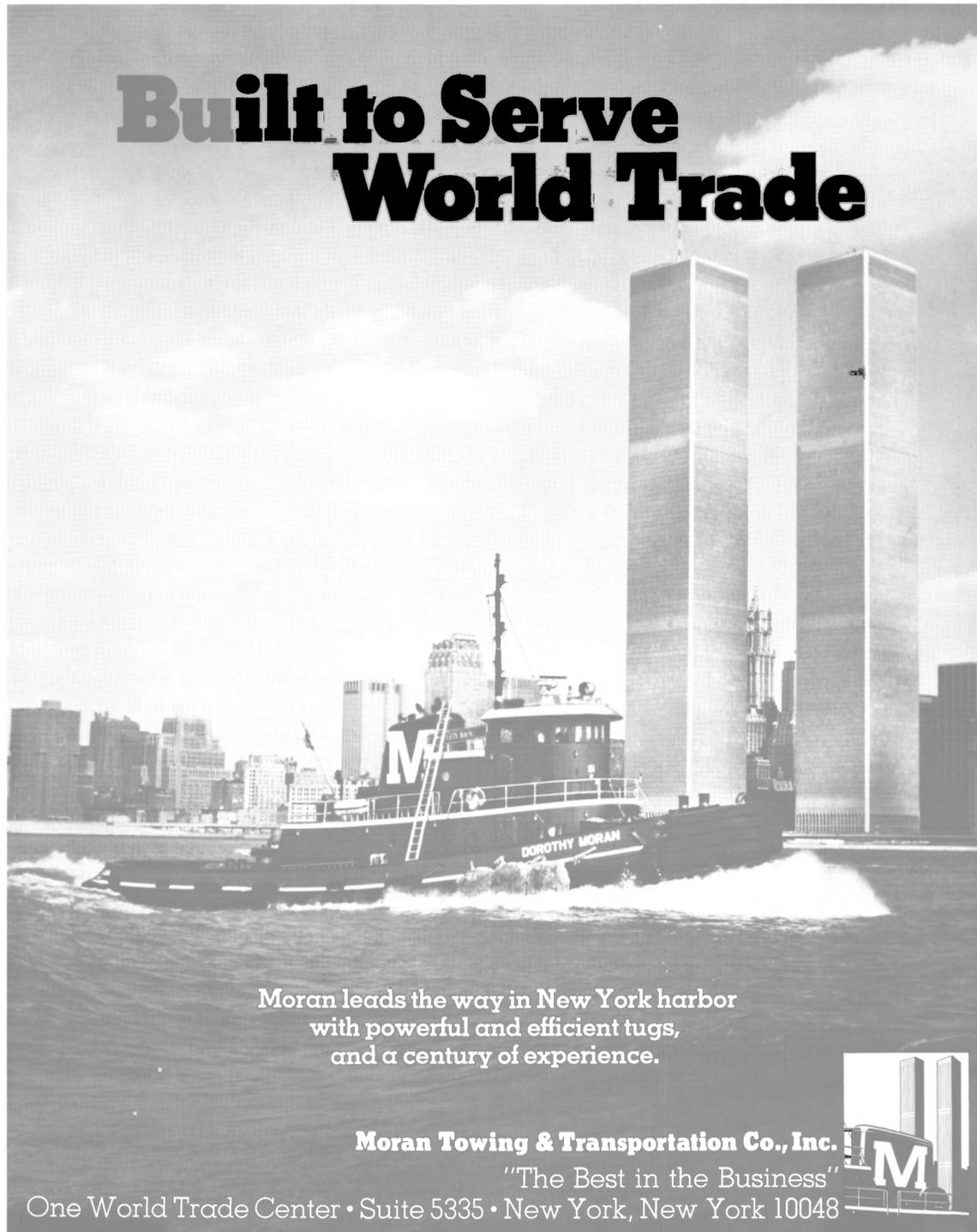
The compact Type 88 package seal, designed for ease in assembly and maintenance without modification of existing equipment, is now available from Crane Packing Company, Morton Grove, Ill. Seal drive is accomplished through set screw or friction drive for positioning seal on shaft or sleeve. The use of the friction drive mechanism will not damage the shaft, thus preventing any damage to the static O-ring on the sleeve I.D. during assembly or disassembly.

Standard construction materials

include solid carbon-graphite primary ring interfaced to a solid tungsten carbide mating ring. All metal hardware is 316 stainless steel, with Cabot Hastelloy™ springs and DuPont Viton™ secondary seals. Other metallurgy and elastomeric materials are available for varying operating conditions. Optional primary and mating ring face materials provide higher pressure capabilities and withstand abrasive applications.

For further information and a copy of Bulletin S-3032, write to William S. Rudin, Dept. MR, Crane Packing Company, 6400 Oakton Street, Morton Grove, Ill. 60053.

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Roll-On/Roll-Off And Container Carriers

Doros A. Argyriadis, Goran Nilsson and Harry Petsis*

**A New Concept In Marine Transport Is Seeded Only
In Times Of Economic Upheaval And Bears Fruit Only
If It Is Adaptable To Economics Of A Changing Pattern**

The most challenging and unique problem the naval architect faces when developing the design of a new vessel is that of combining the best technical know-how with the best economic analyses, then adding a bit of magic forecasting and talent.

From the technical know-how of the past dozen years or so, many specialized vessels have evolved. If one includes in a comparison the tankers and bulkers and their many combinations, but excludes such unique vessels as passenger and cruise ships, one

*Mr. Argyriadis, president, Dormanda International Corporation, New York, N.Y.; Mr. Nilsson, president, Marketing-Navire Cargo Gear International, A.B., Goteborg, Sweden, and Mr. Petsis, chief marine superintendent, Hellenic Lines Ltd., New York, N.Y., presented the paper abstracted here before the recent Annual Meeting of The Society of Naval Architects and Marine Engineers. A copy of the paper may be obtained from the Society, One World Trade Center, Suite 1369, New York, N.Y. 10048.

can perhaps distinguish the following basic types of cargo ships:

1. LASH, SEABEE or barge vessels of different types.
2. Container and pallet ships which move cargo to and from the ship "over the rail."
3. Ferries, train carriers, auto carriers and roll-on roll-offs which transport or allow movable and wheeled vehicles to carry cargo to and from them.
4. Breakbulk cargo carriers which may carry any cargo, including containers and wheeled vehicles, by utilizing self-contained suitable lifting equipment and moving all cargo over the rail.
5. Bulkers, tankers, etc. designed to carry uniform or nearly uniform goods in quantities and in bulk.

The first three types fall into the category of what the authors would call specialized types of ships. Historically, the oldest type of these specialized carriers must be the ro ro vessel.

The container vessel, on the other hand, was slowly emerging

in the maritime arena in the 1950s. The 1960s saw its emergence in the more competitive international trades.

Somewhat later, but in an almost parallel development, LASH-type vessels were developed for special routes, carrying non-self-propelled barges.

Meanwhile, the ro ro vessel was slowly emerging. Ferries in some parts of the world began carrying more than passenger vehicles and started looking at heavier cargo and trucking as a paying proposition. Figure 1 shows an artist's impression of a modern deepsea ro ro, clearly indicating cargo access and transfer equipment onboard.

A ro ro vessel is not the answer to all problems and in many cases the adaptability of the ro ro to a specific area or service may not be clear-cut and may be weighed one way or another by many parameters and special situations.

Design Parameters

It may be worthwhile to consider some design philosophies

and parameters in the selection of a ro ro and container carrier. Basically, "a horizontally wide open" vessel is desired. No transversal obstructions in the form of bulkheads can really be tolerated in the main cargo spaces, and pillars or other deck supports must be kept to a minimum. In this respect, it becomes obvious that, below the freeboard deck, a double-skin construction must be utilized for strength as well as for damaged stability reasons.

A stern ramp is a necessity. It must suit the requirements of the trade as much as possible, without limiting the utilization of the ramp or vessel too much. In larger ships, a ramp that can be operated in at least two directions is the minimum acceptable. A slewing ramp, which allows operation in three directions is the most desirable but may be prohibitive in cost, Figure 2.

Containers must be carried in all decks. The standard unit, known as the TEU (20-foot equiv-

(continued on page 14)

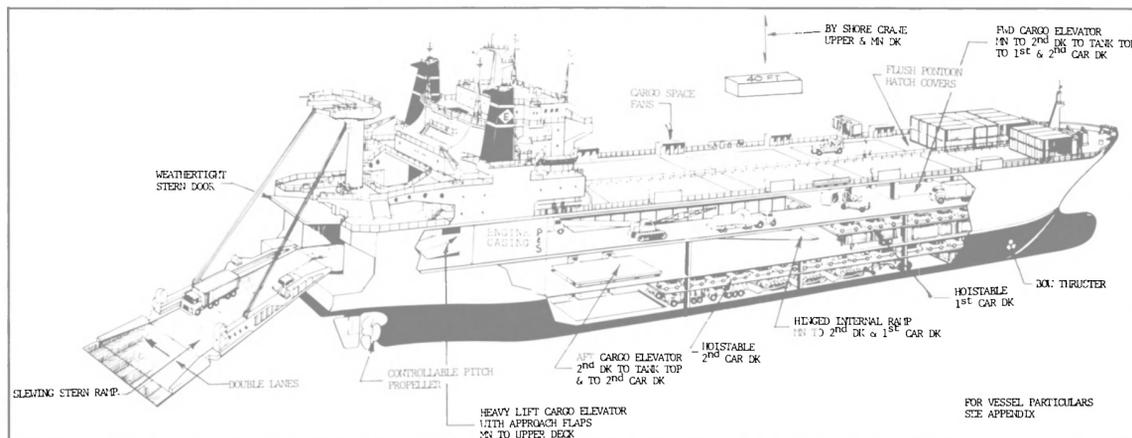
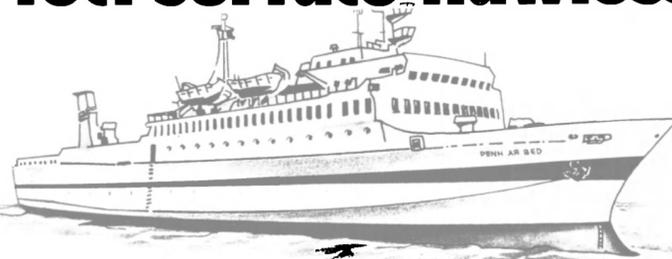


Figure 1 — Artist's conception of a ro/ro and container vessel.



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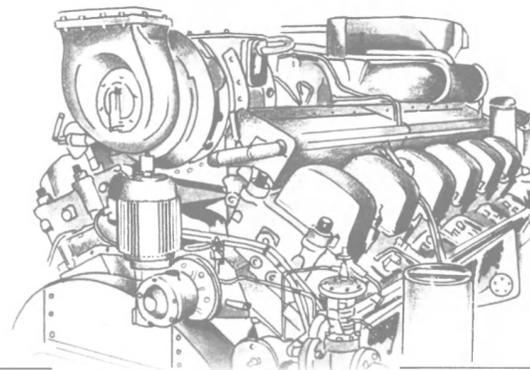


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RO/RO & Container Carriers

(continued from page 12)

alent) is the basis of all studies, but 40-foot boxes must not be disregarded. The movement of containers over the stern ramps of ro/ro/container vessels is done in several forms. TEUs are moved in an athwartships attitude by large forklift trucks or they are placed, several together, on low "bodies" in systems such as MAFI and LUF. Forty-footers are moved on truck bogies, MAFI or LUF units, or with shore cranes over the rail on accessible decks. The use of specialized bogies is cumbersome and expensive, requires special tractors that are not always available, and severely limits inclination of ramps within and without the vessel. It is therefore felt that TEUs can move by forklift trucks and 40-footers should be loaded and discharged by shore cranes. Whenever a 40-footer is utilized in quantity, it usually means sufficient facilities ashore are available. The odd 40-footer moving in and out of undeveloped ports can still be handled by a truck bogie and stowed inside the vessel by a forklift with a top spreader.

Some of the specific design parameters for a ro/ro/container carrier are:

Stern ramps and internal ramps: The gradient should be no more than 1 to 7 and with approach slopes on both ends of about 1 to 9. A width of at least 7 meters will allow athwartships carriage of TEUs and double-lane truck traffic. A quarter stern ramp will have to be wider at the entry to the vessel to allow unimpeded movement of trucking without backing and filling for turns. Axle loads of about 65 tons for forklifts and 45 tons for trailer trucks must be allowed. Total loads per 12.19-meter-long unit is about 80 tons. The tire print pressures are 12 kilograms/square centimeter. The maximum permissible load on the quay (fully laden ramp) is limited to 2 tons/square meter. Heights must allow clear passage of the highest vehicle expected, keeping in mind movement envelopes of tractors and bodies. The tidal ranges for stern ramps is from plus 4.0 to minus 2.5 meters. Stern ramps of a minimum two-way utilization, preferably three-way, are recommended. Internal ramps should preferably be of the movable type to conserve cargo space, except perhaps in very large vessels.

Stern doors: Stern doors must have a clear height of at least the maximum expected for any vehicle plus the envelope of the body when passing through the maximum gradient of the ramp. Stern door width should be somewhat more than the width of the ramp and they should, of course, be watertight. As both stern ramps and stern doors are, in many cases, the only shore access equipment onboard oceangoing ro/ros, it is

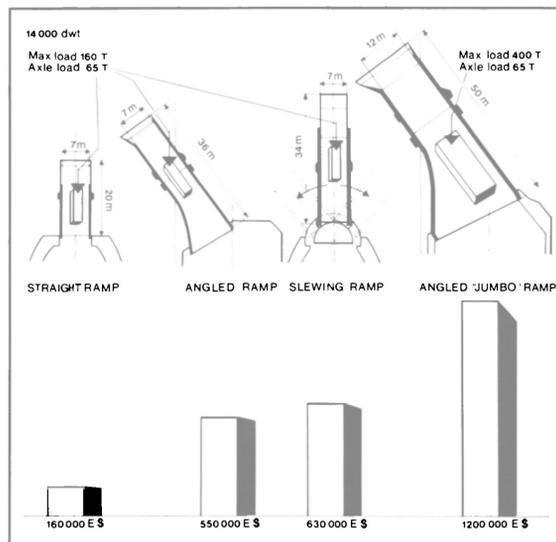


Figure 2 — Comparison of stern ramps. Costs are based on 1978 purchasing power and are indicated by "E\$."

imperative that alternative means of opening or closing them be provided.

Elevators: Elevators should have minimum lifting capacities of 80 tons in large ro/ros and no less than 40 tons in any ro ro except the smallest ones. They should not reduce clear heights at any deck and, if flaps are used for their loading approaches, vehicle movement envelopes and slope limitations should be observed. Elevator lengths should be about 18 meters. If the vessel is expected to trade heavily in the European Economic Community area and is to often carry rigid trucks with trailers, then their length should be 18.5 meters to accommodate this type of vehicle. Widths should be at least sufficient to accommodate the width of a forklift truck (3.20 meters). They should be capable of loading from one side as well as from front or back to allow placing of containers on them by forklift trucks. Axle weights should be equivalent to the maximum axle weight of the decks. Speeds should be about 7 meters per minute for normal loads, with minimum 4 meters per minute for maximum all-up capacity. If an elevator is the only means of transporting cargo to and from a deck, alternative means of operation must be considered.

Car decks: Car decks should be stowable to the overhead and lockable with a minimum amount of lost space. Heights under stowed car decks should be sufficient for stowing two 8-foot 6-inch TEUs with forklifts, and under lowered car decks enough to allow the unimpeded passage of a 4.11-meter-high truck. Space between car deck and overhead,

when lowered, should be minimum of 1.7 meters and possible 1.85 meters to allow small truck stowage.

Tie-down points should be spaced half a meter apart. Deflection of car decks, when loaded, must be considered. Finally, car decks should be in suitable panel sizes and port and starboard sections. Each section and panel should be independently lowerable or hoistable.

Decks: Decks obviously must be designed to withstand the maximum load (axle and unit) expected to travel over them. All decks should be capable of supporting a forklift truck carrying a fully laden TEU (high cubage), and deck heights must be for two high-cubage containers, plus stacking cones and quick-locking devices between containers, plus lifting clearance for a forklift truck with side or front spreaders lifting a TEU on top of another, both of the 8-foot 6-inch type.

Decks should also be equipped at regular intervals with tie-down devices for trucks and wheeled cargoes (minimum four per side of a 12.19-meter-long body) placed in line between lanes. Lanes are usually assumed to be 2.9-meters wide, allowing a clearance of 200 millimeters per side per truck. Front and back clearances of 12.19-meter bodies or truck unit (15 to 18-meter total length) is usually 100 millimeters each end.

Hatch covers: Hatch covers are another cargo access equipment of an oceangoing ro ro ship. The uppermost deck must be fitted with hatch covers that are watertight and flush with the deck. Pontoon covers are the most logical answer as they can be lifted

with shore cranes that would lift containers, but hydraulic cleating would be necessary to minimize releasing and stowing time. Sizes of covers must be such as to allow unhindered vertical loading of containers 40-feet long and a multiple (plus clearance) of 8-feet in width. Strength of the covers must be the same as the rest of the deck.

There are, of course, many other parameters and design philosophies to be considered and each study will have an individual character of its own, molded around the trade route considered, the size of the vessel contemplated, and the type and amount of cargo which the original studies indicated to be available.

Cargo transfer equipment: Having arrived in very general terms at the "optimum" size of vessel required for the route and having established the basic factors, parameters and design philosophies, the naval architect must now decide on the number and type of ro ro equipment and other cargo access equipment that is to be incorporated in the design. At this point, it may be worthwhile to call in for consultation the experts of the trade and listen attentively to the advice they can give.

Maneuverability: The oddity of the lines of a ro/ro/container ship creates unusual results in turning circle, crash stop, zigzag, and maneuvering. Good maneuvering demands the incorporation of a bow thruster(s).

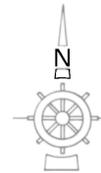
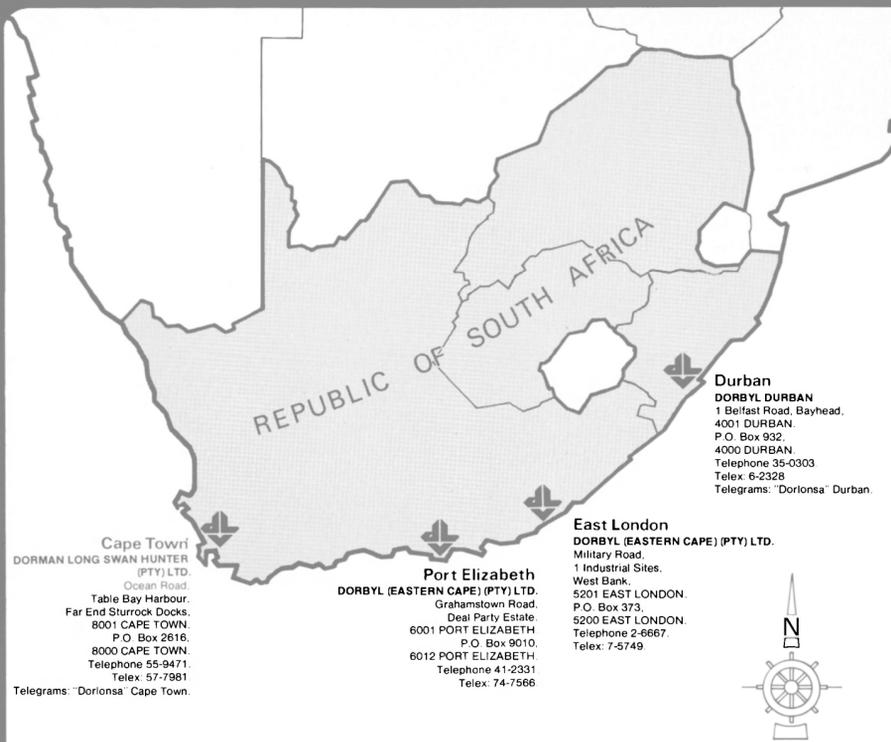
Some designers also favor the inclusion of a stern thruster. The authors believe that machinery rooms of these vessels are crowded enough without such additions, which, if controllable-pitch propellers are used as main propulsion, would have a doubtful degree of utilization. The authors feel that the inclusion of controllable-pitch propellers is almost a must.

Shallow-water maneuvering and speed characteristics are expected to be affected by stern and run aft flatness, but no tests have been conducted, and operational experience is insufficient to establish the degree of afterbody shape influence.

Rudder areas must be increased over conventional cargo vessel areas to compensate for these lower than standard maneuvering characteristics. A total rudder area of 1.65 percent of immersed underwater lateral area at scantling draft should be sufficient.

Finally, it is true that a vessel which is over-complicated relative to the technical environment in which she is expected to work represents a poor investment. The designers' constant aim should be to obtain the least expensive ship in the long run and the one that would bring the best secondhand price. This means maximizing simplicity and reliability, compatible with fitness for the purpose intended.

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Guralnick Firm To Design Cable-Laying Machinery For NASSCO

Morris Guralnick Associates, Inc. has been selected to design the cable-laying machinery installation for a new cable-laying ship to be built for the U.S. Navy, it was announced recently by **Hugh F. Munroe**, president and chief executive officer of the prominent San Francisco firm of naval architects and marine engineers. The ship, as yet unnamed, has been designated T-ARC 7, and will be operated by the Military Sealift Command.

The contract, awarded by National Steel and Shipbuilding Company, San Diego, where the ship will be built, calls for Guralnick Associates to design the installation of cable-laying machinery and perform such other work as will assist the builder in successful completion of the vessel.

J.P. Marengi Named To Borg-Warner Post

Joseph P. Marengi has been appointed director of manufacturing services for Borg-Warner Corporation's Energy Equipment Group, headquartered in Los Angeles. He will coordinate production operations of the Group's 14 plants worldwide.



Joseph P. Marengi

Prior to his present appointment, Mr. Marengi held an executive post with Western Gear Corporation and its subsidiary, Miller Printing Equipment, Pittsburgh, Pa.

Borg-Warner's Energy Equipment Group consists of four separate divisions manufacturing and marketing equipment for a wide range of energy-related industries. They are Byron Jackson Pump division, Los Angeles, Nuclear Valve division, Van Nuys, Ca., Mechanical Seal division, Temecula, Ca., and Centrilift, Inc., Tulsa.

Executive Changes At Ohio Barge Line And Affiliated Companies

Neil N. Diehl has been elected president of Ohio Barge Line, Inc., Warrior & Gulf Navigation Company, and Mon-Valley Transportation Company with headquarters at Pittsburgh, Pa. He succeeds **Thomas Marshall** who has been named group vice pres-

ident-resource development for United States Steel Corporation. Mr. Marshall leaves the barge lines after 31 years in the river industry. Mr. Diehl has been vice president of the barge lines since 1974.

Also announced is the election of **Mark K. McNally** as general counsel and secretary of Ohio Barge Line, Warrior & Gulf Navigation Company, and Mon-Valley

Transportation Company. Mr. McNally has been with the barge lines as general attorney since February 1979.

Ohio Barge Line, Inc. has announced the appointment of **Howard A. Thompson** as vice president and general manager. Mr. Thompson has been with the barge line since 1969, with his most recent position being manager of operations.

Warrior & Gulf Navigation Company has announced the appointment of **Nicholas J. Barchie** as vice president and general manager. Mr. Barchie has held various positions with the barge line over the past 18 years, the most recent being general manager of Warrior & Gulf.

Herbert G. Wittman has been named general manager of Mon-Valley Transportation Company.

