MARITIME
REPORTER
AND
ENGINEERING NEWS

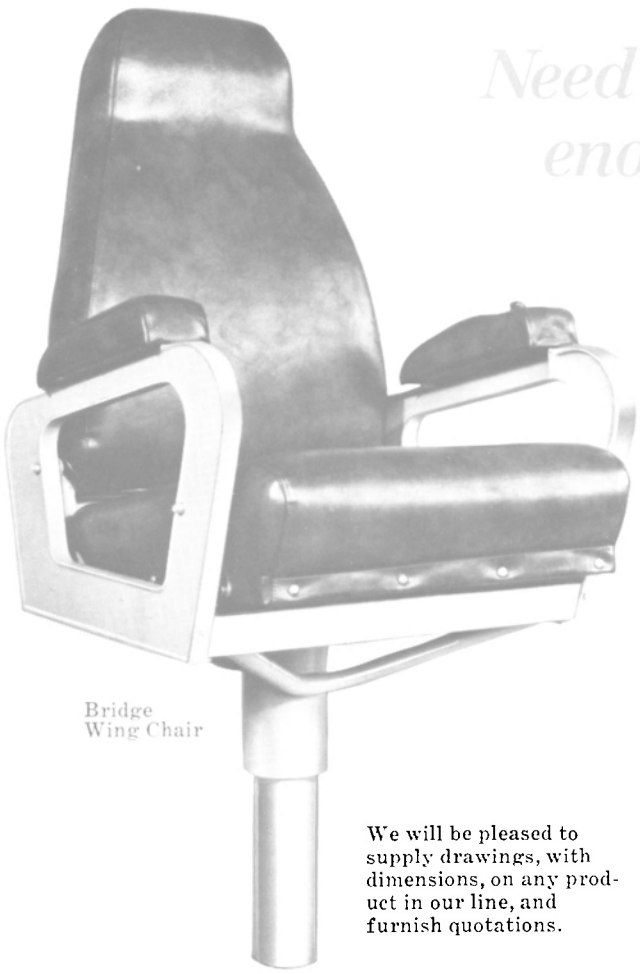
S/S Benjamin Harrison

First Of Two LASH Vessels For Waterman Steamship Christened At Avondale

(SEE PAGE 12)

FEBRUARY 15, 1980

Need a single chair, a berth or enough furniture to outfit a ship?



Bridge
Wing Chair

BAILEY has a complete line of rugged but attractive marine furniture to fit your every need. In chairs for example, we have seven types...arm, easy, folding, lounge, side, swivel or wing chairs. Or, card, chart, coffee, corner, end, mess, plan, sofa or work tables. You name it...we can supply it!

Just Look At This List...

BEDS	DESKS	SEATS
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BUFFETS	LIFE PRESERVER RACKS	STOOLS
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BUREAUS	MAGAZINE RACKS	TOILET CABINETS
CABINETS	METAL JOINER DOORS	TRANSOMS
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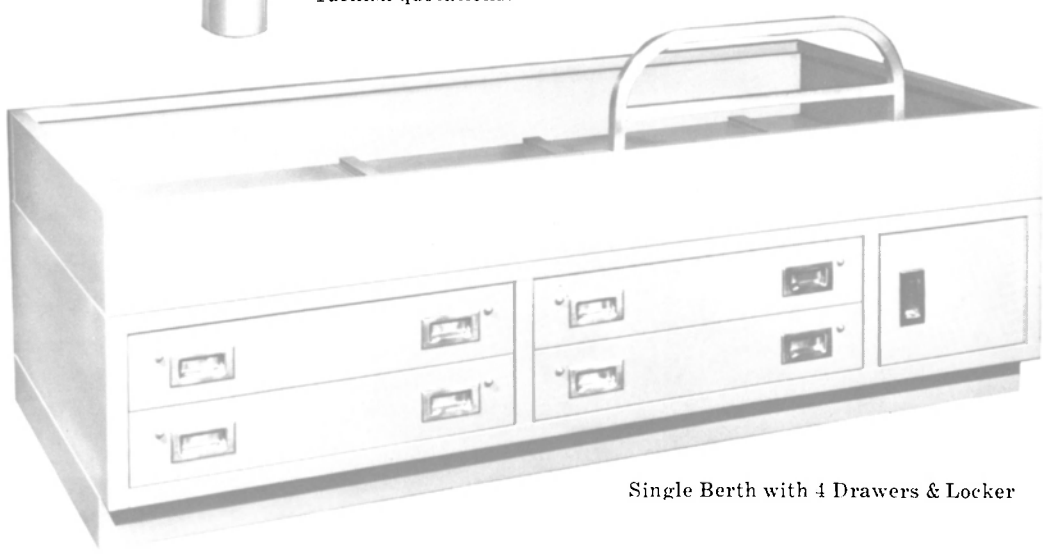
We will be pleased to supply drawings, with dimensions, on any product in our line, and furnish quotations.