OURS CUTS MORE.

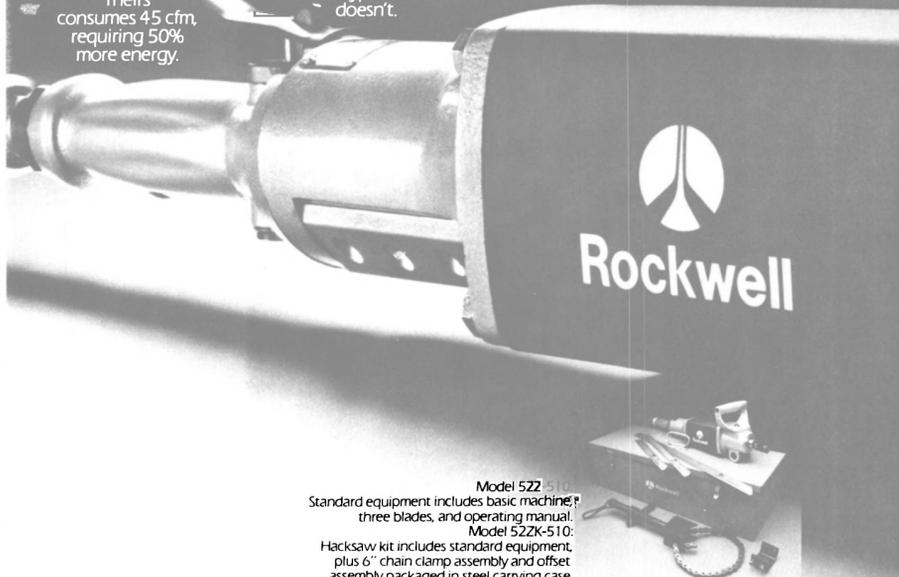
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Model 52Z-510
Standard equipment includes basic machine, three blades, and operating manual.
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Hacksaw kit includes standard equipment, plus 6" chain clamp assembly and offset assembly packaged in steel carrying case.

THE ROCKWELL AIR POWER

**\$195.4-Million Contract
For Three Frigates
Awarded To Bath Yard**

A \$195.4-million contract for construction of three FFG-7 class guided-missile frigates was awarded by the U.S. Navy recently to Bath Iron Works Corporation, a Congoleum company. The award raises to 16 the num-

ber of the versatile ships currently under contract to the Bath, Maine, shipyard, and increases its total work backlog to roughly \$650 million.

"The three new frigates extend our shipbuilding backlog an additional year, providing a solid base of work into 1984," said John F. Sullivan Jr., president and chief executive officer. "But far more important, these ships

are vitally needed by our Navy, which has dwindled to 462 vessels as contrasted to the Soviet fleet of 1,764 ships."

Frigates of the FFG-7 class, built for defense against submarines, surface ships, and aircraft, are 445 feet in length and displace 3,600 tons fully loaded. They are powered by twin gas turbines that develop a total of 40,000 shp. The ships are designed for mul-

iple missions, including keeping international sea lanes open, providing naval force in crisis or conflict, maintaining U.S. presence wherever national interests dictate.

The Bath Iron Works president noted that the program has met all schedules and budgets throughout design and construction phases, and the ships have exceeded performance specifications.

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**R.E. Johnson Named
President Of
Dunbar & Sullivan**

Rodney E. Johnson has been elected president of Dunbar & Sullivan Dredging Co., it was announced recently by chairman Erbin Wattles.



Rodney E. Johnson

Mr. Johnson began his construction career with Peter Kiewit Sons' Company at Garrison Dam in North Dakota. In 1952, he joined Dravo Corporation and served in various capacities, the most recent as vice president and assistant general manager of the Civil Mining and Marine Division.

Dunbar & Sullivan Dredging Company was founded in 1944 and is headquartered in Dearborn, Mich., with operating offices in Cleveland, Chicago, and Eddyville, Ky.

**Literature Available From
Standard Communications
On New VHF Radio**

The Horizon Ltd., a 25-watt, fully synthesized, 24-channel VHF marine radio was introduced recently by Standard Communications, Los Angeles.

Simple yet said to be seaworthy, rugged, and dependable, this modestly priced transceiver measures 2 3/4 inches high, 6 3/4 inches wide, and 11 inches deep. Because the slanted control panel is reversible, it can be mounted on the overhead, vertically on the bulkhead, or just about anywhere else. According to the manufacturer, the Horizon Ltd. is engineered to give the same top performance that has traditionally been built into all Standard Communications radios.

For a free catalog sheet on the Horizon Ltd., write to Dana Thomas, Standard Communications Corp., Dept. MR, P.O. Box 92151, Los Angeles, Calif. 90009.

J.J. Henry Co. To Utilize Computerized Ship Design/Construction System

The J.J. Henry Co., Inc., New York City, has signed an agreement with Cali & Associates of New Orleans to provide a new and unique service for the shipbuilding industry.

Under the terms of the agreement, the Henry firm will utilize Cali's proprietary "SPADES" system of computer programs in the preliminary, contract, and detail design stages to provide complete naval architectural services including lines fairing. When using the system, Henry will have the

further capability of generating a structural data base that will allow Cali & Associates, or a compatible shipyard, to produce all software necessary for N/C lofting operations.

The SPADES system is the creation of Filippo Cali, a pioneer in the development of innovative computer applications for the shipbuilding industry. It consists of a number of different program modules for various applications such as hull fairing and lofting, naval architecture calculations,

generation of engineering drawings and production parts for N/C drafting and cutting, N/C nesting, and numerous assembly and manufacturing aids.

J.J. Henry is installing the necessary hardware and communications equipment in its Moorestown, N.J. office to provide a direct link with Cali's computer in New Orleans. Once established,

this unique arrangement will allow data input from Moorestown to be fed directly into Cali's computer, have it processed by the SPADES program, and the results used to drive the plotter and other graphics in Moorestown, which provides construction drawings for a large segment of the shipbuilding industry.

Admiral Kidd Guest Speaker At Hampton Roads SNAME Meeting



SNAME president Lester Rosenblatt (left) attended recent meeting of the Hampton Roads Section. Adm. Isaac C. Kidd Jr., USN (ret.), was guest speaker at meeting.

The members of the Hampton Roads Section of The Society of Naval Architects and Marine Engineers were honored to have Adm. Isaac C. Kidd Jr., USN (ret.), former Commander in Chief, Atlantic, and Supreme Allied Commander, Atlantic, as guest speaker at a recent meet-

ing. More than 120 members and guests attended the meeting, including Society president Lester Rosenblatt.

Admiral Kidd, in an informative and authoritative talk, discussed the problems that face the logisticians in the event of any major conflict in Europe or elsewhere in the world. He noted the importance of the marine industry in providing the logistic support, the ship designs, and the major techniques that would be essential in any mobilization schedule.

In an emergency, with only some 570 U.S.-flag commercial ships available, Admiral Kidd said we would have to depend very heavily on ships of the 15 NATO nations to assist in this gigantic effort. If all NATO nations cooperated and made available every ship under their flags, perhaps as many as 6,000 could be made available. Opposition should be expected, and it should be fierce. The loss of supply ships, escorting warships, and protecting aircraft could be enormous. Thus, the tasks of the logisticians are seen by Admiral Kidd as enormously difficult and challenging.

Before adjourning the meeting, Section chairman Alfred Kurzenhauser announced the election results for the 1980-81 season. Section officers will be: Donald E. Kane Jr., chairman; Donald L. Blount, vice chairman; and Roy L. Harrington, secretary-treasurer. Martin W. Steffens was elected to the Executive Committee for three years.



Signing the contract that will link the extensive J.J. Henry Co. design and engineering force with Cali & Associates' innovative computer programs are (left) Filippo Cali, president of Cali & Associates, and David F. McMullen, assistant vice president of J.J. Henry Co.

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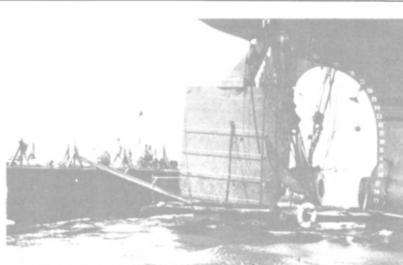
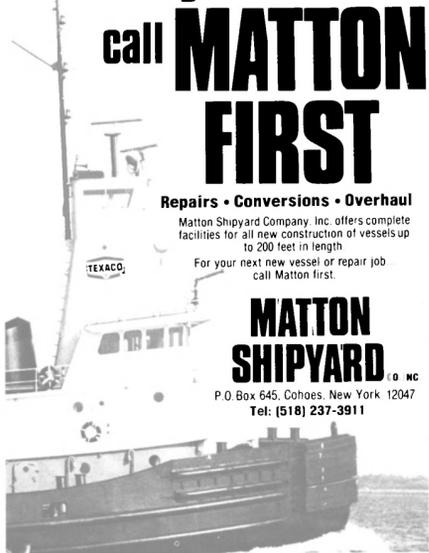
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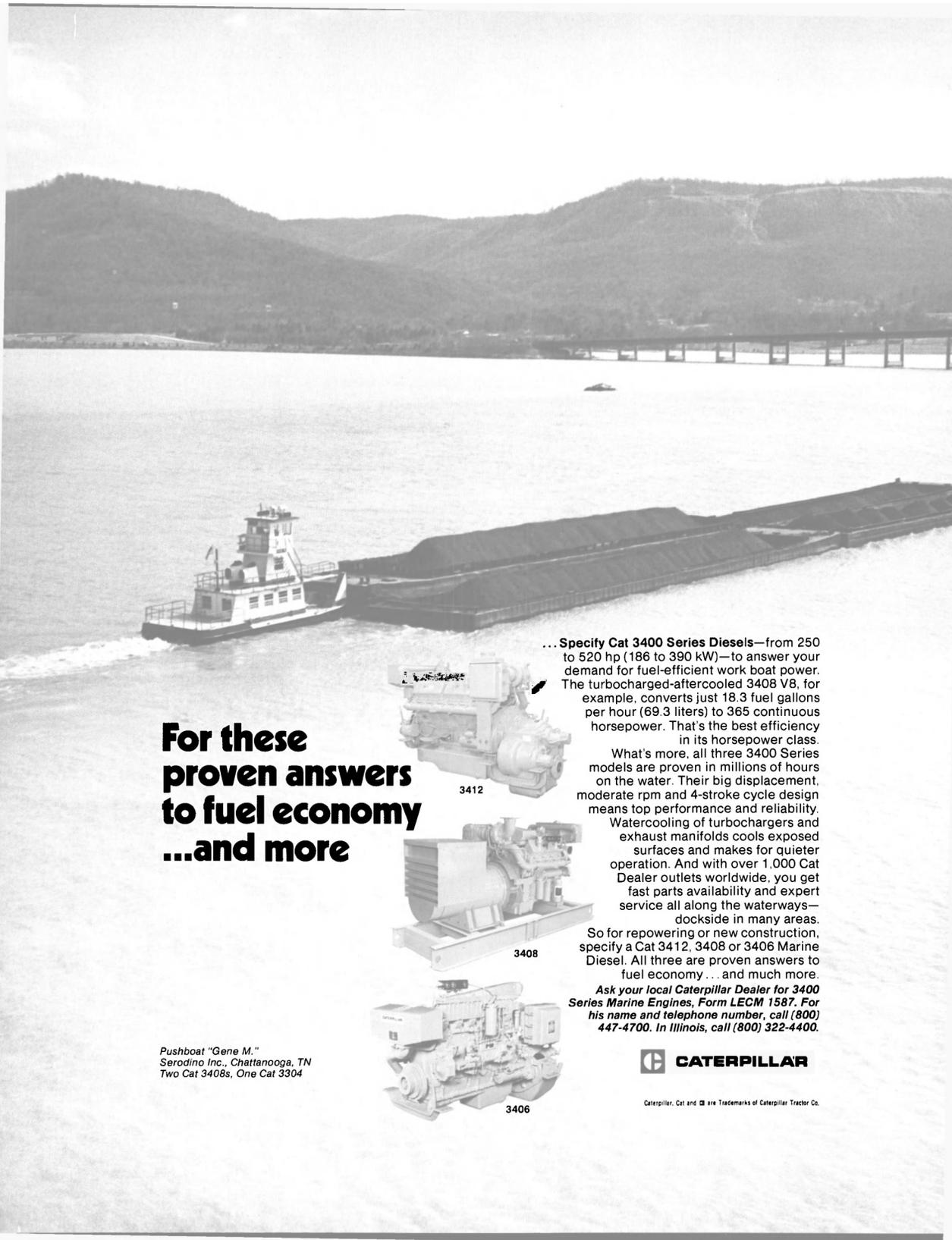
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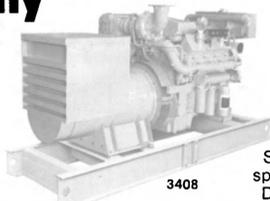
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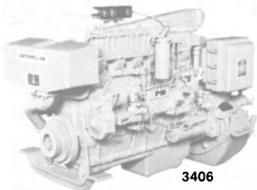
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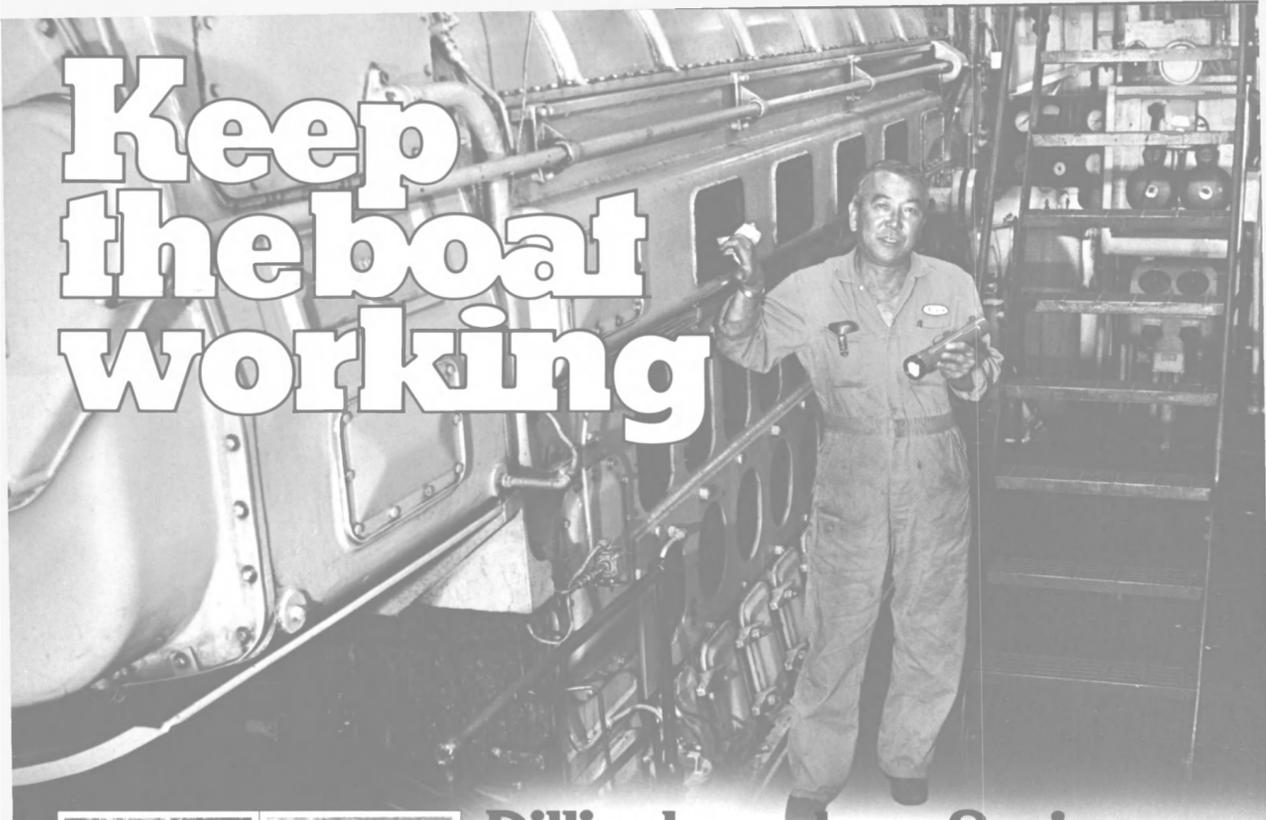
Ask your local Caterpillar Dealer for 3400 Series Marine Engines, Form LECM 1587. For his name and telephone number, call (800) 447-4700. In Illinois, call (800) 322-4400.

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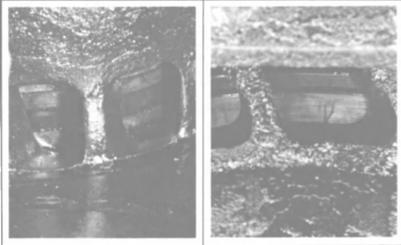


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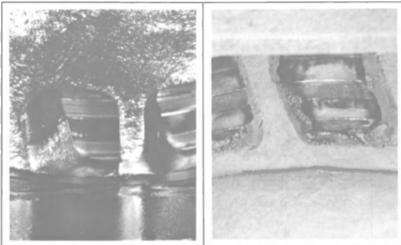
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The "Mikioi", powered with twin Mdl 38D8 - 1/8 6-cylinder engines, and the "Mikiona", powered with twin Mdl 38D8 - 1/8 10-cylinder engines, have logged over 13,600 hours each since their last overhaul. In both boats, *Caprinus*[®] R has been the engine lubricant for more than 3,000 hours — preceded by Shell's *Caprinus* T Oil.

Since Dillingham switched to Shell's *Caprinus* oil the boats have logged over 5,000 hours each without a single day of downtime to clean engine ports.

M. Kent Whitman, Vice President and Manager of Dillingham Tug and Barge Corporation in Hawaii, estimates *downtime costs* for each of Dillingham's ocean-going tugs at \$4,000 per day. Shunsaku Hirano, Assistant Maintenance Supervisor, estimated that with the engine lube previously used, an HVI base oil, each of the two boats required a three-day downtime period every 1,500 hours (about three times a year) for cleaning of intake and exhaust ports due to excessive power-robbing deposits. *Labor costs* for the cleaning totaled about \$1,900 each time the boats were down.

With the previous oil — each boat averaged 9 days downtime a year, at \$4,000 per day, plus 3 cleanings a year at \$1,900 each — or about \$41,700 every year for each boat.

Look at the pictures (left). They show intake and exhaust ports from the engines of the *Mikioi* and the *Mikiona*. Ports are clear. That's because *Caprinus* R with Shell's premium MVI base oil

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Whitman stated, "...we looked for an oil that could help us reduce unscheduled downtime and *Caprinus* R has proved it can do it." And, Hirano added, "...with *Caprinus* R there has been a vast improvement over the HVI base oil we did use in keeping the engines clean and ports clear...wear rates are down and the boats run longer between service intervals. *Caprinus* R does the job for us."

Dillingham Tug & Barge has found out what *Caprinus* R can do in Fairbanks Morse engines and in its EMDs too. The high alkalinity, high dispersancy additives, in a premium MVI base oil provide the right combination for the protection the big medium-speed diesels need. Keep them clean, wear rates low and deposits at a minimum.

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Location: Upper Mississippi River, Mile 197
Foot of Hawthorne Street
Phone: (618) 254-0626 (Illinois)
(314) 741-2570 (Missouri)
Radio: Ch 16, KLC 791
Wood River
Hartford Fueling Service
Location: Upper Mississippi River, Mile 196
Phone: (618) 254-4333
(314) 741-3667
Radio: Ch 16 VHF, KLC 280

KENTUCKY

Louisville
Wooten River Service
Location: Ohio River, Mile 603
2927 River Road
Phone: (502) 896-0317
Paducah
Nolley Marine Service, Inc.
Location: Ohio River, Mile 934
100 Husband
Phone: (502) 443-6456
Paducah
Walker Midstream Fuel and Service Co.
Location: Ohio River, Mile 934
532 South Second St.
Phone: (502) 442-2738
Radio: freq. 156

LOUISIANA

Amelia
Berwick Bay Oil Co., Inc.
Location: Bayou Boeuf
Intracoastal Waterway
1/2 mile North 85 mile board
See Berwick listing under Morgan City, La.
Baton Rouge
Capital Marine Supply, Inc.
Location: Lower Mississippi, Mile 230
Foot of North Street
Phone: (504) 343-8379
Radio: Channels 16, 7a, 10, 66a VHF
KFT 322
Baton Rouge
Channel Fueling Service, Inc.
Location: Lower Mississippi, Mile 232
River Road
Phone: (504) 383-4691, 383-4814
Radio: freq. 156.8

Belle Chasse

Plaquemines Oil Sales Corp.
See Plaquemines Oil, Venice, La.
Berwick
Berwick Bay Oil Co., Inc.
Location: Atchafalaya River - 1/4 mile north of Hwy 90 bridge
See Berwick Oil Listing under Morgan City, La.

Cameron

Berwick Bay Oil Co., Inc.
Location: Calcasieu River
See Berwick Bay Oil listing, Morgan City, La.

Cameron

Calmar Marine Service, Inc.
Location: Calcasieu River
Phone: (318) 775-5206
Dulac
Berwick Bay Oil Co., Inc.
Location: Houma Navigation Channel
17 miles South of Houma
See Berwick Bay Oil listing, Morgan City, La.

Gretna

John W. Stone Oil Distributor, Inc.
Location: Young's Road, Mile 96.5
87 First Street, Gretna
Henry 77059
Phone: (504) 366-3401
Radio: KGW 352
Houma
Houma Oil Company, Inc.
Location: Intracoastal Canal
Phone: (504) 872-0464

Intracoastal City

Berwick Bay Oil Co., Inc.
Location: Vermillion River - 1/4 mile north of Intracoastal Canal Mile 155
See Berwick Bay Oil listing, Morgan City, La.

Lake Charles

Channel Fueling Service, Inc.
See Channel Fueling Service, Sulphur, La.
Morgan City
Berwick Bay Oil Company, Inc.
Location: Young's Road
Phone: (504) 384-1610
Radio: Ch 16 VHF-KKR979
New Orleans
Gulf Outlet Fuel & Marine Supplies, Inc.
Location: Gulf Intracoastal Waterways
Mile 8 East
3400 Jourdan Road
Phone: (504) 241-8680
Radio: KVF 893
Port Allen
Tri-State Marine Service Co.
Location: Lower Mississippi, Mile 227.5
Phone: (713) 744-2888 (dock)
(713) 763-4343 (office)

River Road

Phone: (504) 749-3171
Radio: 156.8
Sulphur
Channel Fueling Service, Inc.
Location: Gulf Intracoastal Waterway
West, Intersection of Calcasieu
River
Phone: (318) 583-7215, 583-7384
Radio: 156.8

Venice

Plaquemines Oil Sales Corp.
See Plaquemines Oil, Venice, La.
Mile 10.5 at Grand Pass
Louisiana Hwy. 23, Venice
Address: Belle Chasse
Phone: (504) 394-5555 (Belle Chasse)
(504) 534-7403 (Venice)

MASSACHUSETTS

Gloucester
Progressive Oil Co., Inc.
Location: Gloucester
Address: 92 Grove St.
Phone: (617) 283-2000

MINNESOTA

Winona
Watersways - Winona, Inc.
Location: Upper Mississippi, Mile 725
376 East 2nd St.
Address: 455 North St.
Fountain City, WI.
Phone: (608) 687-6931 (Wisconsin)
(507) 452-5252 (Minnesota)
Radio: Ch 16-12

MISSISSIPPI

Ship Services Corporation
Location: Gulfport State Port and Biloxi Back Bay, Beacon 7
Phone: (601) 374-1000
Greenville
Watersways Marine of Greenville, Inc.
Location: Lower Mississippi, Mile 537
Warfield Point Road
Phone: (601) 335-2526
Radio: KWS 617
Patuxent
Fuel Services, Inc.
Location: Bayou Casotte
Ingalls Avenue
Phone: (601) 762-0636, 762-0640
Radio: Ch 16
Vicksburg
Vicksburg Mid-River Services, Inc.
Location: Lower Mississippi, Mile 437
Foot of Lee Street
Phone: (601) 636-4814, 636-7731
Radio: 156.8

MISSOURI

St. Louis
St. Louis Fuel & Supply Co., Inc.
Location: Upper Mississippi, Mile 179
Address: Foot of Gratiot Street
Phone: (314) 421-3960
Radio: Ch 16, VHR-KDO 722 Fort Guage

NORTH CAROLINA

Elizabethtown
Campbell Oil Company, Inc.
Location: 1010 West Broad Street
Phone: (919) 862-4107

OREGON

all ports
see Lilyblad Petroleum listing under Tacoma, Washington
PENNSYLVANIA
Philadelphia
River Associates, Inc.
Location: Delaware River
Pier 9 North
Phone: (215) 463-8100

SOUTH CAROLINA

Charleston
Charleston Oil Co.
Location: Ashley and Cooper Rivers,
1553 King St. Extension
Phone: (803) 577-5600
Charleston
See Savannah Oil & Chemical,
Savannah, Ga.
Georgetown
See Savannah Oil & Chemical,
Savannah, Ga.