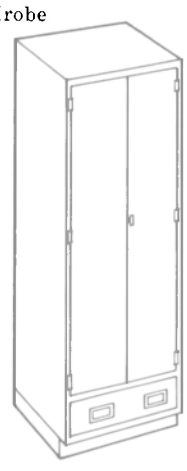
Also a complete line of cold storage and freezer doors.



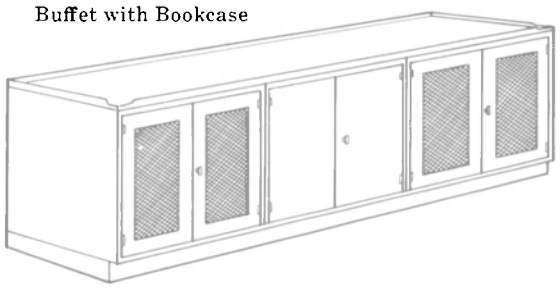
Single Berth with 4 Drawers & Locker

Chiffonier

Wardrobe



Buffet with Bookcase



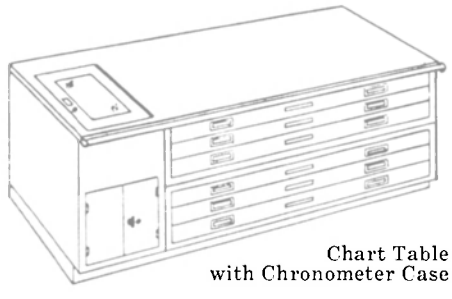


Chart Table
with Chronometer Case

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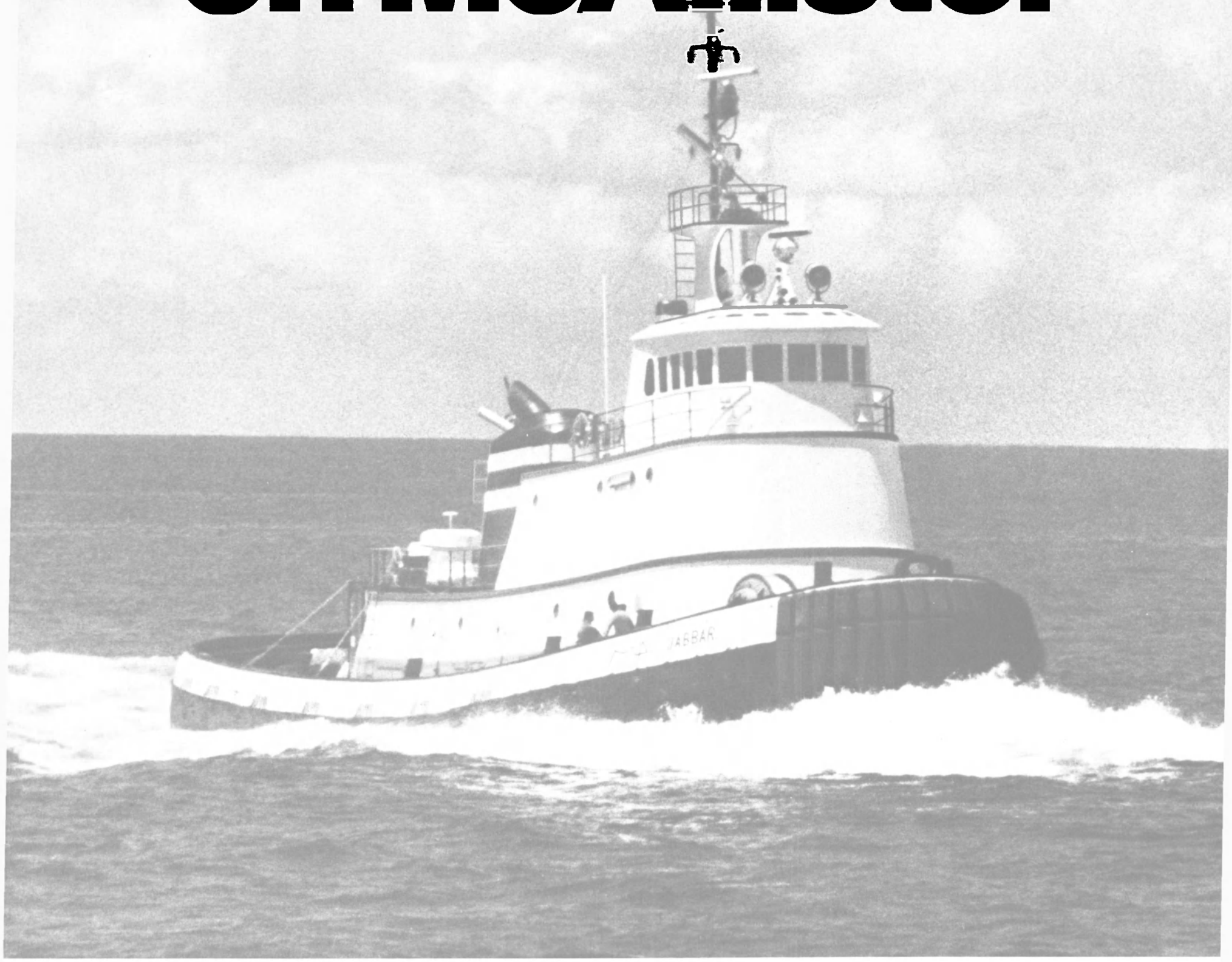
The biggest call on McAllister



The largest tanker terminal in the world located at Ras Tanura, Saudi Arabia, needed a new dimension in shiphandling. McAllister, through its joint venture company, Saudi Tug Services, provided the expertise in the tug JABBAR.

The 6000 horsepower JABBAR is equipped with 100-ton pilot-house controlled bow winches. The Kort nozzles and flanking rudders provide the maximum thrust with total control and maneuverability.

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Deepwater Terminal Agreement Signed

Port of Galveston (Texas) officials recently signed an agreement with Pelican Terminal Corp. (PTC) for the construction of a deep-draft channel and crude oil receiving terminal in the port. PTC is a partnership between Northville Industries of New York, and Chicago Bridge & Iron.

Galveston officials are awaiting the issuance of final permits before beginning dredging of the 56-foot channel. It is hoped that the project can be underway by late spring.

PTC plans to ship between 750,000 and 1.2 million barrels daily through the terminal to the large petrochemical industry along the upper Texas Gulf Coast. Officials are aiming at an early 1982 completion date for the project.

Oglebay Norton Plans $56-Million Bulk Carrier —Title XI Sought

Oglebay Norton Co., 1200 Hanna Building, Cleveland, Ohio 44115, has applied for a Title XI guarantee to aid in financing the construction of a 1,000-foot Great Lakes bulk carrier. The proposed shipbuilder is Bay Shipbuilding Corp., Sturgeon Bay, Wis.

The self-unloading bulker will have a capacity of 60,000 tons. Propulsion will be provided by a 14,000-horsepower diesel engine.

Delivery is scheduled for May 15, 1981.

The estimated actual cost of the vessel is $56,421,000. If approved, the Title XI guarantee will cover $48,500,000.

Gazocean Moves Corporate Offices To New York City

Gazocean USA Inc., the American affiliate of the worldwide gas transportation and trading group, Gazocean S.A., Paris, France, has recently completed its corporate move from Houston, Texas, to New York City, where it is located in the Chrysler Building, 55th Floor, 405 Lexington Avenue, New York, N.Y. 10017, phone (212) 867-5416.

Corporate directors and officers are **Carl H. Welborn**, president, **Giulio Romano**, vice president-Operations, and **Lee McGovern**, fertilizers.

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B&W creates Fuel Saving Units

Fuel costs are at an all-time high level! It's no wonder that ship-owners all over the world are on the look-out for additional fuel savings.