Port Royal

See Savannah Oil & Chemical,
Savannah, Ga.

TENNESSEE

Memphis
Memphis Boat Refueling Service, Inc.
Location: Lower Mississippi, Mile 735
Foot of Illinois Street
Phone: (901) 775-3131
Radio: Ch 16
Memphis
Watersways Marine of Memphis, Inc.
Location: Lower Mississippi, Mile 736
Foot of Beale Street
Phone: (901) 525-5761
Radio: Ch 16, 156.6

TEXAS

Corpus Christi
Belcher Co. of Texas, Inc.
Address: 504 Navigation
Corpus Christi, 78403
Phone: (512) 888-6311
Galveston
Grasse Marine Service, Inc.
Location: Galveston Ship Channel
Pelican Island
Phone: (713) 744-2888 (dock)
(713) 763-4343 (office)

Houston

Houston Marine Services, Inc.
Location: Beacon 120
Houston Ship Channel
Phone: Dock (713) 424-4502
Office (713) 455-8819
Radio: Channel 16
Lake Jackson
Channel Fueling Service, Inc.
Location: Gulf Intracoastal Waterway
Mile 393
1400 Marlin Avenue
Phone: (713) 233-5321, 233-5322
Radio: 156.8
Port Arthur
Channel Fueling Service, Inc.
Location: Gulf Intracoastal Waterway
West, Mile 282
57100 Procter Street
Phone: (713) 962-5557
Radio: 156.8
Rockport
Berwick Bay Oil Co., Inc.
Location: Rockport Navigation Harbor,
Intracoastal Canal, Mile 526
See Berwick Bay Oil Listing, Morgan City, La.

VIRGINIA

Norfolk
Marine Oil Service, Inc.
Location: Elizabeth River
Address: 71 Radar Street
Phone: (804) 622-0934, 622-3109

WASHINGTON

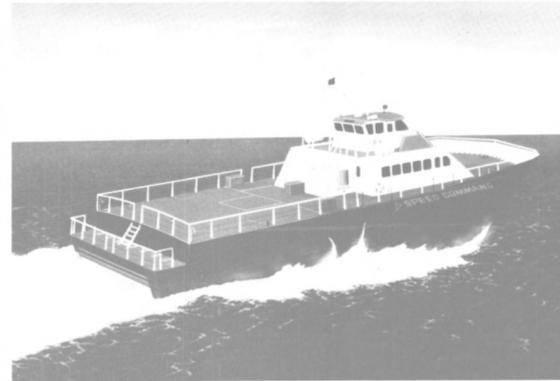
Seattle
Ballard Oil Co.
Location: Lake Washington Ship
Canal
Phone: (206) 783-0241
Tacoma
Lilyblad Petroleum, Inc.
Location: Washington and Oregon - all
ports
Phone: (206) 572-4402
Radio: KLB radio station
Manlyville, Wa.

WASHINGTON

all other ports see Lilyblad Petroleum
above.

WEST VIRGINIA

Pt. Pleasant
City Ice & Fuel Co.
Location: Ohio River, Mile 265.3
Address: 224 First Street
Phone: (304) 675-2010



Bell-Halter To Build Four SES 'Dashboats' For Command Marine

A new mode of high-speed marine transportation will become available to the Gulf of Mexico rig and platform operators this winter when the first of four new surface effect "dashboats" begins servicing offshore rigs and platforms in the Gulf of Mexico.

The contract to build the four vessels was announced recently by James L. Mello, president of Command Marine, Inc., Lafayette, La. Floyd J. Naquin, president of Halter Marine, Inc., New Orleans, N.C. Wilcox, president of Bell Aerospace Textron, Buffalo, N.Y., and John J. Kelly, president of Bell-Halter Inc., New Orleans.

Mr. Mello said Command Marine is the first American vessel operator to choose surface effect ships because of positive results obtained in intensive civilian and military testing of the prototype Bell-Halter SES, and because of outstanding records logged by the SES.

"Speed, fuel efficiency, and stability are the obvious advantages," said Mr. Mello. "These new 'dashboats' will be able to carry up to 120 passengers or 40 tons of cargo at 32 knots in calm seas and 28 knots in seas and weather conditions in which conventional forms of marine transportation cannot operate."

The new "dashboats" will be very similar to the Bell-Halter prototype with a 110-foot length, 39-foot beam, and on-cushion draft of 4 feet 6 inches. Off-cushion draft is 7 feet 9 inches.

The surface effect "dashboats" will ride on a resistance-reducing cushion of air contained by catamaran-style sidehulls and flexible bow and stern seals. When underway, the center portion of the hull is clear of the water and supported by the air cushion, which dramatically reduces resistance

SES 'Dashboats'	
Propulsion	Two SACM 12v175 RVR 1,330 HP @ 1,500 RPM Two Fixed-Pitch Propellers
Lift System	Two 8v92N Detroit Diesel Marine Engines Two Double-Inlet Centrifugal Lift Fans

with the water. This low resistance characteristic results in much higher speeds per installed horsepower and greatly improves the ride characteristics of the vessel.

"Because the SES has less friction with the water, it uses less fuel," said Mr. Mello. "That fuel economy will be further enhanced by the highly efficient SACM (Societe Alsacienne de Constructions Mecaniques) engines selected to power the 'dashboats,' as they burn approximately 13 percent less fuel than more commonly used engines," he added.

Mr. Naquin said that, "because of the design of the Bell-Halter 'dashboats,' these 110-foot vessels are equivalent to a 140-foot vessel in payload and volume. In addition, they will be equally adaptable in a multipurpose role as they can serve as ferries, hydrographic survey vessels, fireboats, search and rescue craft, and more."

Mr. Kelly noted that, while this is the first civilian contract for Bell-Halter, the group recently delivered a 48-foot SES hydrographic survey vessel to the U.S. Army Corps of Engineers, and that Bell Aerospace has built surface effect ships for governmental agencies.

The first vessel will be delivered in the fall of 1980, with the other three vessels following at two-month intervals thereafter.

Shell Oil Company
Manager Commercial Communications
One Shell Plaza
Houston, TX, 77002

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 Send me the Shell Marine Equipment Lubricants chart (SOC: 122-79)
 Send me the Shell Marine Jobber Directory (SOC: 127-79)
 Send me the Caprinus R Technical Bulletin (SOC: 17-77)
 Send me the Caprinus R brochure (SOC: 32-77)

Name _____
 Title _____
 Company/Vessel _____
 Address _____
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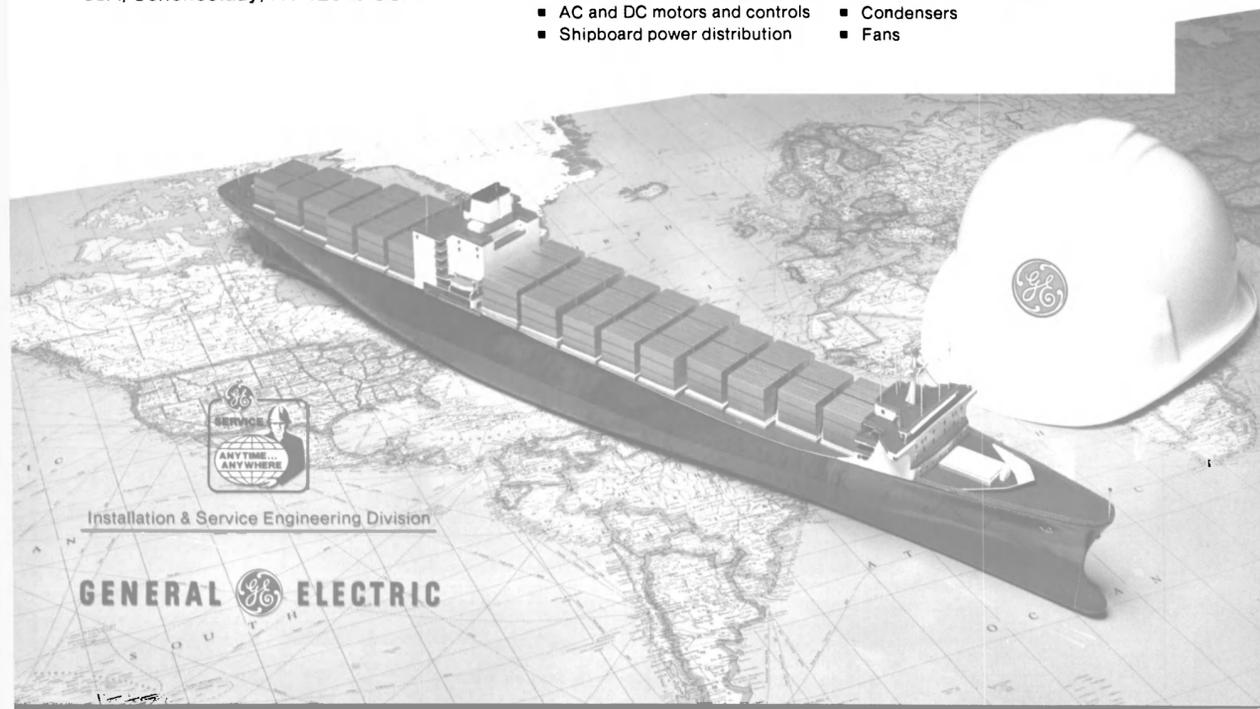
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- Winches
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- AC and DC motors and controls
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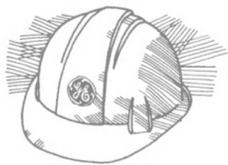
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AFTER HOURS	(503) 222-6088

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E. C. (Gene) Rinker** (Lynn, MA U.S.A.)	(617) 594-3881
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TELEX 21437

EUROPE

P. G. (Pat) Connolly+ (Madrid)	(34-1) 447-46-62
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TELEX 27650

P. (Paul) Nybo* (Frankfurt)	0611-76071
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TELEX 04-12002

GENERAL  ELECTRIC



MULTIPURPOSE SHIP DELIVERED—Marine Industrie Limitee of Sorel, Quebec, Canada recently delivered the third of a series of four multipurpose cargo vessels under construction for Polish Ocean Lines at the Tracy (Sorel) shipyard. Named the Artur Grottger after a famous Polish artist, the 16,000-dwt, 20-knot ship left Sorel for Ireland where she loaded a cargo of containers destined for a German port. She then took up her regular service between Poland and Australia. Construction of the fourth Polish ship is well advanced, with delivery scheduled for later this year.

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Christening of the barge was performed by Mrs. Wilbur Wilson, wife of the regional manager of Otis Engineering Corporation, owner of the barge.

The vessel, 110 feet long, 50 feet wide and 10 feet deep, consists of a sophisticated floating/elevating unit containing the propulsion and jacking machinery and other allied equipment, and supplies necessary for the well service operation. Three 205-foot, tubular elevating legs provide the supporting foundation while the barge is in the operating or jacked-up position.

The propulsion system consists of four General Motors diesel engines of 360 bhp each to position the barge at existing well platforms and to seek shelter at approximately 10 mph when warned of an approaching storm.

Built under American Bureau of Shipping Classification as Class A-1 Vessel for Coastwise Service and Gulf of Mexico, the vessel is capable of operating in a water depth of 130 feet with a 30-foot air space between bottom of upper hull and the water surface.

The well service barge is versatile in terms

of performance. Besides testing and maintenance of wells, the unit executes repairs and maintenance of offshore platforms and pipelines. It is also equipped for firefighting. Two barge-mounted cranes enable it to perform heavy lifts.

Promet Pte. has, since its inception in 1971, constructed many different types of barges for specific uses. These include jacket launching barges, semisubmersible drilling barges, salt transportation barge, jackup derrick barge, pipe-laying barge, and self-elevating accommodation barge.

Zesco Will Represent Camar Inert Gas Systems Division



Attending recent Zesco/Camar contract discussions were (left to right): Zesco president J.D. Vacek and vice president Cy Turner being congratulated by James A. Mercanti, president and general manager of Camar.

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**Rowan To Purchase
Two 'Gorilla' Rigs
From Marathon**

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The prototype Gorilla rig is to be constructed at Marathon's Vicksburg, Miss., yard, and the second rig will be constructed at the firm's Republic of Singapore yard.

The Class 150-88-C Gorilla rig was introduced at the recent Offshore Technology Conference in Houston. It is a giant cantilever-

type, jackup drilling platform designed for hostile environments like the North Sea, the south coast of Africa, the east coast of Asia, as well as the North American Atlantic coastal areas.

The Gorilla, equipped with up to 460 feet of square leg, provides stability for exploratory and development drilling in water depths up to 300 feet. When working in 150 feet of water in 115-mph winds, it can withstand waves as high as 88 feet. At a 250-foot work depth, the rig can stand up to 115-mph winds and waves to 82 feet. When working at a depth of 300 feet, and in winds to 115 mph, the rig can tolerate waves to 79 feet.

Other hostile areas in which the Gorilla is designed to operate are the high seas off the Canadian Provinces, the Cook Inlet, the Bering Sea, and the south coast of South America.

Designed to house a crew of up to 100 persons, the multi-decked Gorilla's 288-foot overall length is almost twice as long as the Marathon Class 150-44-C cantilever jackup platform that is used extensively in more shallow ocean areas such as the Gulf of Mexico, the west coast of Africa, and Southeast Asia.

The Class 150-88-C Gorilla's 292-foot width is nearly twice as wide as the Marathon Class 116 jackup platform, which heretofore was one of Marathon's largest units. The huge new rig has a hull depth of 30 feet and weighs 30 million pounds. It has a deck area of 33,000 square feet. The unit's fixed and variable load is 11,500,000 pounds.

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**R. E. Benze Appointed
As Southern District
Sales VP For McAllister**



Robert E. Benze

McAllister Brothers, Inc. has announced the appointment of Robert E. Benze as vice president, Southern District sales. The announcement was made by Anthony J. McAllister Jr., president of the New York-based towing and transportation company, which also serves the ports of New York, Baltimore, Norfolk, Philadelphia, and San Juan.

Mr. Benze has been with McAllister Brothers since 1952. In 1957, he became operations manager, and most recently general manager of McAllister's Norfolk

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TELEX	21437

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P. (Paul) Nybo*	0611-76071
(Frankfurt)	
TELEX	04-12002

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Other hostile areas in which the Gorilla is designed to operate are the high seas off the Canadian Provinces, the Cook Inlet, the Bering Sea, and the south coast of South America.

Designed to house a crew of up to 100 persons, the multi-decked Gorilla's 288-foot overall length is almost twice as long as the Marathon Class 150-44-C cantilever jackup platform that is used extensively in more shallow ocean areas such as the Gulf of Mexico, the west coast of Africa, and Southeast Asia.

The Class 150-88-C Gorilla's 292-foot width is nearly twice as wide as the Marathon Class 116 jackup platform, which heretofore was one of Marathon's largest units. The huge new rig has a hull depth of 30 feet and weighs 30 million pounds. It has a deck area of 33,000 square feet. The unit's fixed and variable load is 11,500,000 pounds.

**R. E. Benze Appointed
As Southern District
Sales VP For McAllister**



Robert E. Benze

McAllister Brothers, Inc. has announced the appointment of Robert E. Benze as vice president, Southern District sales. The announcement was made by Anthony J. McAllister Jr., president of the New York-based towing and transportation company, which also serves the ports of New York, Baltimore, Norfolk, Philadelphia, and San Juan.

Mr. Benze has been with McAllister Brothers since 1952. In 1957, he became operations manager, and most recently general manager of McAllister's Norfolk Division.

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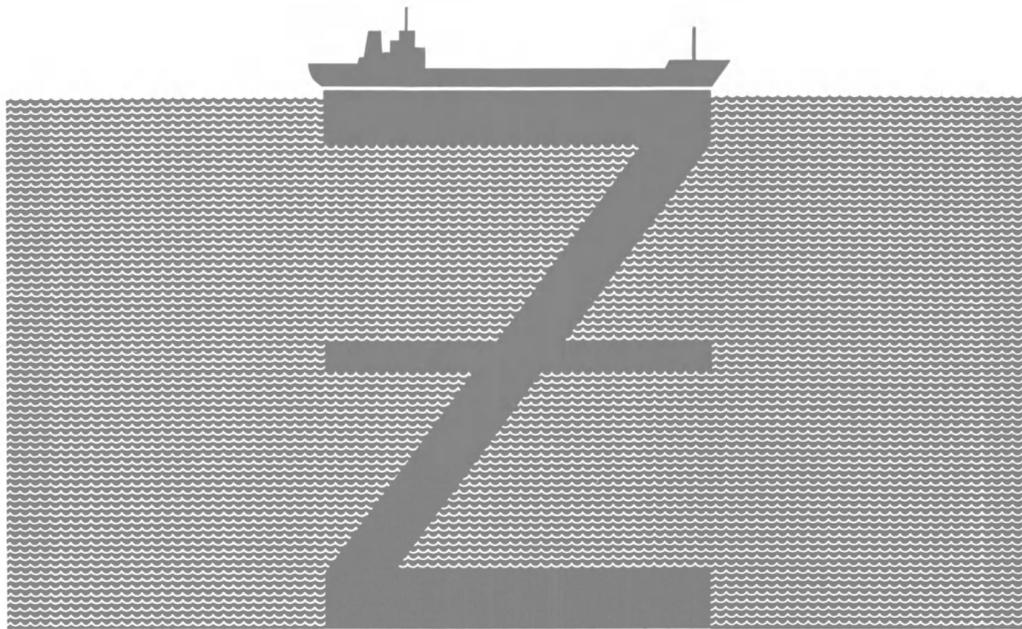
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**Three New VPs And Three Promotions
Announced By Halter Marine**

Three new vice presidents were elected at Halter Marine, Inc. recently, and three other executives were elevated to new positions according to Floyd J. Naquin, president of the New Orleans company.

The new vice presidents are: Sidney C. Mizell, vice president, sales and marketing; Rick S.

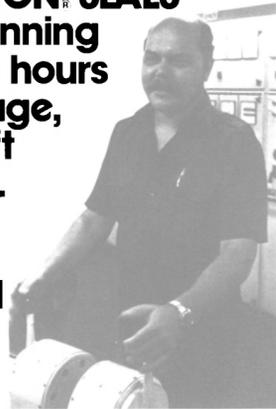
Rees, vice president, finance; and S. Wayne Murphy, vice president and general counsel.

Mr. Mizell will be responsible for all sales, marketing, advertising, public relations, and estimating. He joined Halter as an estimator in 1972 and was promoted to senior estimator in 1975. In 1978 he was named executive as-



Sidney C. Mizell Rick S. Rees S. Wayne Murphy

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sistant to the president. Prior to joining Halter, Mr. Mizell had been associated with Litton Ship Systems in Pascagoula, Miss. and The Boeing Company in New Orleans.

Mr. Rees will now be responsible for all accounting, treasury, and controller functions, as well as money management and banking. He will also maintain his position as a member of the board of directors and executive assistant to the board chairman, to which he was appointed in 1979. He joined Halter in 1975 as a business analyst.

Mr. Murphy will be responsible for all legal, corporate, and con-

tract administration functions of the company. He joined Halter in 1979 as general counsel, and was elected secretary of the corporation the same year. Prior to joining Halter, Mr. Murphy was with LTV Corporation as vice president and group counsel for Lykes Bros. Steamship Company.

Mr. Naquin also announced that Steve Stonebreaker, current director of employee relations and the Halter Incentive Program (HIP), will assume the additional duty of administrative assistant to the president. Also elevated are Leewood J. Prevost from acting treasurer to treasurer, and Gary Owens from acting controller to controller.

**Newpark Seeks Title XI
For Oceangoing Barge
To Cost \$1.7 Million**

Newpark Offshore Marine, Inc., Morgan City, La., a subsidiary of Elpac, Inc., has applied to the Maritime Administration for a Title XI guarantee to aid in financing the construction of a non-self-propelled ocean deck barge.

The proposed builder of the 250-foot barge, which is to operate in the coastal waterways and foreign trade, is Newpark Shipbuilding & Repair, Houston.

If approved, Title XI financing would cover \$1,487,500, or 87½ percent of the actual cost of \$1,700,000.

**Crowley Maritime
Announces Three New
Marketing Appointments**

Robert G. Homan, senior vice president and general manager of Crowley Maritime Corporation's Caribbean Division, Jacksonville, Fla. recently announced three changes in the company's management personnel.

Ron Beacham has joined the Division as director of sales. He will assume responsibility for Crowley's domestic field marketing offices, including regional offices in San Francisco, Chicago, New York City, Houston, and Jacksonville. In his most recent position before joining Crowley, Mr. Beacham served as president for a major nationwide freight forwarder.

Liz Nobles has been promoted to district marketing manager, Chicago for the Caribbean Divi-

sion. She will be responsible for the marketing management of Crowley's Caribbean services in the Midwest. Ms. Nobles was formerly senior account executive for sales and marketing activities in parts of Illinois and all of Indiana and Michigan.

Jose Chirinos has been promoted to account executive for the Miami area. He joined Crowley's Miami operations in 1975 as traffic coordinator involved in booking, documentation, rating, and customer services. Mr. Chirinos will be responsible for marketing Crowley's services within the Miami area.

**E.D. Panosh Will Head
Worldwide Sales As
VP For Clyde Iron**

Clyde Iron, a unit of AMCA International Corporation, Houston, has announced the appointment of Emery D. Panosh as vice president-international sales for Clyde Iron. He will be responsible for worldwide sales of the entire Clyde product line, with the exception of the United States and Canada, with his base in Houston.

Mr. Panosh joins Clyde Iron after serving as general sales manager (offshore, marine, and construction) for Skagit Corporation, a subsidiary of Bendix Corporation located in Sedro-Woolley, Wash. His appointment is part of a reorganization of the Clyde Sales Department, expanding and deepening coverage of the international market. In this capacity, he will coordinate closely with the sales activities of Span International, AMCA's international sales unit.