B&W's research department started a grand fuel saving programme long ago. The primary aim is to ensure the lowest possible operational costs - without affecting stable operation at sea.

The results are already flowing in and B&W has launched a series of FUEL SAVING UNITS. They have been tested and retested and savings are guaranteed for anybody who has a B&W diesel operated ship.

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Shipbuilders Council Reports U.S. Shipbuilding Produces Net Plus Economic Effect

A recent report on "The Economic Impact of the U.S. Shipbuilding and Ship Operating Industry" by Data Resources, Inc. (DRI), commissioned by the Shipbuilders Council of America, demonstrates that the net effect of building ships in the U.S. is significantly positive. The following is a digest of the DRI report purposes, methodology, assumptions and findings as it appeared in a recent issue of the Council's publication "Shipyard Weekly."

Purposes:

(1) **General:** To establish credible . analytical mechanisms for measuring the economic impact of various maritime policy options given assumptions concerning (a) Size of U.S. merchant and Naval fleet; (b) U.S. vs. foreign construction of merchant ships; (c) U.S. vs. foreign financing; (d) Tax and subsidy structure; (e) Change in government spending occasioned by policy options. (2) **Specific Tasks—For the 1980-1990 Period:** (a) To determine the economic impact of increased U.S. naval ship construction and U.S.-flag commercial ship construction and operation over the expected baseline (89 merchant ships) in the absence of any policy change; (b) To assess the impact of building ships in the United States with construction-differential subsidy (CDS) as opposed to building abroad for operation under U.S.-flag with operating-differential subsidy (ODS).

Methodology:

DRI macroeconomic model is adjusted for first round changes, under each policy option, in balance of payments, domestic investment, imports, Federal subsidy levels, and similar considerations. The model then calculates the net economic impact, which is disaggregated by the DRI input/output model to obtain industry detail which, in turn, is used to calculate regional impacts.

Results of Increased U.S. Naval and Merchant Marine Program:

(1) **Assumptions:** (a) The U.S. adopts a policy enabling U.S.-flag owner/operators to hold present market share of trades with developed countries and to attain the following shares of U.S. trade with developing countries of the 1980-90 period—liner, 40%, dry bulk, 20%, short haul liquid bulk, 20%, long haul liquid bulk, 10%; (b) This policy would result in building approximately 300 commercial vessels, in addition to baseline fleet forecast, for U.S.-flag operation over the period. All ships would receive CDS, ODS and Title XI mortgage guarantees; (c) The naval program would be expanded from 67 to 96 ships over the 1980-84 period and naval expenditures would remain at the increased level for the 1985-90 period; (d) The Federal budget would not be increased to fund additional CDS and ODS outlays, rather other programs would be reduced (prorated for each major category of government spending). (2) **Net Impact on Total U.S. Economy of the Expanded Maritime Program in 1980-1990 Period:** (all expressed in 1978 dollars) (a) GNP would rise by $17.2 billion; (b) Investment in durable equipment would rise by $15.2 billion; (c) Net non-merchandise imports would fall—down 1.7% by 1990. As balance of payments improves, pressure on the dollar would ease; (d) Inflation impact would be nominal (about .02% average); (e) Annual Federal deficit would fall by $1.3 billion average; (f) Net employment increase in shipyards and supporting industries would total 1,846,000 man-years. (3) **Major Related Industry Impacts Over the 1980-1990 Period:** (final sales and employment);

	1978 Dollars (billions)	Man-Years
Steel Mills	$4.13	48,300
Fabricated Plate	3.02	60,900
Turbines And Engines	2.08	30,800
Valves	1.43	33,700
Ordinance	1.14	33,000
Maintenance & Equipment	1.12	26,800
Telecommunications Equipment	0.43	8,600