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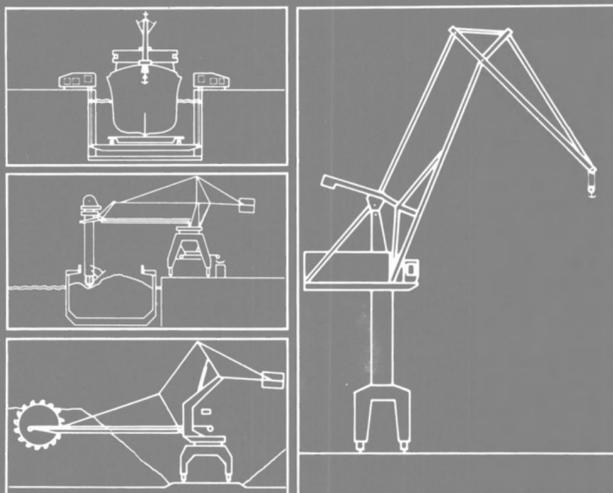
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Propulsion System For Product Carriers Discussed At Philadelphia SNAME



Participants at recent SNAME Philadelphia Section meeting included (seated, left to right): K. Gyswyt, J.J. Henry Co., Section chairman; J.W. Dirriwachter, General Regulator, author; Capt. J. Janda, USCG, discussor. Standing: T.P. Campbell, Sun Ship, coordinator; C. Hatton, Bailey Meter, discussor; J.J. Hibbits, General Electric, discussor; E. Jung, Sulzer Brothers, discussor.

At a recent meeting of the Philadelphia Section of The Society of Naval Architects and Marine Engineers, 74 members and guests heard a paper titled "Control and Instrumentation of Slow-Speed Diesels," presented by John W. Dirriwachter, manager, General Regulator Department of Forney Engineering Company.

Prior to the technical session, Section chairman K. Gyswyt presented the following nominations for officers for the 1980-81 sea-

son, all of which were carried unanimously: chairman, James J. Hibbits, General Electric; vice chairman, Thomas P. Campbell, Sun Ship; secretary-treasurer, Dean S. Champlin, Selby Battersby. Elected to the Executive Committee were: K. Gyswyt (chairman), Charles W. Lofft, and Keith W. Lawrence.

Mr. Dirriwachter's paper centered on the propulsion units for the two products carriers now under construction at Sun Ship in

Chester, Pa. for subsidiaries of Sun Oil. The paper also described the control and alarm systems, and some of the inner workings of the slow-speed diesel engine and its main support systems.

Formal discussions of the paper were presented by: Capt. J. Janda, USCG, Philadelphia; E. Jung, Sulzer Brothers; C. Hatton, Bailey Meter; J.J. Hibbits, General Electric; and H. Wood, Sun Transport.

Coast Guard Sets Up New Navigation Office

The U.S. Coast Guard has established a new Office of Navigation to provide greater management support for its expanding aids-to-navigation program. Adm. John B. Hayes, Coast Guard Commandant, ordered the reorganization at Headquarters to improve navigation services to the public and to make more efficient use of personnel, materials and new technology.

The Navigation Office, under the direction of Rear Adm. Richard A. Bauman, will have overall responsibility for nearly 48,000 lights, buoys, and daybeacons, and 39,000 private aids on U.S. navigable waters. It will oversee an extensive radio navigation network that includes 36 Loran-C transmitters and seven monitoring stations, four Omega stations, and 197 radiobeacons. The new office also will issue bridge permits and enforce laws and regulations regarding their construction and maintenance over U.S. waterways.

The newly created office assumes the navigation responsibilities previously held by the Coast Guard's Office of Marine Environment and Systems.

The aids-to-navigation program has grown rapidly during the past decade. It now involves about

10,000 military and civilian personnel, and accounts for nearly 25 percent of the Coast Guard's budget. Eighty-five cutters and 66 smaller navigation teams maintain the aids, with additional support from 22 Coast Guard bases, four depots and 11 other facilities.

Agri-Trans Names New Manager At Shipyard

Reggie Barrus, a 23-year veteran of the marine industry, has been named manager, Kenner Shipyard, by Lloyd Eneix, Agri-Trans's vice president, operations.

Mr. Barrus is responsible for the overall management of the shipyard operation, including overseeing financial accounting and other office-related activities. Kenner Shipyard is located near New Orleans.

Prior to joining Agri-Trans, Mr. Barrus worked for the Oilfield Services Division of Geosource, Inc. (formerly Hunt Tool Company Shipyard) from 1962 until now. His most recent position with Geosource was as manager, marine engineering.

Agri-Trans Corporation is an interregional cooperative transportation and barging company with offices in St. Louis and New Orleans.

J.R. Corrado Promoted At A. Johnson & Company



John R. Corrado

John R. Corrado has been promoted to Eastern regional sales manager for welding products by A. Johnson & Company, Inc., Lionville, Pa. A. Johnson & Company, a multiproduct organization with sales of approximately \$750 million, is the U.S. member of the Axel Johnson Group of worldwide companies.

Mr. Corrado will be responsible for coordinating sales activities in New England, Virginia, Delaware, Maryland, North Carolina, South Carolina, and part of New York, New Jersey, and Pennsylvania. He formerly held the positions of traffic manager, quality assurance manager, and operations manager at A. Johnson.

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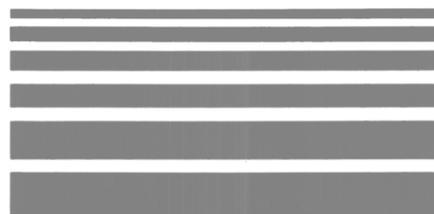
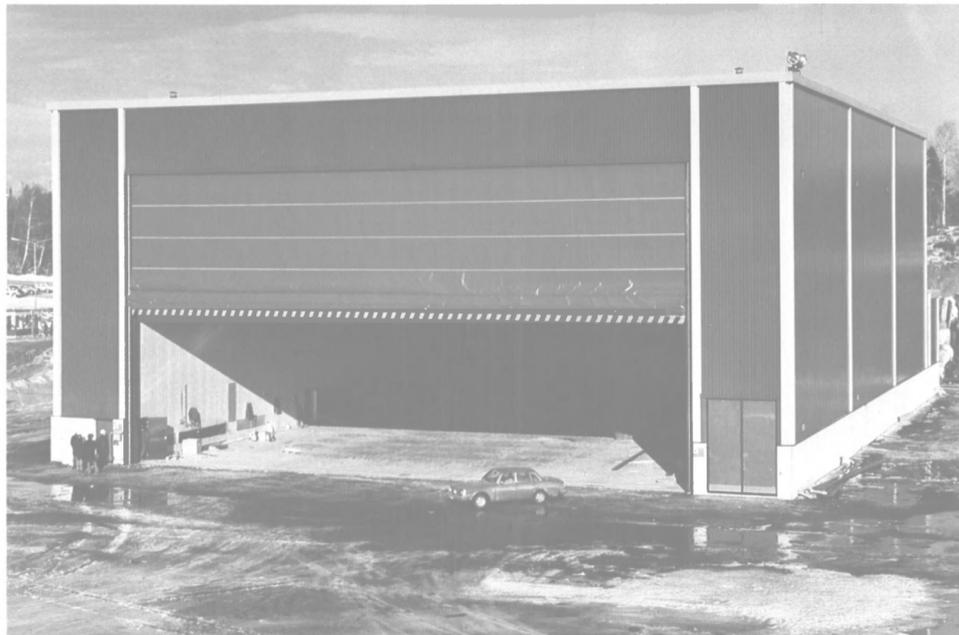


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**New Low-Stretch Rope
Announced By Samson—
Literature Available**

A new synthetic fiber rope designed for applications where manila has long been used has been developed by Samson Ocean Systems, Inc. of Boston. Called Hy-Grip Spun Braid, this new double-braided rope uses the Samson

Parallay™ construction combined with Type 77 polyester fiber and Samson's advanced Duron fiber technology.

Samson Hy-Grip features a nubby surface that is said to provide excellent knot holding and smooth handling. The double-braid construction is torque-free and non-kinking for smoother working in blocks and fairleads where manila rope has been used

previously. It can be spliced according to standard Samson procedures.

Hy-Grip conforms to Mil Spec MIL-R-24536, which is described as rope, fibers, double-braided, continuous polyester filament with a staple—developed by the government for the replacement of manila by the U.S. Navy, Army, and Air Force. Specialized applications include in-haul and out-

haul lines, halyards, and as high-line transfer line.

The new rope is available in a size range from 3/4-inch circumference (1/4-inch diameter) to 5-inch circumference (1 1/8-inch diameter), and with minimum breaking strengths from 1,700 to 50,000 pounds. Elongation of Hy-Grip is reported to be under 25 percent at break.

For free literature on Hy-Grip Spun Braid, write to Gale Foster, Samson Ocean Systems, 99 High Street, Boston, Mass. 02110.

**G.T. Flanagan Named
Norfolk General Manager
For McAllister Bros.**

George T. Flanagan has been appointed general manager of McAllister Brothers, Inc., Norfolk Division. The announcement was made by Anthony J. McAllister Jr., president of the New York-based towing and transportation company.



George T. Flanagan

Formerly assistant general manager in the Norfolk office, Mr. Flanagan joined McAllister Brothers in 1979. Previous to that, he held three commands in the U.S. Navy. Among them, command of the auxiliary ocean tug Allegheny (ATT-179), and the destroyer USS Hull (DD-945). From 1971 to 1974, Mr. Flanagan served in the Office of the Chief of Naval Operations, and was a member of the Navy-MarAd Initiatives Working Group.

A 1958 graduate of the U.S. Merchant Marine Academy, Mr. Flanagan recently retired from the U.S. Navy as a captain selectee.

**R. Malkus And W. Boyer
Named Vice Presidents
At Matson Terminals**

Robert J. Malkus has been promoted to vice president, marketing and special projects, and W.N. Boyer to vice president, facilities and maintenance, for Matson Terminals, Inc., according to an announcement by company president M.S. Wasacz.

Mr. Malkus formerly was manager, special projects, and Mr. Boyer was staff engineer for this terminal and stevedoring subsidiary of Matson Navigation Company, San Francisco.

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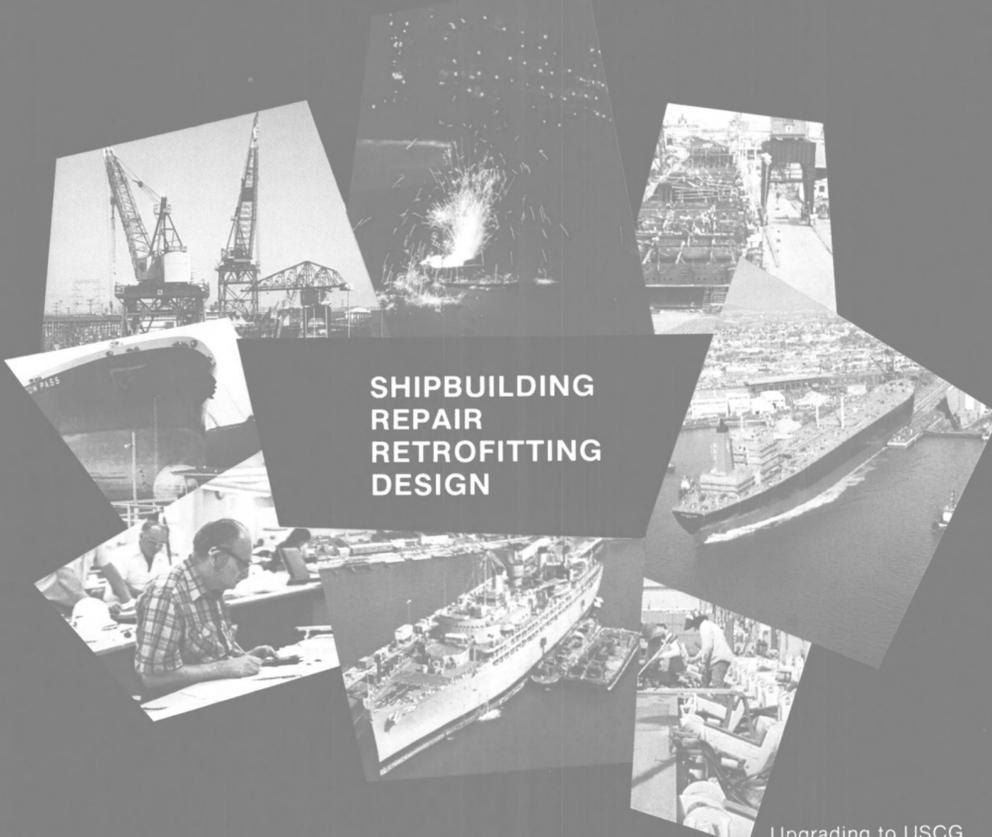
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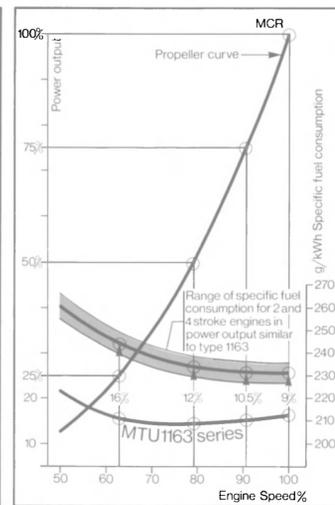
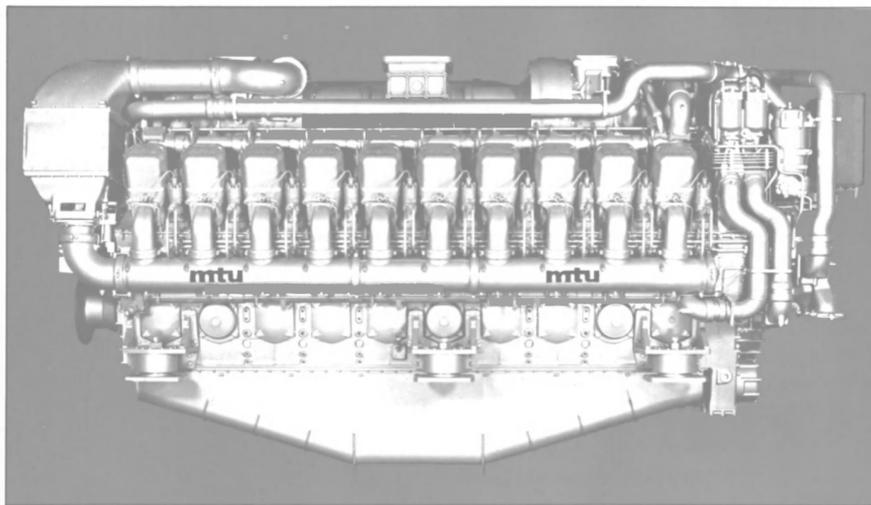


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sumes less fuel than any comparable engine—as much as 10% less. Over an engine's lifetime, the savings are tremendous. These savings, together with MTU's complete power package availability, ease of engine maintenance, complete service/parts back-up and service, and service parts exchange program, has solved a number of marine propulsion problems. Decades of testing and technology have resulted in this progress and because of our experience and expertise, we can satisfy your marine propulsion needs.



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Norton, Lilly Announces Management Changes

Capt. Jack Wright, formerly manager in Mobile, Ala. for Norton, Lilly & Company, Inc., has been appointed manager of the New Orleans office, replacing M.A. Leonard who is being transferred to a new assignment in the company's headquarters office in New York City.

Harold K. Zimmerman replaced Captain Wright as manager in Mobile. Until recently he was associated with Dixie Stevedores Inc. in New Orleans, a wholly owned subsidiary of Norton, Lilly.

Janet K. Jackson, who was assigned temporarily to the New York office, has returned to New Orleans and has been appointed manager, data processing, Gulf area.

McDermott S.E. Asia Subsidiaries Receive \$60 Million In Contracts

J. Ray McDermott & Co., Inc.'s subsidiaries in Southeast Asia have recently been awarded contracts with values totaling more than \$60 million.

The following are the major projects which make up approximately \$50 million of this total.

Union Oil Company of Thailand, a wholly owned subsidiary of Union Oil of California, awarded McDermott International, Inc.—formerly Oceanic Contractors, Inc.—a contract for offshore platform work in Thailand's Erawan Field. The work involves fabrication, transport and hook-up of a central production platform deck, four production decks, a living quarters deck, two personnel bridges and a flare bridge. Completion of the project is scheduled for the second quarter of 1981.

Atlantic Richfield Indonesia, Inc., has awarded P.T. McDermott Indonesia, Inc., a series of contracts in the continuing development of the Ardjuna Field facilities. Contracts call for the fabrication and installation of 10 tripod jackets, one four-pile jacket and five production decks. Also included are the laying of approximately 82,000 feet of flow lines and the modification of existing production facilities. Completion of these projects is scheduled for August of this year.

Singapore International Airlines awarded McDermott South East Asia (Pte.) Ltd. a subcontract to build and erect a column-free hangar roof at the new Changi International Airport in Singapore. When completed in the third quarter of 1981, the hangar will have enough room to service three Boeing 747s and two narrow-bodied aircraft simultaneously.

P.T. McDermott Indonesia received a contract from IIAPCO, a division of Natomas Interna-

tional Corporation, to fabricate and install two drilling/production platforms and lay 80,000 feet of 16-inch insulated marine pipeline in the Krisna Field in the Java Sea. The project is scheduled to be completed by the end of this year.

Fabrication work for these contracts will be done at McDermott's fabrication facilities at Batam Island, Indonesia.

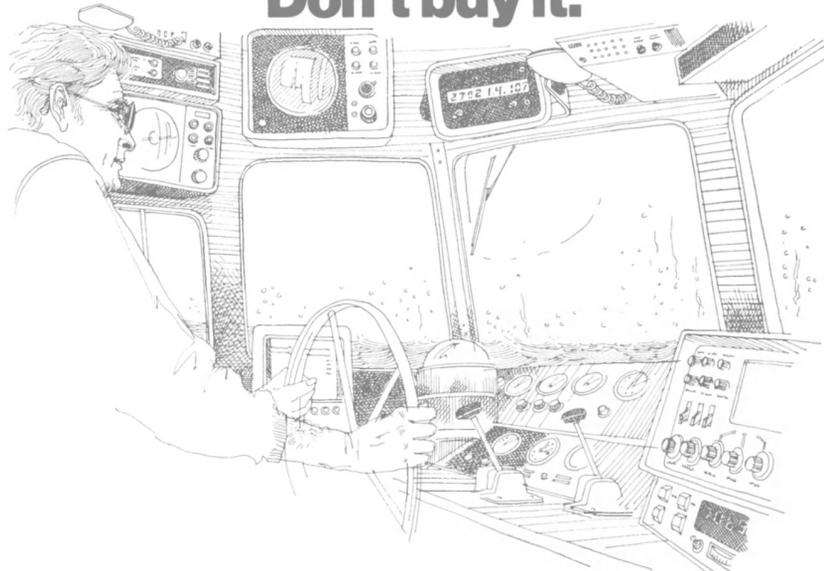
The remaining contracts, which amount to approximately \$10 million, include the fabrication of an eight-pile platform for offshore Brunei, the fabrication and installation of two offshore drilling platforms in the Sumatran area of Indonesia, and the fabrication and installation of geothermal facilities in the Philippines. Also, P.T. McDermott Indonesia is constructing a barge wharf and

dredging a harbor in East Kalimantan, Indonesia, and fabricating a barge for use in that area.

McDermott is a leading international energy services company. The company and its subsidiaries provide engineering and construction services to the offshore oil and gas industry and manufacture steam generating equipment, tubular products, refractories, and automated machine tools.

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Inc. • (713) 482-9500

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77547 • (713) 453-7173

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Box 330, Brazoria, TX 77422
(713) 798-2255

Pt. Lavaca, TX • F. H. Diebel, Jr. • 707½
West Main St., 77979 • (512) 552-3224

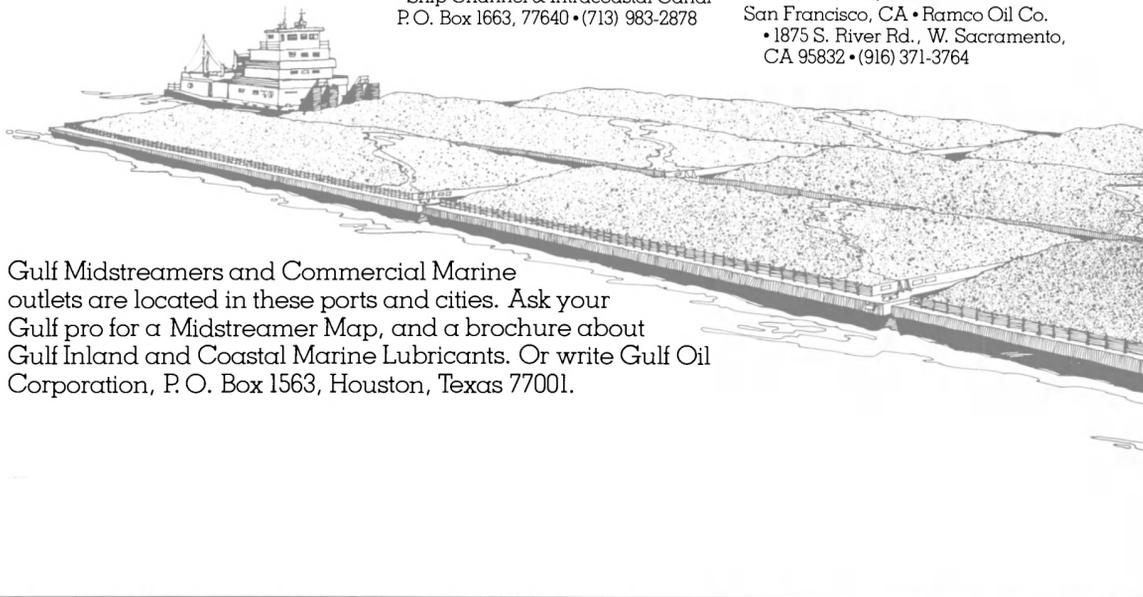
Aransas Pass, TX • Jack J. Johnson • 1180
S. Euclid St., 78336 • (512) 758-3411

Corpus Christi, TX • C. H. Cagle • 100 N.
Brownlee, 78404 • (512) 882-3381

Brownsville, TX • Harry L. Faulk • #3
East Third St., 78521 • (512) 542-7451

Pacific Coast

Port of Sacramento, CA
Port of Stockton, CA
San Francisco, CA • Ramco Oil Co.
• 1875 S. River Rd., W. Sacramento,
CA 95832 • (916) 371-3764



Gulf Midstreamers and Commercial Marine outlets are located in these ports and cities. Ask your Gulf pro for a Midstreamer Map, and a brochure about Gulf Inland and Coastal Marine Lubricants. Or write Gulf Oil Corporation, P.O. Box 1563, Houston, Texas 77001.

the water.