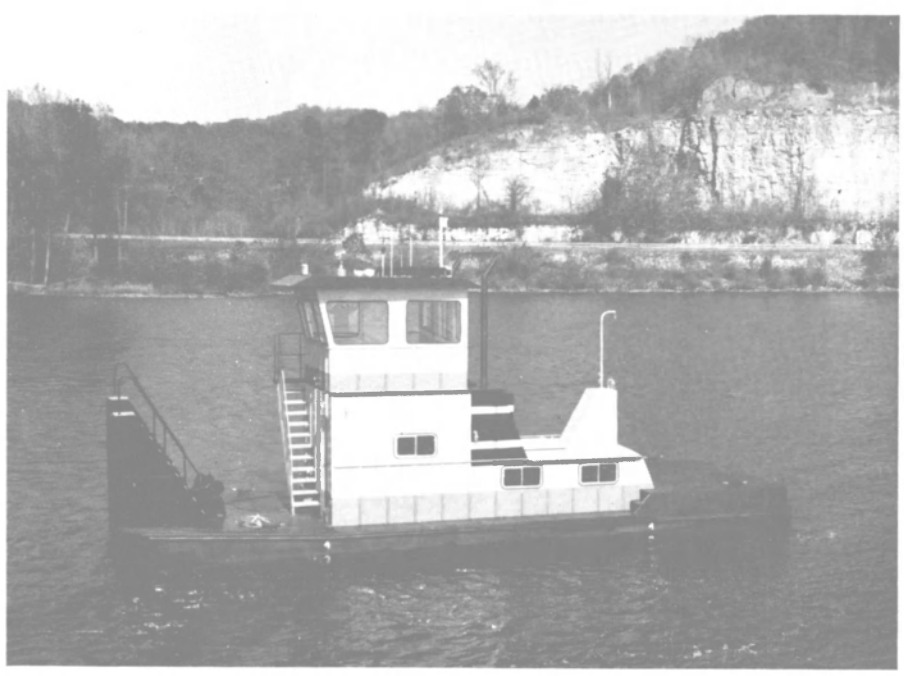
(4) **Major Regional Impacts Over the 1980-1990 Period:** (final sales and employment).

	1978 Dollars (billions)	Man-Years
California	$12.08	308,800
New York	6.16	124,200
Texas	5.55	121,000
Pennsylvania	5.35	113,600
Illinois	5.06	69,000
Ohio	4.29	111,400
Connecticut	3.85	130,800
Indiana	3.60	65,400
Washington	3.34	90,800
Missouri	2.78	64,800
Florida	2.72	55,500
Georgia	1.87	43,700
New Jersey	1.47	36,200
Massachusetts	0.65	51,600

Results of Policy Encouraging U.S. Versus Overseas Construction of U.S.-Flag Commercial Ships For Operations With ODS:

(1) **Assumptions:** (a) Same 300-ship incremental program as described above. Naval program would be held constant (at expanded level) so as not to affect results; (b) First round Federal expenditures would be held constant. In the case of building abroad, CDS savings would be reallocated to other governmental programs. (2) **Net Impact on the U.S. Economy of Building the Ships in U.S. With CDS Instead of Abroad:** (1978 dollars) (a) GNP would rise $15.3 billion over 1980-90; (b) Domestic investment would rise by $19.8 billion. The fact that the investment would exceed total GNP impact indicates that the policy creates a ship from consumption to investment as well as increasing overall economic welfare. Further payoff in the form of downstream productivity improvement could also be expected (c) Non-merchandise imports would be down 1.1% by 1990; (d) Inflation impact would be nominal (about .03% average); (e) The Federal deficit would decrease by an annual average of $1.7 billion over the period. It should be noted that the Federal deficit would be reduced even if the Federal budget is increased to fund CDS. Initial outlays would be higher, but subsequent tax revenues would more than recoup initial CDS payments.

It should be further noted that the results presented here are very conservative with respect to the total economic impact of the U.S. shipbuilding industry. A decision to fund all or part of the program by increasing the Federal budget would boost sales, GNP and employment effects dramatically. For example, in the combined Navy/commercial program, net GNP increase would total $64.5 billion over the period and net increase in employment would exceed 4,000,000 man/years, if the entire cost — $24.9 billion in naval spending and $8.7 billion in increased subsidies — is funded from increased government spending.



Cummins-powered 50' towboat, built by Riverway Shipyard, Grafton, Ill., was recently delivered to the U.S. Army Corps of Engineers, Marietta, Ohio.

Riverway Shipyard Delivers 50' Towboat To Corps Of Engineers

Riverway Shipyard Co., Grafton, Ill., recently delivered a new towboat to the U.S. Army Corps of Engineers, Huntington District, at the Marietta Repair Station, Marietta, Ohio.