Santa Barbara, CA
Ventura, CA
Port Hueneme, CA
T. W. Brown Oil Co., Inc. • 1457 Fleet
Street, Ventura, CA 93003 • (805)
644-7353

Mississippi River

St. Paul, MN • Gopher Oil Co. • 2500
Delaware Ave., S.E., Minneapolis,
MN 55414 • (612) 331-5936

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712, 52001 • (319) 583-3563

Moline, IL • BRU-SUN Co., Inc. • 6600
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(901) 775-3131 • KXE-302 Channel 11

Memphis, TN • Waterways Marine, Inc.
• Foot of Beale St., 38103
(901) 522-5761 • KJC-771 Channel 16

Helena, AR • Helena Marine Service,
Inc. • P.O. Box 428, 72342
(501) 338-8765 & 338-8508 Day
338-8765 Night • KLG-287

Greenville, MS • Waterways Marine of
Greenville, Inc. • P.O. Box 1378,
Warfield Point Greenville, MS 38701
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Serv., Inc. • Mile 437, 39180
(601) 636-4814

Baton Rouge, LA • Channel Fueling
Serv., Inc. • P.O. Box 3142, 70821
(504) 383-4691

Port Allen, LA • Tri-State Marine
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(504) 749-3171 • KAK-216

Gretna, LA • John W. Stone • 87 First
Street, 70053 • (504) 366-3401 &
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New Orleans, LA • Channel Fueling
Serv., Inc. • (504) 368-1416

New Orleans, LA • Gulf Outlet Fuel &
Marine Supplies, Inc. • P.O. Box
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Venice, LA • Petroleum Products of
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(504) 455-2077 (Metairie)
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Center Blvd., 15235 • (412) 824-9900

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Louisville, KY • Wooten River Service &
Supply Co. • P.O. Box 6686, 40206
(502) 896-0317 • KDO-737

Rockport, IN • M & P Contract Co. • P.O.
Box 47, 47635 • (812) 649-2191

Paducah, KY • Molloy Marine Service,
Inc. • 1136 S. 3rd, 42001
(502) 443-6456 • KRS-857 Channel 16

Paducah, KY • Walker Midstream
Service • 532 S. 2nd, 42001
(502) 442-0925 & 442-2738 • KEW-827
Channel 16

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Chicago, IL
Lockport, IL
Joliet, IL
CHC Supply, Inc. • 120 Fairbank St.,
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Peoria, IL • Midwest Oil Co. • 1245 W.
Washington, East Peoria, IL 61611
(309) 694-3413

Missouri River

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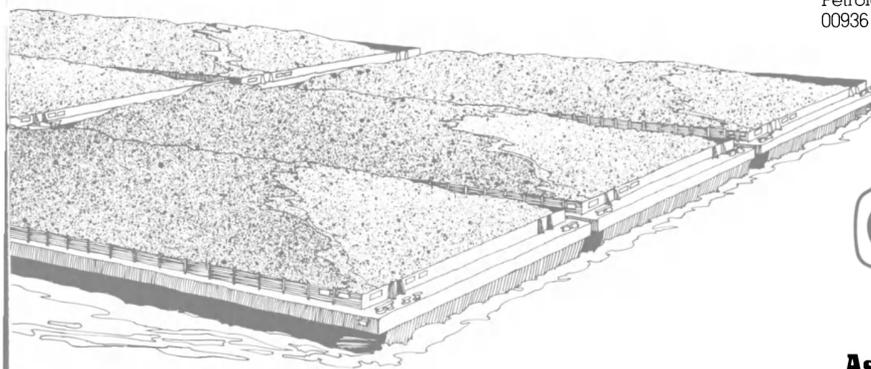
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Ask the pro from Gulf.

TURBO GENERATOR SETS

1 G.E. 1500 KW A.C. TURBO GENERATORS
1500 KW — 450/3/1200 RPM — 0.8 PF — 2450 amps — 525 PSI — 850°TT — 8145 RPM — 11-stage geared 8145/1200 — type FN4 — 3 1/2" steam inlet. Unit will deliver full power at 440 lbs & 750°TT. OAL 16' 3-3/8" — OAW 6'6" — OAH 7'5 1/4" — wt. 36000 lbs. Almost equal to new. Very little use. With ABS or Lloyds.

2 G.E. 600 KW GEARED TURBO GENERATORS
450/3/60/1200 RPM — 961 amps — type AT1 — 0.8 PF. TURBINE: FSN-FN-20 6-stage — 525 lbs/825°F — superheat 355°/371°F. GEAR: 10033/1200 — RPM 10033 — total — 6390 lbs. steam/hr. steam flow.

3 G.E. 400 KW TURBO GENERATORS
450/3/60/1200 — 0.8 PF — 641 amps. TURBINE: 6-stage — 10059 RPM — 525 lbs/825°TT — type GE 618N. Steam rate 5100 lbs/hr. — OAL 10' 10 1/2" — OAW 4' 10 1/2" — OAH 5' 5 1/4" — wt. 14,855 lbs.

4 400 KW WESTINGHOUSE TURBO GENERATOR SETS FOR BETH SPARROWS POINT HULLS 4467 TO 5400; QUINCY HULLS 1600 SERIES
400 KW (500 KVA) — 0.8 PF — 1200 RPM — 450/3/60. TURBINE: 585 lbs — 840°TT — 28 1/2" vacuum — 9018 RPM — serial 10A4462-3 & 10A4462-4. GEAR: 9018/1200 RPM. A.C. GENERATOR: 500 KVA — 400 KW — 450 volts — 641 amps — 0.8 PF — 3-phase 60-cycle — 1200 RPM — CR 40° — excitation amps 41 — excitation voltage 120. Instruction book 5442. Switchgear available.

5 UNUSED WESTINGHOUSE 60 KW 120 VDC M-20-EH
120 VDC — 1800 RPM. TURBINE: M-20-EH — 20 lbs dry & saturated — 25" vacuum. 7283 RPM. GEAR: 7283/1800. GENERATOR: 60 KW — 120 VDC — 500 amps — SK — stab. shunt wound.

6 UNUSED 500 KW DELAVAL-WESTINGHOUSE GEARED TURBO GENERATOR
GENERATOR: Westinghouse 500 KW — 120/240 volts DC — 2080 amps — 1200 RPM — stab. shunt. TURBINE: DeLaval — 730 HP — 440 PSI working — Temperature 740° — 9977 RPM. HELICAL GEAR: 9977/1200 RPM. Serial # of turbine 245204 — weight 22,000 lbs.

TURBINES & ROTORS

BETH-SPARROWS POINT, QUINCY HULLS

7
1 HP Turbine or rotor — Bethlehem
1 400 KW Stator only — Westinghouse
1 HP turbine casing only — Bethlehem
1 Complete Westinghouse 400 KW turbo generator set
1 Forced draft motor fan
1 Anchor windlass — 2 11/16"
Steering gear motors — 15 HP
Forced draft fan impeller

WESTINGHOUSE C-25 CARGO PUMP TURBINE ROTOR

8 VICTORY-AP2 MAIN PROPULSION
Westinghouse AP2 19-stage HP rotor for 6000 HP Victory — serial #4A-2079 — equal to new. Unused surplus AP2 — Victory Ship complete HP & LP turbines
Allis-Chalmers HP & LP
Westinghouse LP AP2 with throttle valve
G.E. HP & LP with throttle valve

9 VICTORY-AP3 MAIN PROPULSION NEW 8500 HP G.E. TURBINES
Large Victory or C-3
HP #72271 LP #72272
10 Boxes spare parts, tools & fittings. With maneuvering valves.

10 8500 HP G.E. — C-3 OR VICTORY
H.P. — 8-stage — 6159 RPM — serial 62043
L.P. — 8-stage — 3509 RPM — serial 62042
G.E.I. 16263

11 VICTORY SHIP AUXILIARY TURBO GENERATOR SET ROTORS
300 KW 5965 RPM JOSHUA HENDY
Turbine — 3H-69 Gear — 52269
Turbine — 3H-52 Gear — 52252
Turbine — 3H-62 Gear — 52262
ALSO WESTINGHOUSE 2A & 5A SERIES

- FOR T-2 VESSELS -

12
TURBINE: DORV-325M — 525 KW — 5645 RPM — 435 PSIG — 28" exhaust. REDUCTION GEAR: S-162 — form D — 5641/1200. A.C. GENERATOR: 500 KVA — 400 KW — 440/3/60 — 1200 RPM — 0.8 PF. D.C. EXCITATION GENERATORS: 75/55 KW — form AL — 110 volts DC. With new type amplydines.

13 538 KW WESTINGHOUSE T-2 AUXILIARY GENERATOR — COMPLETE
TURBINE: 538 KW @ 5010 RPM — 438 PSIG — 750°TT — 28 1/2" vacuum. GEAR: 5010/1200 RPM. A.C. GENERATOR: 400 KW — 450/3/60/1200 — 0.8 PF. DC EXCITER: 32.5 KW — 120 volts (variable voltage) — shunt — 4-pole — DC excitation 5 KW. ALWAYS WELL MAINTAINED BY MAJOR OIL CO.

14 T-2 UNUSED G.E. MAIN PROPULSION STEAM TURBINE WITH ROTOR
10-Stage — 435# — 720°TT — turbine complete with rotor — serial #109166 — 4925/5400 KW — 3600/3720 RPM — 28.5" vacuum.

15 WESTINGHOUSE MAIN PROPULSION STEAM TURBINE WITH ROTOR EX-CHEVRON VESSEL "MACGAREGILL"
Shrouded—like-new condition. Will sell rotor separately. WESTINGHOUSE MAIN PROPULSION TURBINE Ex"Pecos" — unshrouded — serial 2A-7733-2 type A

16 UNUSED G.E. MAIN PROPULSION STATOR
Type ATB-2—serial #6978272. 2300/2370 volts — 60/62 cycles — 3-phase — 3600/3720 RPM — armature amps 1237/1315 — 4925/5400 KW — 1.0 PF. Westinghouse stator — from Ex "Pecos"

17 WESTINGHOUSE 538 KW AUX. GENERATOR EXCITER ARMATURE
We have both types:
110 KW — 32 KW — 5.5 KW
110 KW — 28 KW — 5.5 KW

18 538 KW WESTINGHOUSE AUXILIARY TURBINE ROTORS

19 WESTINGHOUSE T-2 TANKER MAIN GENERATOR COOLERS & MAIN MOTOR COOLERS

Reconditioned — with A.B.S. Units all ready to ship. Also G.E. Main Generator Coolers

20 G.E. 525 KW AUX. GENERATOR EXCITER ARMATURE
75-55 KW

21 NEW STYLE AMPLIDYNE
5LY148A2 — type A.M. — frame 605

22 AUXILIARY GENERATOR ROTORS
G.E. aux. generator rotors — DORV-325M — for 525 KW turbo generator sets

23 T-2 MAIN CARGO PUMPS
Ingersoll-Rand 6GT — 2-stage — bronze — 2000 GPM — 28' head

24 LATEST DESIGN 5-SPEED FORCED DRAFT FAN MOTORS
G.E. Model 5M505FE-1 — frame 5055—type M—440/3/60 — serial S.E.6731807. Controller available. (Complete with fan impeller)

25 T-2 SHIPS SERVICE AIR COMPRESSORS
Worthington—5 1/2 x 3 1/2 x 3 1/2 — VA2 — 20 C.F.M. — 100 lbs. — 5 H.P. Motors — 440/3/60 — 1750 RPM.

WESTINGHOUSE DRY TYPE T-2 CARGO PUMP TRANSFORMERS

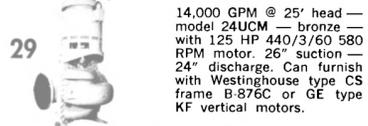
26
200 KVA — single phase — 60 cycle 2300/450 volts — weight 3720 lbs. each. 4 available.



27 G.E. PYRONOL OIL COOLED TRANSFORMERS
200 KVA — single phase — 60 cycles — 2300/450 volts — 3 available.

28 MISCELLANEOUS DRY-TYPE TRANSFORMERS
Lighting Transformers—15 KW— 450/120 volts
Galley Power Transformers—15 KW—450/220 volts

29 INGERSOLL-RAND 4,000 GPM MAIN CIRCULATOR
14,000 GPM @ 25' head — model 24UCM — bronze — with 125 HP 440/3/60 580 RPM motor. 26" suction — 24" discharge. Can furnish with Westinghouse type CS frame B-876C or GE type KF vertical motors.



PUMPS

30 BRONZE T-2 TANKER STRIPPING PUMPS
14x14x12 — 700 GPM at 100 lbs. Same pump available in steel for fuel oil transfer, etc.



31 WESTINGHOUSE 200 H.P. CARGO PUMP MOTORS
440/3/60 1750 RPM — 40°

32 MISSION TANKER T2SEA2 CIRCULATING PUMP MOTOR
150 HP — 440/3/60/590 RPM. Frame 6335 — type KF — 204 amps

33 T-2 MAIN ROTOR LARGE G.E. MAIN PROPULSION SCHEENCTADY TURBINE ROTOR
Turbine serial 77418 — reconditioned with certificate. Just out of Beth shop 1970

34 T-2 MISCELLANEOUS, PUMPS ETC.
10 HP Labour Self-Priming Bilge Pumps • Rudder 13 1/2" Rudder Stocks • Main Injection 3-Way Valve Main Condensate Pumps • Fuel Oil Service Pumps Magnablast Breaker • 1 Set New Bull Gear & Pinion for G.E. 525 K.W Diesel Gen Model S-162 • 32", 24", 15" Rubber Expansion Joints • Mission Tanker Steering Gear Pumps

35 TURBINE FIRE PUMPS — BRONZE
Worthington turbine — 440W — 448° — 3500 RPM — 75 HP — 15# back pressure — 750 GPM @ 125 lbs — 6" suction — 4" discharge.



NEW BLACKMER FUEL OIL TRANSFER PUMP

36 Rotary — 50 GPM — 50 lbs. — 2" — 5 HP — 440/3/60 — with starter & spares



UNUSED BRONZE FEED-WATER BOOSTER PUMPS

37 220/237 GPM @ 144' head — 2-stage — 1750 RPM with 30 HP 440/3/60 motor control & spares. Built for USN



QUIMBY-ROTEX LUBE OIL SERVICE PUMP

38 Quimby-Rotex — size 6D — 500 GPM @ 70 lbs — 6"x6" flange — 720 RPM. MOTOR: Allis-Chalmers — 40 HP — 230 VDC — type EBV-1473 — stab. shunt — 148 amps. Complete with starter and rheostat — designed originally for C-1MAV-1 vessels.



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

39 1400 GPM @ 110 PSI; suction lift 11.5 ft. Steam back pressure 15 lbs. Suction 14" — discharge 10" — steam 2 1/2" — exhaust 4". Overall width 6' 8" — overall height 9' 1 1/2" — depth 3' 9 1/2" — approx. wt. 10,000 lbs.



NEW WORTHINGTON VERTICAL SUBMERSIBLE BILGE PUMP

40 For emergency use on passenger ships, etc. PUMP: JAS — 264 GPM — 171' head — two 6" inlets — one 5" outlet. MOTOR: 40 HP — 230 VDC — 149 amps.



MOTOR-DRIVEN GARDNER-DENVER RECIPROCATING BILGE PUMP

41 50 GPM — 150 PSI — Model ALAXE — serial #106335. 3 3/4" bore — 4" stroke — 2 1/2" suction — 2" discharge. 51" long — 21" wide — 21" high — weight 750 lbs. MOTOR: Diehl — 2.5 HP — 440/3/60 — 1750 RPM — 3.53 amps.



GOULD FIRE AND BILGE PUMP

42 Ex-LST — horizontal centrifugal — bronze — 4" suction — 3" discharge — 250 GPM @ 100 PSI — 2200 RPM. MOTOR: 30 HP — 230 VDC with magnetic starter.



AURORA HEAVY DUTY BRONZE FIRE SERVICE PUMP

43 Single stage — 2 1/2" suction — 2" discharge. 3000 RPM — 250 GPM. 100 lb. head. Impeller diameter 9 1/2". MOTOR: Air cooled heavy duty 25 HP Reliance T type ON-2S-2 1/2 230 VDC — 110 amps — stab. shunt.



ON METALS CO.

RE ST. • BALTIMORE, MD. 21202

Warehouse (301) 752-1077

DIESEL GENERATOR SETS

44 410 KW ENTERPRISE DIESEL GENERATOR SET

Enterprise DSG-6 6-cylinder diesel engine driving Westinghouse generator. 250 volts DC — 1640 amps — 650 RPM — shunt wound.

AUTOMATIC TENSIONING 12X14 STEAM WINCH



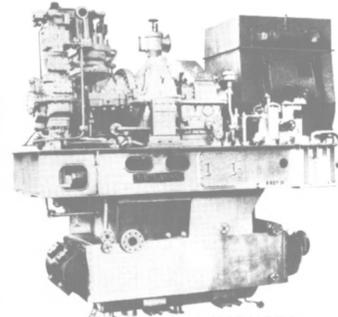
American Engineering. Drum diameter 24". Will stow 1500 ft of 1 1/2" in 8 layers. Capacity 1st layer: 20,000 lbs/100 FPM — 16,000 lbs/50 FPM. Drum width 2' 6 3/4". Steam inlet 3" — exhaust 4". 8' 4 1/2" wide over cylinders. Base 6' x 6' 3 1/2".

MISCELLANEOUS

47

IF YOU'RE GOING TO JUMBO-IZE YOU CAN ECONOMIZE WITH THESE ALLIS-CHALMERS — DELAVAL 1000 KW GEARED MARINE TURBO-GENERATORS

If you are contemplating the new construction of TANKERS, ORE CARRIERS, CONTAINER VESSELS, ETC.



YOU CAN SAVE THOUSANDS OF DOLLARS

with these modern, practically new units — built to highest Navy standards. Send for our free descriptive brochure. You'll be glad you did... and money ahead!

IMPORTANT INFORMATION

DELAVAL TURBINE: 1442 HP — 10019 RPM — Class GJ-N — 9-stage — 10,000 RPM — 1050 PSI — 950°TT — condensing steam rate 10.30 lbs. Typical serial number 652468. DELAVAL DOUBLE HELICAL GEAR: 10000/1200 RPM — Allis-Chalmers — 1000 KW — 450 volts — 3-phase — 60 cycle — 1200 RPM — 0.8 PF — static excitation — totally enclosed air-to-water cooling — temperature rise: Stator 130°C — Rotor 110°C — class H insulation — typical serial number 160615 — type M.A.K.G. Complete with 525 sq.ft. condenser — 190 lbs/hr air ejector — oil coolers — strainer — piping & valves — generator switchgear — static excitation control — voltage regulator. Total weight of unit 40,300 lbs. OAL 12' 9" — OAW 6'. Turbo-generator height 5' 8" — total height of turbo-generator & condenser 12' 8". UNITS IN EQUAL-TO-NEW CONDITION. Originally designed for DLG Guided Missile Frigate Program. Installed only about 2 years, then removed and carefully re-boxed by U.S.N. at Bath Iron Works 1964-65. Navy installed larger units due to increased load requirements.

PLEASE NOTE ! EFFECTIVE IMMEDIATELY

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over 18,000 shoreside buyers...
magazine in the entire world***

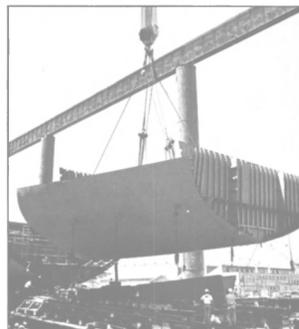
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REQUESTED BY THOUSANDS MORE FOREIGN BUYERS — Than the second magazine, ME/Log.

MOST ADVERTISING PAGES — In 1979, MARITIME REPORTER carried more pages of advertising (7" x 10") than No. 2, ME/Log.

400,000 FREE DIRECTORY LISTINGS — Regular display advertisers in MARITIME REPORTER receive a free listing — company name and address — in the buyers directory section in all 24 issues for one entire year... whether an ad appears in every issue or not. No other marine magazine gives you this continuous sales-building exposure.

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**MARITIME
REPORTER**
AND
ENGINEERING NEWS



At recent FMC keel-laying were (left to right): Howard Lovejoy, president of Puget Sound Freight Lines (PSFL); William Galbraith, division vice president sales, FMC; Daniel R. Rogers, contract administration/marine sales manager, FMC; Donald Foss, vice president, PSFL; and John E. Carroll, Jr., FMC Division president.

FMC Yard Lays Keel For Puget Sound Lines Barge

The Marine and Rail Equipment Division of FMC Corporation, Portland, Ore. laid the keel recently for an oceangoing deckhouse barge that is under construction for Puget Sound Freight Lines of Seattle. The 253-foot barge has a 4,400-ton capacity to carry newsprint and other products in the Puget Sound and British Columbia region. Delivery is scheduled for July this year.

FMC is building the barge to ocean service rules of the American Bureau of Shipping; it will also be certified by the U.S. Coast Guard.

Among those attending the keel-laying were Puget Sound Freight Lines president Howard Lovejoy and vice president Donald Foss; Capt. G. Kirk Greiner Jr. of the U.S. Coast Guard; and senior surveyor Donald Shaver of

the American Bureau of Shipping. Also present was John E. Carroll Jr., FMC Division president.

The Marine and Rail Equipment Division of FMC is a manufacturer of two types of transportation equipment in Portland: marine equipment and railroad freight cars. FMC Corporation, headquartered in Chicago, is a major international producer of machinery and chemicals for industry, agriculture, and government, with 1979 sales of \$3.31 billion.

McDermott Shipyard Group Expands Into Mississippi

J. Ray McDermott & Co., Inc., announced that its Shipyard Group has extended its operations into the state of Mississippi. The Group has purchased a steel-fabricating facility on 10 acres of land on the Industrial Seaway in the Bayou Bernard Industrial District of Gulfport, Miss. It plans to operate shipbuilding and repair facilities there similar to those at its shipyards in New Iberia and Morgan City, La.

According to Shipyard management, the Gulfport yard will enable the Shipyard Group to increase its sales and help to alleviate the backlog at its Louisiana yards. He said the company plans to employ approximately 200 workers there when it is in full operation.

The new facility consists of two fabrication buildings and five smaller structures, launching ways, a boat slip and channel on the Industrial Seaway, a mile and a half north of Gulfport. The Group will use the facilities to build and repair tugboats, barges,

self-contained drilling rigs, fishing vessels, and supply boats. The new yard will also supply subassemblies for projects being carried out at the other McDermott yards.

K.K. George Appointed Operations Comptroller At Bethlehem SB Div.



Kenneth K. George

The appointment of Kenneth K. George to operations comptroller, shipbuilding division, in Bethlehem Steel Corporation's accounting department, has been announced by Dirck W. Armitage, assistant comptroller, operations accounting. Mr. George is advancing from shipyard comptroller of the Sparrows Point, Md. shipyard.

He joined Bethlehem in 1957 as a member of that year's Loop course in management training. After working first in Bethlehem's former shipyard in Quincy, Mass., Mr. George was promoted and transferred in 1962 to administrative assistant in shipyard accounting at the home office in Bethlehem, Pa. There, he was promoted to assistant to the general auditor in 1971. He was named the Sparrows Point yard comptroller in August 1978.

High-Speed Surface Craft Exhibition & Conference

June 24-27
Organized by Hovering Craft and Hydrofoil Exhibitions Ltd., 52 Welbeck Street, London W1M 7HE, England. Metropole Hotel, Brighton, Sussex, U.K. Contact the organizers.

Prevention Of Shipping Fraud, 2nd International Seminar

June 26-27
Organized by the Institute of Chartered Shipbrokers (U.K.) and the Association of Shipbrokers and Agents (U.S.A.). Contact Seminar Organizer, c/o Society of Maritime Arbitrators Inc., 26 Broadway, Suite 1200, New York, NY 10004.

KORMARINE '80: International Shipbuilding, Marine Equipment, Ports & Harbors Exhibition

July 28-Aug. 4
Organized by Industrial and Trade Fairs Limited (ITFL). Contact Tony May, sales man-

Calendar Of Coming Events

ager, ITFL, Radcliffe House, Blenheim Court, Solihull, West Midlands B91 2BG, England; telex 337073.