The towboat Plant 69 measures 50 feet long by 16 feet wide by 5 feet high, with an operating draft of 3 feet 0 inches. The hull is of ¼-inch steel with 5/16-inch steel transom, ⅜-inch steel headlog and ½-inch steel corners. Cummins model N-855-M diesels provide the propulsion power, a total of 430 hp at 1,800 rpm. Twin Disc model MG-509 reduction gears have a 2.95:1 ratio.

The boat can carry 4,200 gallons of fuel. Engine water is circulated through Fernstrum Grid coolers. The boat is fitted with a Mansfield Sanitary sewage system.

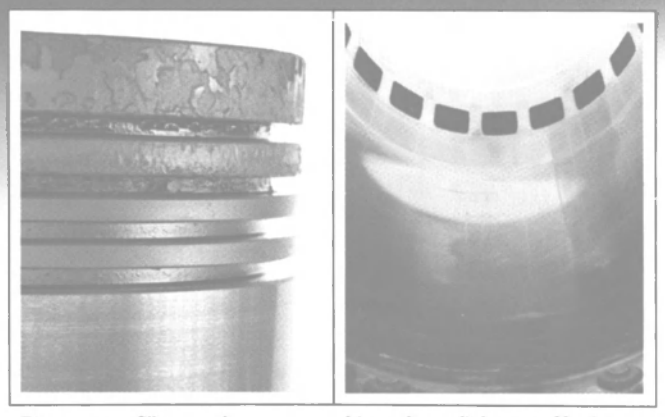
The two steering rudders and four flanking rudders are actuated by an engine-driven hydraulic system designed by Riverway Shipyard. The Plant 69 is fitted with two Federal "Power Thrust" bronze four-blade propellers, 34 by 32 inches.

The 10-foot by 10-foot pilothouse was insulated with 3-inch-thick insulation and covered with 10-gauge steel plating. The pilothouse provides the operator with an eye level of 17 feet.

Additional equipment on the Plant 69 includes one Perko 8-inch sealed beam searchlight, Perko 8-inch fog bell, and Olympia 5-ton hand winches.

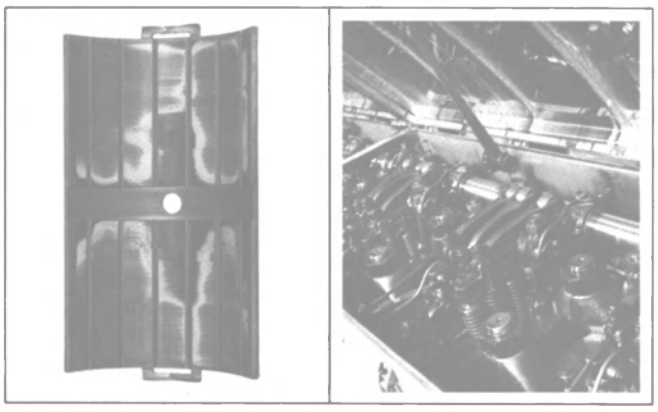
Presently, Riverway Shipyard has on order and under construction one 26-foot by 110-foot deck barge, one 750-ton drydock, one 30-foot by 130-foot fuel barge, one 35-foot by 120-foot fuel barge, and one 65-foot towboat. In addition, the shipyard is building one 65-foot towboat and two work pontoons for stock.

Keep the boat working



Ring groove fill normal. Number 3 and 4 lands clean.

Liner shows little wear. Honing marks still visible.



Silver trunnion bearing shows normal wear of lead flashing.

Valve deck illustrates cleanliness typical of both engines.

The MV "Mana" does-for Dillingham. Her 12 645 E6 engines, overhauled at 16,753 hours, looked good for many more-on Caprinus® Oil.

During late 1976, the then new MV Mana's engines were filled with high alkalinity *Caprinus** T Oil. Then, in 1978, the switch was made to the even more improved *Caprinus* R Oil. Since 1976 the engines have racked up 16,753 hours before *scheduled* overhaul — without a *single* power-pack replacement. The consensus? The engines looked good enough for 20,000 hours — probably even longer.

Dillingham Tug & Barge Corporation *needs* reliability — there are no repair stations between the Hawaiian islands and the "mainland" or throughout the South Pacific where they operate. Dillingham Tug & Barge runs a top-notch maintenance program with *Caprinus* R to keep the boats working.