NORFISHING '80: International Fisheries Fair

Aug. 11-17
Organized by the Norwegian Directorate of Fisheries in collaboration with the Norwegian Fair Organization. Nidaro Hall, Trondheim, Norway. Contact Mrs. Else-Marie Gehrken, information consultant, Norwegian Fair Organization, P.O. Box 130, Skoyen, Oslo 2, Norway; telex 18748.

Shipboard Energy Conservation '80

Sept. 22-23
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, M. Rosenblatt &

Son, Inc., 350 Broadway, New York, NY 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 MAPNY, 80 Broad Street, 34th Floor, New York, NY 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, Tungiusstrabe 18, Messehaus Postfach 302360, Hamburg 36, Federal Republic of Germany; telex 0212609.

International Oil Pollution Prevention Exhibition & Conference

Sept. 23-27
Organized by Hamburg Messe and Congress GmbH. Fair Grounds Congress Centre, Hamburg, West Germany. Contact Millard F. Smith, co-chairman, IOPPEC, c/o Slickbar, Inc., 250 Pequot Avenue, Southport, Conn. 06490; (203) 255-2601.

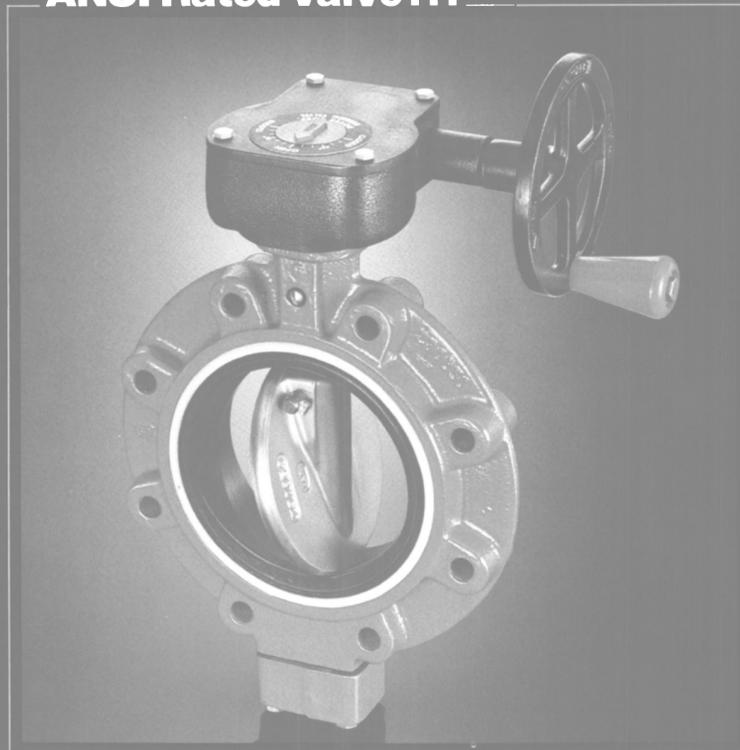
SNAME Annual Meeting

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 Exhibition & Conference

Nov. 25-29
Organized by the Europort Group. RAI Halls, Amsterdam, the Netherlands. Contact Peter K. Johnson, Europort Inc., 6006 Bellaire Boulevard, Suite 101, Houston, Texas 77081; (713) 666-5188.

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**Marathon Marine Awards
Contracts For 2 Barges
—Will Purchase 2 Tugs**

Marathon Oil Company, Findlay, Ohio, announced recently that its newly formed subsidiary, Marathon Marine Inc., has awarded contracts to Galveston Shipbuilding Company of Galveston, Texas for the construction of two deep-

notch oceangoing barges. The barges, which are scheduled for delivery in 1981 and 1982, are part of a \$38-million commitment by Marathon to supply bunker fuel to ships arriving at the Louisiana Offshore Oil Port (LOOP). As part of this project, Marathon Marine will also purchase two oceangoing tugboats. Each tug/barge unit will be equipped with the latest safety and navigational

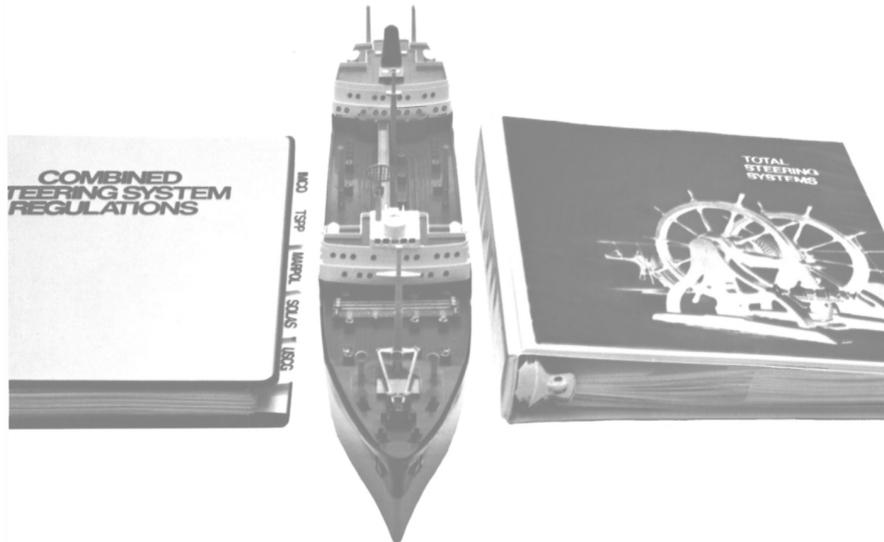
equipment and will meet U.S. Coast Guard and LOOP specifications.

Each barge will have a capacity of approximately 20,000 metric tons (125,000 barrels). These barges will give Marathon Marine Inc. sufficient capacity to transport the bunker fuel requirement for tankers arriving at LOOP. The barges will also have

the ability to deliver fresh water and dry stores.

Marathon Oil Company intends to market fuels ranging from marine diesel oil to high viscosity bunker fuel using components provided by Marathon's Garyville Refinery. The barge design will incorporate sophisticated onboard blending equipment for custom blending to meet individual tanker fuel requirements.

The Law of Demand...and Supply



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schedule, including cost and time estimates, and all the services required.

Sperry provides system design review, submission of proposal for regulatory body approval, installation supervision, assistance during final inspection, and supervision of sea trials.

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**Tomlin Named To VP
Post At National Marine
Shipyard Division**



Stephen L. Tomlin

Stephen L. Tomlin has been promoted from planning coordinator to division vice president-administration of the Shipyard Division, National Marine Service Incorporated.

The division operates a full-service shipyard that repairs towboats and barges operating on the Mississippi River and throughout the inland waterways system. The yard is located at Hartford, Ill. near the Alton locks above St. Louis.

The announcement was made by David A. Wright, president of National Marine, at the company's St. Louis headquarters.

**Nick Carter To Direct
National Marketing For
Crowley Maritime Division**

Nick Carter has been promoted to the position of director, national accounts, responsible for directing Crowley Maritime Corporation Caribbean Division's national accounts marketing program, according to an announcement by Robert G. Homan, senior vice president and general manager of the division.

Mr. Carter's association with ocean transportation in the Caribbean trade area spans a period of 15 years. For the first nine years, he served in the positions of district and regional marketing manager for TMT Trailer Ferry until Crowley Maritime Corporation purchased the company in 1974. He was then appointed Midwest regional marketing manager for Crowley's Caribbean services.

Mr. Carter will relocate to Crowley's Divisional Headquarters located at 815 Haines Street, Jacksonville, Fla. 32206.

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A Syncrolift® 184 meters (604 feet) long, by 32 meters (105 feet) wide, completed only 18 months after contract signing at the shipyard of Tandanor, Buenos Aires, Argentina, for vessels up to 40,000 dead-weight tons.

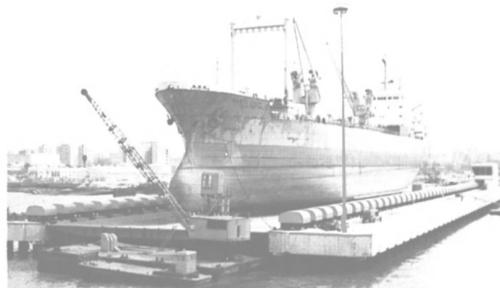


Above: Artist rendering showing completed shipyard.
Left: Contraalmirante (RE) D. Juan Luis Poggi, President of Tandanor S.A., in the Syncrolift® Control Room.



25,000 DWT vessel on platform awaiting transfer.

Vessel 30 minutes later in extreme rear transfer area.



Water level view of 25,000 DWT vessel on platform.

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**MarAd Approves Title XI
Covering \$36-Million
Conversion Of 'Lurline'**

The Maritime Administration has approved in principle an application from Matson Navigation Company, San Francisco, for a Title XI mortgage guarantee to aid in financing the reconstruction

of the roll-on/roll-off trailership Lurline.

The reconstruction of the ship, to be performed by Sun Shipbuilding, Chester, Pa. will include the addition of a 126.5-foot cellular midbody and conversion of cargo space forward of the deckhouse to a cellular containership structure. The Lurline's hull will be strengthened to accommodate

the additional containers, and auto decks with access ramps will be added in one hold.

In addition, the main deck will be strengthened and fittings added for possible carriage of containers on deck. The reconstructed ship will have a capacity of 726 twenty-four-foot containers, 71 forty-foot containers, 129 forty-foot trailers, 80 refrigerated con-

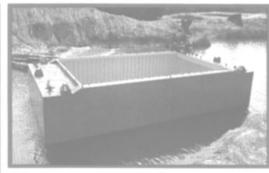
tainers and 24 refrigerated trailers.

Estimated cost of the reconstruction is \$36,180,000, with the Title XI guarantee to cover \$31,657,500—87½ percent of the cost.

The Lurline, which now has an overall length of 700 feet, was constructed at Sun Ship and delivered in 1973. She is expected to be redelivered in September 1981.

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**Glen H. Fornell Named
Marketing VP For
National Marine Service**



Glen H. Fornell

David A. Wright, president of National Marine Service Incorporated of St. Louis, has announced the appointment of **Glen H. Fornell** as vice president-planning and marketing. He will be responsible for coordinating corporate plans, conducting market research, and developing marketing strategies to help the company's divisions achieve planned objectives.

Mr. Fornell comes to National Marine from Northern Illinois Gas Company, where he served most recently as assistant vice president for technical services. His office will be at the company's headquarters in St. Louis, where he will report to executive vice president W.A. Creelman.

**Randolph Joins TMT
As Operations Manager
At Jacksonville Terminal**

Bob Randolph has joined Trailer Marine Transport Corporation, a Crowley Maritime Corporation Caribbean Division service, as manager of operations responsible for directing and supervising stevedoring, cargo transfer, and all the operating functions at the Jacksonville, Fla. terminal, according to a recent announcement by **Robert G. Homan**, senior vice president and general manager.

Prior to joining TMT, Mr. Randolph was employed by a national motor transportation company as assistant vice president of operations. He brings to TMT over 20 years' experience in operations with national marine and motor carriers.

Mr. Randolph will operate out of the Crowley terminal at 1045 Bond Avenue, Jacksonville, Fla. 32203; (904) 354-0352.

Hyundai Shipyard Gets \$80-Million Contract For Two Bulk Carriers

Hyundai Shipbuilding & Heavy Industries Company Ltd. of Ulsan, Republic of Korea, has received an order for two bulk carriers costing a total of about \$80 million.

To be built for Overseas Shipholding Group Inc. of New York, the 136,300-dwt ships are designed to carry grain, ore, or other bulk commodities. Delivery is scheduled for February and May of 1982.

Overseas Shipholding currently has nine ships, totaling some 644,000 dwt, on order. When the last of these is delivered by mid-1982, OSG will have a fleet of 77 vessels totaling about 6.6 million dwt.

Gary Bartman Named Offshore Sales Manager For Hydranautics



Gary Bartman

Gary Bartman has been appointed manager of offshore sales for Hydranautics, Inc., according to James L. Bartlett Jr., president. Mr. Bartman will direct marketing and sales of all Hydranautics systems for offshore oil-related applications worldwide. He was formerly the regional manager for Philadelphia Resins Company, handling sales for both resin and rope divisions.

Hydranautics, Inc. is headquartered in Goleta, Calif. The company designs and manufactures mechanical, hydromechanical, and electromechanical systems, subsystems, and components for material handling and transfer.

Marine Transmission Bulletins Available From Twin Disc

Twin Disc, Incorporated of Racine, Wis., a leading manufacturer of marine transmissions in the 70 to 1,600 horsepower range, has recently prepared new literature that is available upon request.

Bulletin 319-MR describes the complete line of 14 marine transmissions. In addition, a separate bulletin is available covering each of these models giving a complete description including specifications and easy-to-read charts with

horsepower ratings based on given ratios and speed for continuous duty, intermediate duty, and pleasure craft applications.

For a copy of Bulletin 319-MR or individual bulletins on marine transmissions in specific horsepower ranges, write to Lou Pecarelli, Twin Disc, Incorporated, 1328 Racine Street, Racine, Wis. 53403.

B&W Diesels Will Power Bulk Carriers Ordered By Nedlloyd Group

Nedlloyd Bulk, a wholly owned subsidiary of the Nedlloyd Group of Rotterdam, recently ordered two 38,000-dwt bulk carriers from the George Dimitrov shipyard in Varna, Bulgaria.

Main propulsion will be pro-

vided by fully automated Burmeister & Wain diesel engines, giving a service speed of 16 knots. Each ship will be fitted with four 25-ton cranes.

To be operated under the Dutch flag, the two ships will be named the Amstelvaart and the Amstelveliet. Delivery is scheduled for December this year and March 1981, respectively.



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**New Drydock Added
At McDermott Yard**

The Shipyard Group of J. Ray McDermott & Company, Inc., New Orleans, has added a 5,000-ton drydock to its Morgan City (La.) Division facilities.

The new dock, built in Brazil, has the capacity to lift most large offshore barges or to accommodate four smaller vessels simultaneously. It is 250 feet long and

134 feet wide, with an inside clearance of 110 feet between wing walls. In addition to this new dock, the company also operates two 1,600-ton drydocks at the Bayou Boeuf yard.

The New Iberia (La.) Division also has acquired an additional drydock, and will now operate one 1,500-ton and one 3,300-ton drydock at this location.

The McDermott shipyards at Morgan City and New Iberia spe-

cialize in construction of large tugs, supply vessels, jackup and package rigs, dredges, oceanographic research vessels, and oceangoing workboats. The yards also construct workover and drilling barges, derrick barges, pipe-laying barges, crane barges, and workboats.

In addition, the shipyards provide complete conversion and repair services with fully equipped machine and propeller shops.

These shops are A.B.S.-approved to make under-minimum tailshaft repairs and stainless-steel clad, 24-inch-diameter shafts 65 feet long. They can repair propellers up to 12 feet in diameter.

**R.H. Cleary To Head
New York Operations
For Systems Engineering**



Robert H. Cleary

Robert H. Cleary has been named to head the New York office of Systems Engineering Associates Corporation. In making the announcement, Donald Tarquini, vice president of Marine Services Division, said that Mr. Cleary will oversee the division's New York operations, recently expanded to support increasing business in that area. Seacor's Marine Services Division, with headquarters in Cherry Hill, N.J., specializes in naval and marine engineering involving all aspects of ship construction, repair, and modification.

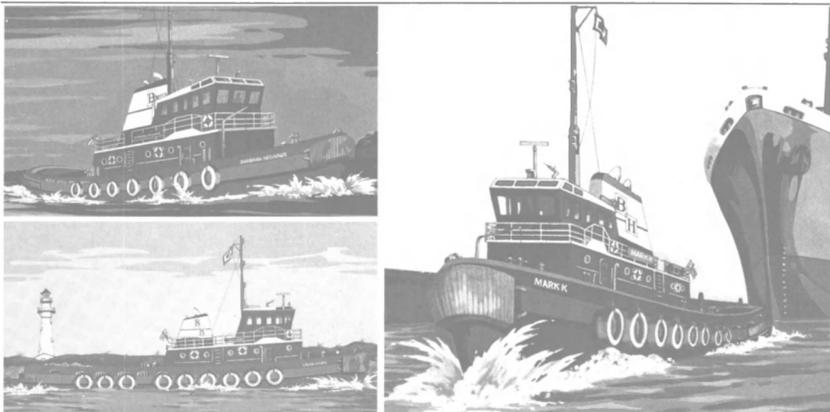
Mr. Cleary brings to Seacor 40 years of diversified experience in the marine industry. In addition to his affiliation with commercial naval enterprise, he has held positions with U.S. Naval Shipyards including Brooklyn, Mare Island, and Pearl Harbor. Immediately prior to his association with Seacor, he was supervisor of advance planning with SUPSHIP Brooklyn.

**New Corporate Name For
Crowley Maritime Units**

Interisland Intermodal Lines, Inc. (IIL) and CTMT, Inc. have assumed the corporate name Trailer Marine Transport Corporation, according to a recent announcement by Robert G. Homan, senior vice president and general manager of Crowley Maritime Corporation's Caribbean Division.

IIL, Inc. currently provides ro/ro barge service from San Juan, Puerto Rico to the U.S. Virgin Islands, with regularly scheduled sailings four times weekly. CTMT, Inc. operates ro/ro service on a biweekly schedule from San Juan to the Leeward and Windward Islands.

As Trailer Marine Transport Corporation, the company's sailing schedules, equipment, personnel, and method of transportation will remain the same. Crowley's ro/ro service to the Dominican Republic will continue to operate as CTMT, Inc.



Three new tugs join the Bay-Houston family.

Three new additions to the Bay-Houston fleet will be the Barbara H. Neuhaus, Laura Haden and Mark K. All attest to the dedication of Bay-Houston to provide the best

towing service available on the Gulf Coast.

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\$2.75-Million Navy Contract Awarded To Flohr Metal

The U.S. Navy has awarded a \$2.75-million contract to Flohr Metal Fabricators, Inc. of Seattle to build 33 waste oil rafts. The rafts, called "donuts," are used in Naval shipyards to separate waste oil from bilge water as it is pumped from large vessels. Each donut measures 25 feet long by 15 feet wide by 19 feet high, and weighs 42,000 pounds. The first of the rafts will undergo tests in June, with final delivery expected in early 1981. Four of the donuts will be shipped to Bremerton, seven to Pearl Harbor, four to San Francisco, two to San Diego and 16 to destinations overseas.

Since 1941, Flohr Metal Fabricators has been providing custom high-quality metal fabrication for seafood processing, pollution control, marine, commercial and industrial applications.

J.C. Barber To Head National Sales For Keene Filtration

James C. Barber has been named national sales manager of Keene Corporation's Filtration Division in Greeneville, Tenn. Prior to joining Keene, Mr. Barber was an account manager with Donaldson Company. He previously had been a divisional manager for Hydra Power Inc.

Drill Rig Commissioned At Bethlehem-Beaumont

Bethlehem Steel Corporation's Beaumont, Texas, shipyard and Houston Offshore International, Inc., recently commissioned the second offshore drilling rig built by Bethlehem for this Houston-based drilling contractor. The rig is the Sabine II; Mrs. David W. Kent, wife of Houston Offshore's vice president-operations, was the sponsor. Upon delivery, the rig will work in the Gulf of Mexico for Shell Oil Company.

During the commissioning, Houston Offshore president Jerry E. Chiles stated that his company had earlier signed a contract calling for construction of a duplicate of the Sabine II to be delivered in June 1981. That rig was designed by the Beaumont yard and will be built by Bethlehem's yard at Sparrows Point, Md. In addition, Mr. Chiles announced that Houston Offshore has signed a letter of intent for construction of another duplicate of Sabine II. This one will be built at Bethlehem's Singapore yard, also for delivery in June 1981.

The Sabine II is a mat-supported, jackup rig that features a cantilevered substructure. It offers the capability of being able

to position its drill floor over existing offshore production platforms in order to drill developmental wells or to rework existing wells.

The rig consists of a platform measuring 157 feet by 132 feet supported by three 11-foot-diameter columns fixed to a large stabilizing mat that is 220 feet by 185 feet. Outfitted with deep-well drilling equipment, the rig will

operate in waters up to 200 feet deep. It is capable of withstanding hurricane forces resulting from 100-knot winds and 60-foot seas. The Sabine II has onboard, air-conditioned living accommodations for 50 persons, complete with sleeping quarters, galley, recreation area, and laundry rooms. It was built to comply with U.S. Coast Guard and American Bureau of Shipping stand-

ards for mobile offshore drilling units.

On location, the Sabine II will have a total variable load capacity of 4.5 million pounds, and will handle hook or rotary plus setback loads of one million pounds on wells as far as 35 feet aft of the platform deck. At a maximum outreach of 45 feet aft of the platform, the drill-floor load can be as high as 750,000 pounds.

SCHOTTEL-System rationalizes construction and maintenance of ports and waterways

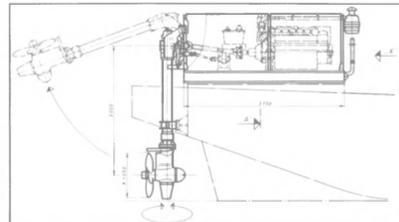


"KAITOS" and "DENEK", two self-propelled split-type dump barges with a hopper capacity of 1,000 cbm each have been built by Hilgers-Shipyard in Rheinbrohl/F.R.G. and were supplied to the well-known Italian building constructors ARETUSA S.p.A. in Rome for operation in the Persian Gulf. These 65.03 m IHC OMNI BARGES have a beam of 12.00 m and a 3.50 m draught, loaded. For main propulsion each barge has two deck-mounted SCHOTTEL-NAVIGATOR units type NAV 300/376 DST with a total capacity of 2 x 376 kW, i.e. 752 kW (1,020 hp).

The excellent manoeuvring features of the SCHOTTEL-NAVIGATORS in conjunction with a SCHOTTEL-Steering-System S 600 with remote fingertip control allows precision handling for the dynamic positioning of the barges at the dumping site.

Well proved in service, the SCHOTTEL-NAVIGATOR comprises a combined propulsion and steering unit, and is a mobile outboard system which can easily be installed as single or multiple units on practically any craft or floating equipment. It is also possible to retrofit without docking. The engine power is transformed into optimum steerable thrust by matched gears and a specially designed propeller which turns through a full 360° for propulsion steering in any direction, ahead, astern or sideways.

Hydraulic elevation of the rudderpropeller enables the necessary depth adjustments to be made to achieve maximum thrust. For easy servicing without docking the propeller can be raised radially. When considering rationalization in construction and maintenance of ports and waterways, the robust, economic and dependable SCHOTTEL-NAVIGATOR offers quite a number of decisive factors for saving time and money such as maximum manoeuvrability, optimum efficiency, low installation



cost, elimination of towage, increased turnover and the reduction of damage in congested waterways.

There is nothing "new or revolutionary" about the SCHOTTEL-NAVIGATOR as for almost 30 years SCHOTTEL have been at the fore front of technical development of advanced propulsion systems. Up to the present over 15,000 SCHOTTEL-units producing more than 4 million hp of propulsive capacity have been delivered for ships of all types.

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NASSCO Will Build Six Tankers At Total Cost Of \$300 Million

Frank J. Murphy, president of American Trading Transportation Company, Inc. of New York, N.Y., has announced the signing of a contract with National Steel and Shipbuilding Company, San Diego, for the construction of a series of up to six 50,000-dwt product car-

riers to expand American Trading's existing American-flag fleet. Firm delivery dates for the first three vessels will be September 1982, November 1982, and March 1983. The base price for each of the vessels, subject to escalation, is approximately \$50 million.

The new tankers will be approximately 658 feet in overall length, with a Panamax beam of just under 106 feet. The fully coated vessels will meet the latest

Coast Guard safety and environmental requirements and will have segregated ballast systems with double bottoms, crude oil washing, and an inert gas system. The vessels will thus be capable of transporting both crude oil and a full range of petroleum products.

The 15-knot vessels will be powered by 11,400-bhp Sulzer slow-speed diesel engines, and will be fitted with fully automated en-

gine rooms designed for unattended operation.

American Trading Transportation Company is a subsidiary of American Trading and Production Corporation, a diversified Baltimore-based concern with interests in oil and gas, real estate, consumer, and industrial manufacturing and transportation ventures.

Robert C. Engram Joins Ryan-Walsh Stevedoring As Vice President

Capt. Robert C. Engram, USN (ret.) of Gulfport, Miss., was named a vice president of Ryan-Walsh Stevedoring Company, Inc. recently by that firm's board of directors.



Capt. Robert C. Engram

Captain Engram joined Ryan-Walsh in 1978, and has since been assigned to special projects development, generally in the Central Gulf Coast area. His primary area of responsibility will be the Port of Pascagoula. Prior to joining Ryan-Walsh, he had been port director at Gulfport for the Mississippi State Port Authority, holding that post since 1970.

He will retain his post on the Alabama-Mississippi District Export Council, which he has held for several years at the appointment of the U.S. Secretary of Commerce. He is a past president of the Gulf Ports Association and past director of the American Association of Ports Authorities.

Captain Engram's last assignment with the U.S. Navy was as deputy for construction, Military Assistance Command, Vietnam. He is one of the few men to have been twice awarded the Legion of Merit with a Combat "V."

Bulletin On Chain And Accessories Available From Columbus McKinnon

CM Chain, a division of the Columbus McKinnon Corporation, Tonawanda, N.Y., is now making available catalog information on a complete line of marine link chain and accessories.

Included in the catalog are specifications for four different varieties of chain, trawling shackles, Draglink® coupling links, chain merchandisers and other marine products.

To receive a copy of this catalog, Bulletin CMC-150, write to W.J. Eising, CM Chain, Fremont Street, Tonawanda, N.Y. 14150.



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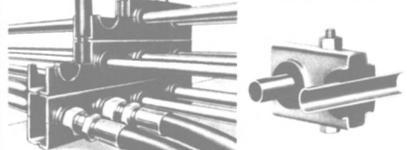
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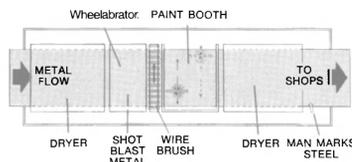
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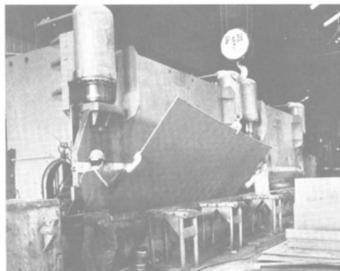
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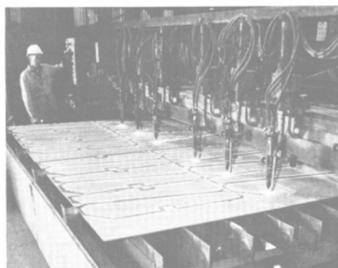
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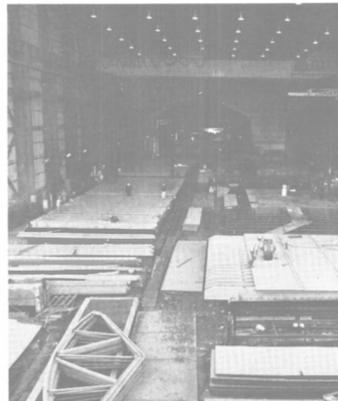


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**\$2.5-Million Expansion
Planned For Cargo
Carriers' Barge Yard**

Cargo Carriers, Inc., a water transportation subsidiary of Cargill Incorporated of Minneapolis, recently announced plans to spend about \$2.5 million to increase barge-building capabilities 50 percent at its plant in Pine Bluff, Ark.

When the project is completed in late fall 1980, the barge-manufacturing facility will be able to produce about 150 barges annually, said Cargo Carriers president Addison Douglass. The plant now builds about 100 barges a year for its own fleet and for other

companies in the water transportation industry.

The expansion will create 100 new jobs at the plant, which now employs more than 200 people. Annual payroll will increase to about \$5 million from its current \$3.5-million level.

Construction of the 38,000-square-foot expansion was started in May this year. The project will include installation of two 50-ton cranes that will permit the facility to perform operations not currently possible, and the addition of a hydraulic brake press capable of bending pieces of steel up to 54 feet long.

Founded in 1930, Cargo Carriers charters, owns, and operates warehouses, docks, tow-

boats, and a fleet of more than 400 barges. Since December 1973, it has produced single-rake and box barges at the existing 65,000-square-foot plant located on 15.4 acres in the Harbor Industrial District of Pine Bluff. The facility manufactures 195-foot and 200-foot barges capable of transporting up to 1,600 tons of dry cargo.

**R. Boening And S. Danchak
Named Vice Presidents
At Dalton Steamship Corp.**

J.H. Dalton Sr., president, Dalton Steamship Corporation, Houston, has announced the appointment of two new officers within the company's organization in the West Gulf area.



Ray A. Boening

S.E. Danchak

Ray A. Boening has been appointed vice president and general manager, and S.E. Danchak is appointed vice president and comptroller.

Mr. Boening joined the company's Galveston office in 1959, and was later transferred to Beaumont as manager of the Sabine area. He was subsequently brought to the Houston office in charge of operations before his more recent promotion to general manager. He has more than 21 years of experience in all aspects of the steamship and agency business.

Mr. Danchak joined the Dalton organization in the Houston office, also in 1959, in the Accounting Department. Within this division he has worked through all departments, during the past three years as a direct assistant to the company's treasurer.

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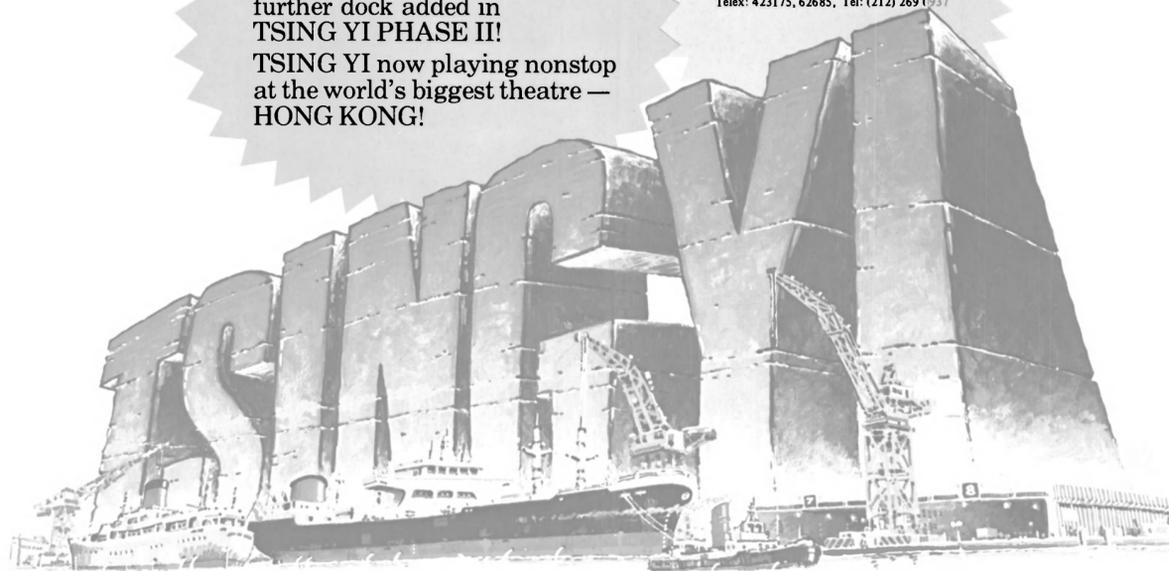
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Port Of Albany Awards \$5.5-Million Contract

The Port of Albany has awarded a \$5.5-million contract to the Edward B. Fitzpatrick, Jr. Construction Corporation of Willis-ton Park, N.Y. for the reconstruction of a 1,500-foot petroleum terminal. The major portion of the

contract is being funded by the State of New York.

The project includes the construction of nine cellular cofferdams and 1,100 feet of anchored sheet pile wall. The terminal will accommodate tanker and barge traffic for CIBRO Petroleum of Albany.

The bulkhead will extend from

17 feet above mean low water to a dredge depth of minus 32 feet. The 49-foot exposed height ranks the wall among the largest of its type.

The designers of the project, Childs Engineering Corporation of Medfield, Mass., will also oversee the construction to its completion in the fall of 1981.

M.R. Erhard Appointed Sales Manager For Nashville Bridge



Mauritz R. Erhard

Mauritz R. Erhard has been named sales manager for Nashville Bridge Company (NABRI-CO), Nashville, Tenn., according to an announcement by Al Zang, president.

Mr. Erhard was formerly associated with National Marine Service in St. Louis, where he was manager of technical services and, later, manager of the automation systems department. He also was a traffic analyst and an operating marine engineer for the marine division of Mobil Oil Company in New York. He is a graduate of the U.S. Merchant Marine Academy.

Alan Hobbs Joins IMODO's London Staff

Capt. Alan F. Hobbs, with extensive experience in offshore marine operations, has joined IMODO's London staff in a marketing and business development capacity.



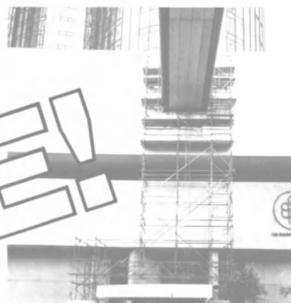
Capt. Alan F. Hobbs

An English citizen, Captain Hobbs comes to IMODO, the pioneer Single Point Mooring (SPM) company headquartered in Los Angeles, from David Brown-Vosper (Offshore) Ltd. While at DBV, he served as a marine superintendent/consultant responsible for all marine activities at its three technical divisions.

Captain Hobbs's earlier experience as a chief officer/master on tankers gives him an intimate knowledge of the practical considerations involved in berthing and discharging vessels at SPM terminals. At DBV, he was also involved with other related aspects pertaining to the successful operation of SPM terminals, such as installation, maintenance, and model testing.



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**J.R. McKenzie Elected
Executive VP At
SCNO Barge Lines**

SCNO Barge Lines, Inc., St. Louis, Mo., has announced the election of **John R. McKenzie** to the position of executive vice president. **Fred S. Sherman**, president of SCNO, in making the announcement, stated "that the company has a long-term commitment to fulfill the transportation needs of shippers, and the promotion of Mr. McKenzie adds further depth to the SCNO organization so we may better serve our many customers."

Mr. McKenzie joined SCNO in 1970 and has served most recently as vice president and general manager of SCNO Terminal Corporation, a warehousing and distribution subsidiary, having terminals in Omaha and Nebraska City, Neb., and Lemont, Ill.

Mr. McKenzie began his water transportation career in 1962, serving in various management positions involving the movement of bulk commodities via barges.

**New Cantieri Navali
Graving Dock Now Open
—Literature Available**

A new 400,000-dwt graving dock at the Palermo, Italy, yard of Cantieri Navali Riuniti (CNR) became operational earlier this year.

Designed to accommodate VLCCs and ULCCs, the dock is 370 meters long and 68 meters wide with depth over keel blocks of 10.45/11.37 meters (1,214 by 223 by 33.3/37.3 feet). Four traveling portal cranes are installed, two with 120-ton capacity and two for lifts up to 20 tons. Closing of the dock is accomplished by a bottom-hinged gate of Maunsell design.

For a copy of the brochure listing other main features of the graving dock write to CNR's U.S. representative, **Stephen E. Berke**, Overseas Shipyards, Inc., 21 West Street, New York, N.Y. 10006.

**New Corporation Formed
By Halter Marine And
Bell Aerospace Textron**

Bell Aerospace Textron, headquartered in Buffalo, N.Y., and Halter Marine, Inc. of New Orleans, jointly announced the establishment of Bell Halter Inc., a corporation offering design, construction and financing of marine craft utilizing air cushion technology.

Norton C. Wilcox, Bell Aerospace Textron president, said the corporation is a successor to the Bell-Halter joint venture established in 1977 that combined Bell Aerospace Textron's technical know-how with Halter Marine,

Inc.'s 24 years of experience as a builder of boats.

The Bell-Halter joint venture, based in New Orleans, produced two surface effect ships utilizing air cushion principles. One, the 110-foot Bell-Halter SES, christened in 1979, has been leased by an oil company and the U.S. Coast Guard. The other, the 48-foot Rodolf, built for the U.S. Army Corps of Engineers, is the first

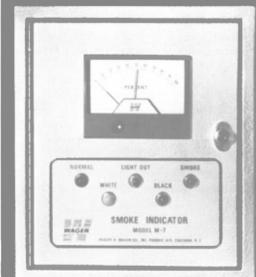
American hydrographic survey boat to ride on an air cushion.

John J. Kelly, vice president of Bell Aerospace Textron's New Orleans Operation, is president of the new corporation. He announced that the new corporation has begun production of four "Dash-boats" for Command Marine Inc. of Lafayette, La., to be used in servicing oil rigs. They will be similar to the Bell-Halter SES

prototype with a 110-foot length and will carry up to 120 passengers or 40 tons of cargo at an average speed of 32 knots (37 mph).

Mr. Kelly noted that "Speed, fuel efficiency and stability are impressive advantages of these surface effect ships. Because they have less friction with the water, they use less fuel, and they can operate in high seas and poor weather conditions."

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Tech Craft Appointed Gulf Coast Distributor For Jacuzzi Jet Systems

Tech Craft of Harvey, La., has been appointed distributor of Jacuzzi commercial marine jet propulsion systems, Len Hill, Jacuzzi marine jet product manager, announced.

Tech Craft, a new company staffed by experienced people from the Gulf Coast marine and offshore industry, will be responsible for Jacuzzi Jet Drive distribution in the states of Texas, Louisiana, Mississippi, Alabama, and Florida.

The firm's responsibilities would fall into the following categories: promotion of Jacuzzi Jet Drives of the 14YJ and 20YJ classes; introduction of the total propulsion package concept to the Gulf Coast; design of Jacuzzi jet propulsion systems for special applications; provision of full service and technical assistance for the Jacuzzi jet propulsion systems; and maintenance of inventory of repair parts and accessories for Jacuzzi Jet Drive.

F.L. Hamons Appointed To Head Maryland Port Development

Maryland Port administrator W. Gregory Halpin has announced the appointment of Frank L. Hamons Jr. as project manager-harbor development for the Maryland Port Administration, Baltimore.

Mr. Hamons will be directing his energies



ICE CLASS FERRY DELIVERED — Wartsila's Turku shipyard recently delivered the passenger car ferry Rosella to the SF-Line of Mariehamn, Finland. The 10,600-gt vessel has a capacity for 1,700 passengers and 555 cars. Of the 1,700 passengers carried, 750 can be accommodated in cabins, mostly doubles. The Rosella has a length of 136 meters, beam of 24.2 meters and depth of 5.4 meters (446.2 by 73.4 by 17.7 feet). Four Wartsila/S.E.M.T.-Pielstick diesel engines develop a total of 24,000 bhp (17,640 kw), giving a speed of 21.3 knots. Rosella is built to Det norske Veritas Classification 1A1, Ice 1A, Car Ferry AEO, Finnish Ice Class 1A.

toward the single most critical area of attention in the Port of Baltimore—the matter of dredging and further development of port facilities to keep pace with the demands of an ever-increasing import-export market. He will have full responsibility for all dredging and channel projects, including the development of the spoil disposal sites urgently needed in the harbor for both private and Port Administration development and channel deepening.

Mr. Hamons comes to the MPA after six years with the Maryland Water Resources Administration, where most recently he served as Chief of the Planning Division. An employee of the State of Maryland since 1967, he first worked as a project leader for the Department of Chesapeake Bay Affairs. Other State service includes two years with the Maryland Fish and Wildlife Administration and two years with the Maryland Fisheries Administration.

B&W Licenses Yard In Uruguay To Build Stern Trawlers

B&W Shipyard and B&W Shipbuilding Services have signed a contract with the shipyard of Tsakos Industrias Navales in Montevideo, Uruguay for construction of B&W trawlers under license.

A few years ago, B&W Shipyard entered the Uruguay market with a new type of stern trawler of about 300 dwt and a cargo hold capacity of about 5,000 boxes of fish. These trawlers have all been supplied with two-stroke B&W Alpha Diesel engines, type 40726VO of 700 bhp and have aroused great interest. B&W Shipyard has obtained contracts for construction of a total of 11 such trawlers. Three of these trawlers have now been delivered and are already active in the fishing industry.

With reference to the new contract, B&W Shipbuilding Services is assisting Tsakos

Industrias Navales in the marketing of the B&W trawler. As contracts for construction of ships are received, this cooperation will be developed further through delivery of drawings and various technical equipment, particularly B&W Alpha engines and B&W know-how including the services of Danish technicians-engineers traveling to Uruguay.

The B&W trawlers have been well received in Uruguay, and the construction of these trawlers at Tsakos Industrias Navales is expected to start within this year. Plans for large-scale development of the fishing industry of Uruguay have created a natural sales area for B&W trawlers, and interest is now spreading to other Latin American countries.

Two Promoted At National Marine Service



Delores Delsing

Robert D. Meyer

Delores Delsing has assumed the new position of manager, business development and contract administration, and Robert D. Meyer has been promoted to chemical traffic manager, Transport Division, National Marine Service Incorporated, St. Louis, a supplier of liquid bulk transportation services on the Mississippi River and Gulf Coast.

Ms. Delsing and Mr. Meyer had been chemical traffic manager and assistant traffic manager-chemicals, respectively. The announcement was made by David A. Wright, president of National Marine.

Maritime Reporter/Engineering News

U.S. Agents For Cayman Energy Move To Virginia

Capt. H.E. van der Linde, chairman of Cayman Energy Limited, announces the move of CEL's U.S. Agents, Transportation Concepts and Techniques, Inc., from New York to Virginia.

CEL operates a major lightering station in the British West Indies for the transfer of crude oil, refined products and chemicals, and edible oils. Captain van der Linde stated that due to modern communications and air travel availability, the agency office can be located almost anywhere without lessening its efficiency. The new address is 1020 West Main Street, Charlottesville, Va. 22903; telephone (804) 979-8101, telex 822423.

Cayman Energy Limited announces that all grades of bunkers will be available at the offshore transfer facility, off Little Cayman Island, British West Indies, supplied by Koch Oil. Contact for bunkers is Errol Boyle, P.O. Box 2256, Wichita, Kan. 67201; (316) 832-5270, telex 417376.

D.C. Kilgore Promoted At McClure Associates; D. Scovell Joins Firm



David C. Kilgore

Derek Scovell

David C. Kilgore has been promoted to senior staff naval architect for Alan C. McClure Associates, Inc., Houston naval architects and marine engineers specializing in consultation work for a range of offshore-related activities. A graduate of Webb Institute of Naval Architecture with more than 25 years of experience in naval architecture and engineering management, Mr. Kilgore has been with McClure Associates for the past 21 years. Prior to that he was with The Offshore Company.

Derek Scovell recently joined McClure Associates as senior naval architect. A graduate of the University of London, Mr. Scovell has 18 years' experience in marine and offshore activities including shipyard engineering and production, shipboard operation, design, and consulting engineering. He was previously employed by Petro-Marine Engineering, Inc.

Phoenix Announces Low-Energy Floodlight—Literature Available

A powerful, compact floodlight designed expressly for saltwater marine use is announced by Phoenix Products Co., Milwaukee, Wis.

Super-Marine Model MTL-1000 has cast bronze end plates and sheet brass shell. The tempered glass lens plate is sealed to protect the specular aluminum reflector. The heavy-duty mounting bracket is brass, and all fittings are marine bronze, brass, or stainless steel. An oversize port makes lamp changing easy.

A 1,000-watt, high-pressure sodium lamp

provides high light intensity with low energy consumption. The fixture can be mounted in any position, operates on 120/208/240/277 or 480 volts (with proper ballast), and throws a wide beam pattern of 140 by 100 degrees. Overall size is only 9 by 15 by 19 inches.

For details and free literature, contact Don Warren, Dept. MR, Phoenix Products Company, Inc., 4715 North 27th Street, Milwaukee, Wis. 53209.

McGoldrick Elected To Board Of Directors At Barber Steamship

Joseph F. McGoldrick, chairman and chief executive officer, John W. McGrath Corporation, has been elected a member of the board of directors of Barber Steamship Lines, Inc.

In making the announcement, Edward J. Barber, chairman of Barber Steamship, commented: "Mr. McGoldrick adds a new dimension to our board of directors, and we are very pleased to welcome him aboard. We are confident that we will benefit from his commercial and legal expertise as the company continues its planned expansion."

In the past 18 months, Barber Steamship has opened new regional offices in Atlanta and Baltimore, as well as strengthened its service staff throughout North America in order to provide broader sales and service coverage. The company now maintains 14 offices in the United States and Canada.

Mr. McGoldrick has been associated with John W. McGrath for 30 years in a variety of management assignments. He joined the organization in 1950 as legal counselor.

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ANOTHER EARLY FFG — Seven weeks ahead of schedule and \$3 million under budget, the guided missile frigate Clark (FFG-11) was delivered to the U.S. Navy on May 9 by Bath Iron Works. The versatile 445-foot ship performed so exceptionally during official sea trials that she returned flying two inverted brooms instead of the traditional one to signify the "clean sweep" of a

highly successful accomplishment. The Clark is the third of a new class of combatant ships delivered by the Bath, Maine, shipyard, which has contracts to build 15 more of the class. Launched on March 24, 1979, the ship was commissioned into the fleet on May 17.

Federal Barge Announces Four Executive Promotions

Federal Barge Lines, Inc., St. Louis, has announced the following promotions and management changes: **John F. Lynch**, president and chief executive officer; **Thomas F. Maloney**, senior vice president-sales; **Robert A. Labdon**, senior vice president-operations; and **Richard D. Rogers**, vice president-engineering and terminals.

Federal Barge Lines is a wholly owned

subsidiary of Pott Industries, Inc., one of the Houston Natural Gas Corporation companies.



John F. Lynch



Thomas F. Maloney

Mr. Lynch joined Federal Barge in 1955. He served as dispatcher from 1960 to 1963 and as transportation manager from 1963 to 1965. He was then appointed vice president-sales and general sales manager for the company. Earlier this year he was named executive vice president and chief operating officer.

Mr. Maloney will be responsible for the marketing, sales, traffic, and dispatching functions of Federal Barge. He joined the company in Chicago in 1972 as Chicago sales manager. In 1973 he became manager-northern region, and in 1976 vice president-marketing.



Robert A. Labdon



Richard D. Rogers

Mr. Labdon will be in charge of all operational functions, including maintenance and repair, operating personnel, and fleet operations. Prior to joining Federal Barge in 1958, he served for 10 years as professor of engineering at the U.S. Merchant Marine Academy, Kings Point, N.Y.

Mr. Rogers will be responsible for new construction and the maintenance and repair of all barges, towboats, and terminal equipment. He will also continue to be responsible for the construction and operations of the Cora coal transfer terminal at Cora, Ill.

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**D. Kvist Appointed VP
And General Manager
For Wartsila Power**

David Kvist has been named vice president and general manager for Wartsila Power, Inc. of New Orleans. He served in the U.S. Navy as a petty officer from 1951 to 1955, and was employed by Studebaker Worthington from 1959 to 1971.

From 1971 to 1976, Mr. Kvist was employed by Scanraff Oil Corporation, Lysekil, Sweden (owned by OK-Texaco Inc.). During refinery construction and start-up, he was responsible for installation and start-up of pumps, compressors, turbines, and engines, and maintenance of a process area.

In 1976, Mr. Kvist assumed the duties as Nohab Diesel U.S. service manager, with his office in Harvey, La.

**Fifth Navy LHA Commissioned
At Ingalls Shipbuilding Yard**



A large audience witnessed the Peleliu's official entry into the U.S. fleet at Pascagoula, Miss., recently. Final ship in a series of five amphibious assault vessels designed and built for the Navy by Ingalls Shipbuilding, LHA-5 will be home-ported in Long Beach, Calif.

The Peleliu (LHA-5), fifth and last ship in a series of general-purpose, amphibious assault vessels designed and built for the U.S. Navy by Ingalls Shipbuilding Division of Litton Industries, officially joined the fleet during May 3 commissioning ceremonies at the shipyard in Pascagoula, Miss. Principal speaker at the commissioning was Adm. Thomas B. Hayward, USN, Chief of Naval Operations.

The LHA, second largest class of vessels in the Navy today, is designed to carry a complete battalion landing team of marines and put them ashore, along with all the vehicles and supplies necessary to sustain the assault. The ship has a flight deck with nine helicopter spots for simultaneous takeoffs and landings, and a well deck in the stern that is flooded to launch or retrieve landing craft. Each LHA performs tasks and functions previously requiring four different classes of assault ships.

The Peleliu carries a crew of 800 officers and enlisted men.

Leonard Erb, president of Ingalls Ship-

building and senior vice president of Litton Industries, noted that "early criticism of the LHA amphibious assault ship suggested that the vessel had a capability whose time had passed—that the necessity for amphibious landings had ceased to exist. A steady stream of events since have proven just how shortsighted those critics were," he said. "Fortunately," Mr. Erb concluded, "today the Navy has five of the most capable amphibious assault ships in the world."

The USS Peleliu will be home-ported in Long Beach, Calif., and will join two other LHAs in service with the Pacific Fleet—USS Tarawa (LHA-1) and USS Belleau Wood (LHA-3). The other two ships of the class—USS Saipan (LHA-2) and USS Nassau (LHA-4)—are operating with the Atlantic Fleet.

**Matson Names Bowman
Assistant General
Sales Manager**

Matson Navigation Company, San Francisco, has named Edward P. Bowman assistant general sales manager for its West Coast-Hawaii ocean freight service.

Mr. Bowman formerly was director of marketing, sales, and admissions for Sound Unlimited, Inc., Knapp College of Business, in Tacoma, Wash. Before that, he was international product manager for Kirk Company of Puyallup, Wash., worldwide Christmas tree shippers.

Before joining Kirk Company, Mr. Bowman served as dean of admissions at the University of Puget Sound.

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Work is progressing at the site of the land based 10 million barrel capacity terminal on Little Cayman Island. Cayman Energy, Ltd. is now prepared to negotiate through-put contracts with those companies able to take advantage of the savings which will result from the economies of scale due to geographic location.

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Crew/supply boat Port Arthur was completed recently by Progressive Shipbuilders & Fabricators, Inc. Built for Port Arthur, Inc., the all-aluminum vessel's four General Motors 12V71 diesels give her a top speed of 31 mph.

Crew/Supply Vessel Delivered By Progressive Shipbuilders

Progressive Shipbuilders and Fabricators, Inc. of Houma, La. recently delivered the aluminum crew/supply boat Port Arthur to Port Arthur, Inc., also of Houma. The 110-foot boat has a beam of 24 feet and depth of 10 feet 6 inches. She is able to carry 63 passengers and a crew of five, as well as 47 long tons of deck cargo. Normal service speed is 28 mph. Main propulsion is provided by four General Motors 12V71 diesel engines, each with an output of 570 bhp, supplied by George Engine Company. Twin Disc Inc. manufactured the four reduction

gears, model MG 514, with 2½:1 ratio. Controls were supplied by WABCO.

Fuel capacity is more than 6,000 gallons, drill water 7,500 gallons, and potable water 800 gallons.

Navigation and communications equipment, supplied through Rhodes Electronics of Houma, include Furuno FRS 36 radar, Simrad LC 123 Loran C, Konel 1022 SSB radio, and Raytheon DE 750 Pathometer. Two 50-kw GM/Delco diesel generators provide electric power.

SNAME Chesapeake Section Examines Propeller Design



Members and guests at recent meeting of SNAME Chesapeake Section included (left to right): Pramud Rawat, Vitro Laboratories Division, Automation Industries, author; Wilbur N. Ginn Jr., NAVSEA, moderator; John P. McGough, Office of the Secretary of Defense; Robert Scott, Gibbs & Cox, vice chairman; and James A. Lisnyk, MarAd, chairman of SNAME Chesapeake Section.

A provocative paper was presented at a recent meeting of the Chesapeake Section, The Society of Naval Architects and Marine Engineers. Pramud Rawat of Vitro Laboratories Division, Automation Industries, Inc. presented a paper on "Propeller Geometry for Design-Production Integration and Quality Control."

The author maintained that the current propeller drawings fur-

nished to the manufacturer are inadequate and ambiguous (from the manufacturer's point of view) and, therefore, cannot be used for numerically controlled machines. The manufacturer makes it his responsibility to remove the ambiguities from the supplied geometrical data. However, because in most cases the designer does not review and approve the resulting modifications, the manufacturer is exposed to the risk of rejection of the finished propeller upon inspection.

The paper also described a method by which surfaces can be defined mathematically using the designer data. The author went through the steps of representing a path on the propeller surface and the ability of the N-C machines to follow that path. The system presented is still in the theoretical stage, and the author attempted to generate sufficient interest in the shipbuilding industry in general and the propeller design/manufacturing segment in particular so that the system can be experimented with and finally brought to production usage.

Interest definitely was generated. Under the guidance of Capt. Wilbur Ginn, USN (ret.), as moderator, representatives of Lips, Bird-Johnson, Ferguson, Hydro-nautics, NSRDC, and NAVSEA voiced their comments on the subject. The majority of comments centered on the practicality of adhering to the designer data, and the adequacy/inadequacy of some of the manufacturing tolerances.

The meeting was concluded by the presentation of a certificate of appreciation to Mr. Rawat by the chairman of the Section, James Lisnyk.

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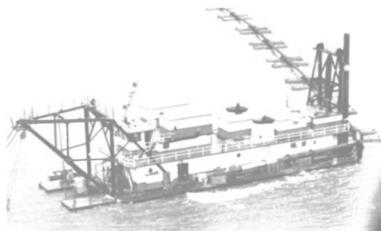


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SPECIFICATIONS

Hydraulic Cutter/Suction
30" Suction - 27" Discharge
Built: 1945
Replated: 1977
Hull: 137' x 41' x 10' - 6"
Digging Depth: 12 to 50 Feet
Main Pump: 3600 HP Diesel
Main Generator: 750 KW

Auxiliary Generator: 350 KW
Cutter Drive: 500 HP Electric
Quarters: 18 Men
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Dredge "Kitty Bean"

SPECIFICATIONS

Hydraulic Cutter/Suction
24" Suction - 20" Discharge
Built: 1962
Hull: 136' x 45' x 8'
Digging Depth: 8 to 92 Feet
Main Pump: 1750 HP Diesel
Main Generator: 850 KW
Auxiliary Generator: 600 KW

Cutter Drive: 500 HP Electric
Suction Assist: 400 HP Electric
Quarters: 12 Men
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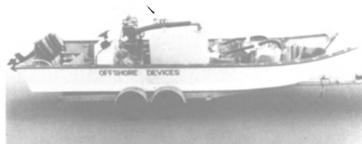


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Small trailable workboats such as this one are used by Offshore Devices, Inc. for its oil spill recovery system for protected waters.

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300 feet of barrier each. This could be used for booming (including diversionary) operations. When the oil is widely distributed, the 300-foot elements can be attached to the ends of the 70-foot skimming barrier to form a 670-foot length and a gap width of 435 feet in a "U" configuration.

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He brings to Crowley over 10 years' expe-

rience in the common carrier motor transportation industry. His most recent position before joining Crowley's Caribbean Division was regional marketing manager for a motor carrier responsible for sales and marketing activities in the New England area.

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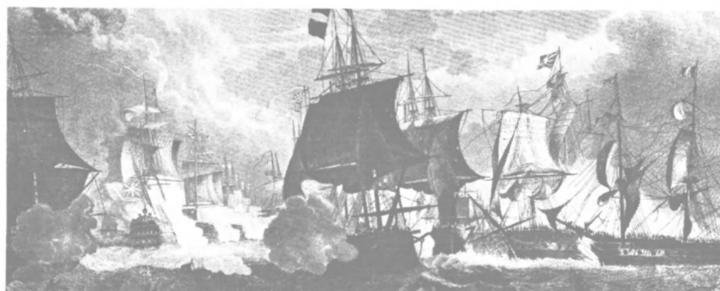


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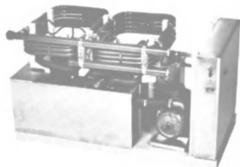
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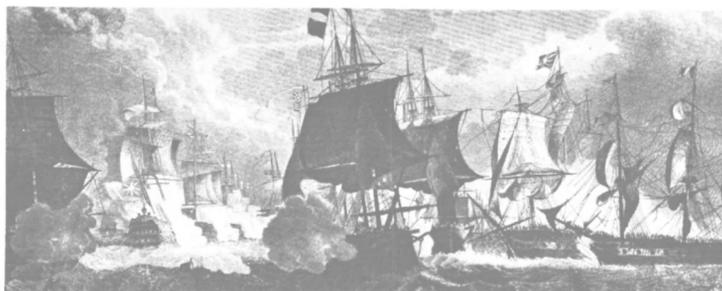


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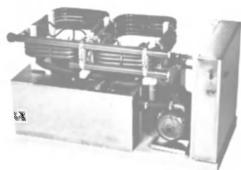
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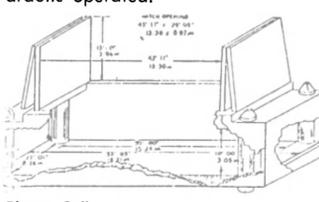


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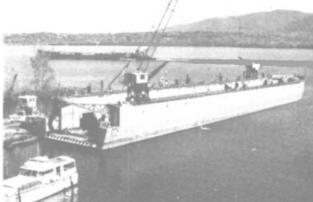
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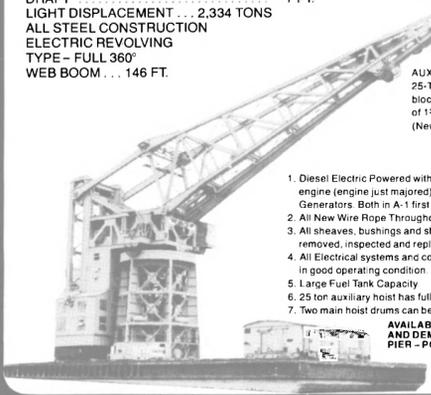
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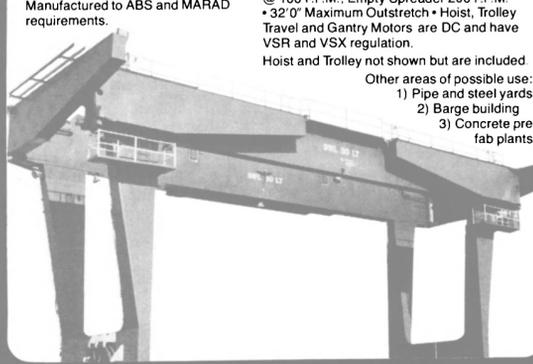
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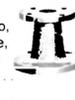
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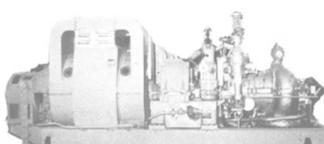
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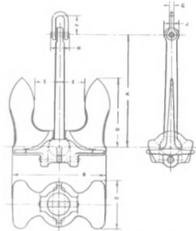
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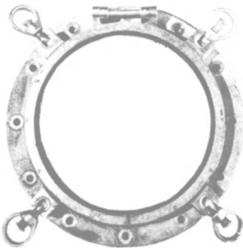


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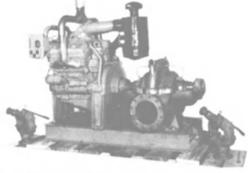
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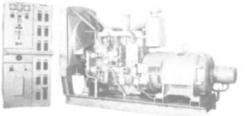
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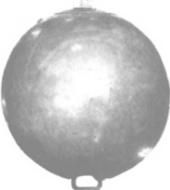
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Bailey Carpenter & Insulation Co., Inc., 74 Sullivan St., Brooklyn, N.Y. 11231

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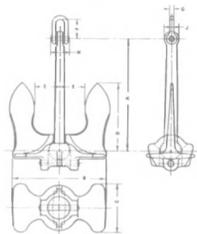
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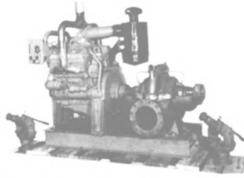
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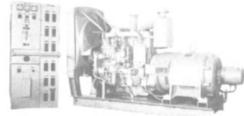
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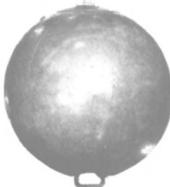
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Maritime Service Company, 1357 Rosecrans St., Suite B, San Diego, CA 92104

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

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

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

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

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

Nickam Spaulding Associates, Inc., 911 Western Ave., Seattle, WA 98104

Robert B. Naderberger, P.E., 507 Evergreen Road, Severna Park, MD 21156

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. Petchell, Inc., 1380 SW 57th Ave., Fort Lauderdale, Fla. 33317

Simrod Inc., 1 Labriola Court, Armonk, N.Y. 10504
SI-TEX, P.O. Box 6700, Clearwater, FL 33518
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
Ferrus 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
A. Margolis & Sons Corp., One World Trade Center, Suite 8751, New York, N.Y. 10048
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
Alfo-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 Metalite Inc., 224 7th Street, Garden City, NY 11530
"CONSOL" manufactured by Hanline Bros., Inc., 1400 Warner St., Baltimore, MD 21230
Devco & Reynolds Co., Inc., 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 1139B) Oakland, CA 94643
Mobil Chemical Co., Maintenance & Marine Coatings Dept., P.O. Box 250, Edison, N.J. 08817
The Skybyte Co., 3125 Perkins Ave., Cleveland, OH 44114
Woolsey Marine Industries, Inc., 100 Saw Mill Rd., Danbury, CT 06810

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, Funado-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

PROPULSION 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, Wis. 53511
Combustion Engineering, Inc., Windsor, Connecticut 06095
Coolidge Propellers, 1601 Fairview Ave. East, Seattle, Wash. 98102
Electro-Motive Division, General Motors Corp., LeGrange, 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
Omnitrust Inc., 1837 So. Normandie Ave., Gardena, CA 90247
Port Electric Turbine Div., 155-157 Perry St., New York, N.Y. 10014
Population Systems Inc., 21213 76th Ave., So., Kent, WA 98031
Schottel of America, Inc., 8375 N.W. 56 Street, Miami, Fla. 33166
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 Shorpur, 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
Warrington Pump Inc., P.O. Box 1250, Mountainside, N.J. 07092

REELS—Coiling Systems
Reel-O-Matic Systems, Inc., 418 Hellman St., Wrightsville, Pa. 17368

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—Hawsters—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
Tubbs Cordage Co., Orange, CA 92666

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., 324 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
Demco, Inc., P.O. Box 94700, Oklahoma City, OK 73109
Envirovac (Division of Domestic 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 Andion, 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
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
National Metal & Steel Corp., 691 New Dock St., Terminal Island, Cal. 90731
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.), Maatschappij bv, P.O. Box 3006, 1003 AA, Amsterdam, Holland
Amar Shipyards Co., Astilleros y Maestranas de la Armada, P.O. Box 850, P.O. Box 14, Castillo 150-V, Valparaiso, Chile, S.A.
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
Blom + Voss AG, D-2000 Hamburg 1, P.O.B. 10 07 20
Blom + Voss Co., 55 Morris Ave., Springfield, N.J. 07081
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
Carrington Shipyards Pty, Ltd., Old Punt Road, Tomago, N.S.W., Australia 2322
Centromar, 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
Delatre-Levivier, 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.A. Box 167, Pine Bluff, Ark. 71602
Empresa Nacional Bazan, Paseo de la Castellana 65, Madrid 1 Spain
Eustalia 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
Hallez Industries, Ltd., P.O. Box 1477, Halifax, Nova Scotia, Canada, B3K 2H7
Halter Marine, Inc., P.O. Box 29266, New Orleans, La. 70189
Havre de Grace, Havre de Grace, Md.
Hitachi Shipbuilding & Engrg. Co., Ltd., 47 Edojori 1-Chome, Nishi-Ku, Osaka, Japan
Hongkong United Dockyards Ltd., Kowloon Docks, Hong Kong
Hudson Shipbuilders, Inc., P.O. Box Q, Pascagoula, MS 39567
Ingalls Shipbuilding, P.O. Box 149, Pascagoula, MS 39567
Jackson New York, 29 45 Richmond Terrace, Staten Island, NY 10303
Jeffboat, Inc., Jeffersonville, Ind. 47130
Keppel Shipyards 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
Manganese Shipbuilding Co., 819 South 80th Street, P.O. Box 5446, Houston, TX 77012
Marathon Manufacturing Company
Marathon LeTourneau Offshore Company, 1700 Marathon Building, 600 Jefferson, Houston, Texas 77002
Marathon LeTourneau Gulf Marine Division, P.O. Box 3189, Brownsville, Texas 78520
Marinette Marine, Ely Street, Marinette, WI 54143
Matten Shipyards Co., Inc., P.O. Box 645, Cohoes, New York 12047
J. Ray McDermott & Co., Inc., P.O. Box 60035, New Orleans, LA 70160
Misenor Industries, Inc., 5353 Tyson Avenue, P.O. Box 13625, Tampa, Fla. 33681
Mississippi Marine Tugboat 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
Norfolk Shipbuilding & Drydock Corp., P.O. Box 2100, Norfolk, Va. 23501
Northwest Marine Iron Works, P.O. Box 3109, Portland, Oregon 97208
O.A.R.N. (Officine Allestimento-Riparazioni Navii), P.O. Box 1395, Genoa, Italy 16100
Paceco, Div. Fruehauf Corp., 2330 Blanding Ave., Alameda, Calif. 94501
Pearlman 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 77017
Port of Portland, P.O. Box 3529, Portland, OR 97208
S.E.B.N., Societa' Estercozio 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 Machine & Shipyards 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
Sudaimpart, 3 Kalyaevskaya, Moscow K-6, USSR
Sun Shipbuilding, Foot of Morton Ave., Chester, Pa. 19013
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, N-201 Oslo, Norway
Tracor Marine, P.O. Box 13107, Fort 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
Valmet Oy, Helsinki Shipyard, Laivanrakentajantie 2, P.O. Box 910 SF-00101 Helsinki 10, Finland
Wall Shipyard, P.O. Box 419, Harvey, La. 70058
Woray 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

SURVEYS 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
Benbow 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
Salvico, 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
Delang Corp., 29 Broadway, New York, N.Y. 10006
Transportation Concepts & Techniques Inc., 1020 West Main Street, Charlottesville, VA 22903

TOWING—Barges, Vessel Chartering, Lightering, Salvage, etc.
Boy-Houston Towing Co., 805 World Trade Bldg., Houston, Texas 77002
China Transportation, Inc., 580 Walnut St., Cincinnati, Ohio 45202
Curtis Bay Towing Co., Mercantile Bldg., Baltimore, Md. 21202
Henry Gillen's Sons Lightering, 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 Corp., Inc., 17 Battery Pl., New York, N.Y. 10004
McDonough Marine Service, P.O. Box 26206, New Orleans, La.
Merion 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
Tureccoma Coastal & Harbor Towing Corp., One Edgewater St., Clifton, Staten Island, N.Y. 10305

UNDERWATER SERVICES—Contracting
Lockheed International Ltd., Blackburn Industrial Center, Gloucester, MA 01930

VALVES AND FITTINGS
American United Marine Corp., 575 Madison Ave., New York, NY 10022
Dover Corporation, Norris Division, P.O. Box 1739, Tulsa, OK 74101
Demco, Inc., P.O. Box 94700, Oklahoma City, Okla. 73109
Marine Moisture Control Co., 449 Sheridan Blvd., Inwood, N.Y. 11696
Marland Environmental Systems Inc., N. Main St., Walworth, WI 53184
Mechanical Marine Co., 900 Fairmount Ave., Elizabeth, N.J. 07027
Rockwell International, Flow Control Division, 400 N. Lexington Avenue, Pittsburgh, PA 15208
Slacey 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

VIDEO EQUIPMENT
Video Library Systems, 185 Osceola Avenue, Hauppauge, NY 11787

WEATHER FORECASTS
ERT, 694 Virginia Road, Concord, Mass. 01742

WELDING SYSTEMS
MK Products, Inc., 16882 Armstrong Ave., Irvine, CA 92705

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

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

WIRE AND CABLE
Anixter Bros., Inc., 4711 Golf Road, One Concourse Plaza, Skokie, Illinois 60076
Seacoast Electric Supply Corp., 225 Passaic St., Passaic, NJ 07055
Seacoast Electric Supply Corp., 1505 Olive St., Houston, TX 77007

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

ZINC
Smith & McCracken, 153 Franklin St., New York, N.Y. 10013

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**Diesel repair work by Bethlehem's
Hoboken Yard earns presidential citation.**

UNION COMMERCIAL STEAMSHIP COMPANY
3-7 PILELINON STREET - P.O. BOX 118 - PIRAEUS 9 - GREECE
TELEX 21261 - CABLES: UNICOMSHIP - TELEPHONE 423101

20 March 1979

Mr. R. H. Dietrich
Bethlehem Steel Corporation - Shipbuilding
Bethlehem, Pa. 18106
U. S. A.

Dear Bob:

m. v. "UNION PRIDE"

This will acknowledge receipt of your letter of February 26th, 1979 enclosing invoices for work performed on the above named vessel November/December of last year at Hoboken.

I would like to take this opportunity to express the satisfaction of Owners for the quality of work carried out at Hoboken. The end result was totally satisfactory, and this is a particularly happy note for me as I met with a good deal of opposition to awarding the engine job to Beth. While all concerned had no doubts that the rudder job could easily be handled by Beth, there were a great number of reservations about awarding a major diesel engine repair to Bethlehem Steel.

The satisfactory end result made Beth look good in Owners eyes, who will certainly have no hesitation in doing future diesel engine repairs at Hoboken.

I look forward to doing business with Beth in the future. With kindest personal regards, I remain,

Yours sincerely,

UNION COMMERCIAL STEAMSHIP COMPANY


MARK SCUFALOS, Pres.

MS/fs

A O H M SCUFALOS 8014827 - S BACHAS 8031912 - S J XALAFATIDES 6721497 - N J BEVINTHIS 8621271

Thank you, Mr. Scufalos.

BethShip 

Ship Repair Sales Office: (212) 558-9500. Telex: 222-847. Cables: BETHSHIP New York.
Drydocks in Baltimore, New York, Boston, Los Angeles and San Francisco Harbors, and at Beaumont, Texas.