Both engines were exceptionally clean. Top ring side clearance averaged 0.013" and the top rings were rated at 2 to 2A — which means the grooves were visible on the top ring on about half the pistons. Silver trunnion bearings were good. Overall engine reliability as shown by maintenance records was excellent.

Low wear rates were especially evident in the top ring side clearances, ring gap clearances, ring faces, piston ring groove widths (pistons were reusable without machining for oversize rings), liners and piston skirts. Shell's premium MVI base oil keeps ring groove deposits soft, friable so deposits are worked out by ring action. Rings compress into the grooves and traverse the ports without breaking or chipping. The result is low ring and liner wear rates.

In addition, Dillingham's use of *Caprinus* R in its Fairbanks Morse engines has eliminated the former expensive task of intake and exhaust port cleaning of those engines three times a year.

Caprinus R Oil is Shell's one oil for big medium-speed marine diesels. Its high alkalinity reserve and dispersancy with Shell's premium MVI base oil fight corrosive wear, keep engines clean and deposits soft — so that normal engine operation keeps deposits from building up. It's been proven — in ALCO, EMD and Fairbanks Morse, as well as other engines.

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

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

Come to Shell for answers

'What To Look For Before Buying A Dredge' Free Guide From Dixie Dredge

A 22-page booklet which is a quick-reference type buying guide for those interested in purchasing any dredge is now being offered by the Dixie Dredge Corporation, free of charge.

This brochure contains clear photos of key dredge areas and equipment to be carefully checked. Twenty-seven invaluable facts are explained covering initial costs, downtime, up-time, the correct dredges for particular applications, long-term costs, how to spot quality (or lack of it) in construction and equipment, best design and construction techniques, etc., etc.

For a free copy, write to **James V. Bishop**, The Dixie Dredge Corporation, 8224 Polk Street, St. Louis, Mo. 63111.

J.J. Henry Receives NASSCO Design And Engineering Contract

J.J. Henry Co., Inc. of Moorestown, N.J., has been awarded a contract from National Steel and Shipbuilding Company to provide design and engineering services for the development of drawings for the AD-44, a 643-foot, 22,260-ton destroyer tender. This fourth ship of the class being built at National Steel and Shipbuilding Company will incorporate the design changes added during development of the AD-41-43 drawings, and will further incorporate new changes. J.J. Henry will perform all engineering at the offices in Moorestown.

The Moorestown Division of J.J. Henry Co., Inc. is also providing detail working plans to Peterson Builders, Inc., Tacoma Boatbuilding Co., Inc., Lockheed Shipbuilding and Construction Company, Avondale Shipyards, and Sun Shipbuilding and Dry Dock Company.

Gerald A. Weinmann Elected VP-Finance At SCNO Barge Lines

The election of **Gerald A. Weinmann** to vice president-Finance for SCNO Barge Lines, Inc. was recently announced by **Fred S. Sherman**, president.

Mr. **Weinmann** has served for the past 10 years as treasurer-assistant secretary for SCNO. In his new position, Mr. **Weinmann** will be responsible for the corporate financial and management information systems.

SCNO Barge Lines is a St. Louis, Mo.-based water common carrier serving the inland waterway system.

Robert Sanders To Yard Superintendent

N. Seregos, president of Jackson Engineering and Drydock Co., Inc. (formerly Brewer Drydock), Staten Island, N.Y., announced the appointment of **Robert Sanders** as yard superintendent.

Robert Sanders

Mr. **Sanders** has had over 30 years' experience in the ship repair industry. He has previously served in various managerial positions such as structural superintendent for Bethlehem Steel's Quincy Yard, ship's manager for the Submarine Building Program at General Dynamics' Quincy Yard, and as shipyard manager in charge of the Naval Shipyard at Bushier in the Persian Gulf. Before joining Jackson, Mr. **Sanders** was shipyard manager for the Braswell Yard in Boston, Mass.

Jackson Engineering is undergoing a major expansion program necessitated by its growing drydock and ship repair business. In addition to the shipyard, the company maintains a large machine shop and repair facility at its Hoboken, N.J., location.

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

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

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

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

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

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

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

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

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

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

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FOSTER WHEELER

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

Burrard Yarrows Plans $63.3 Million For New Drydock And Facilities

Burrard Yarrows Corporation, Vancouver, British Columbia, Canada, has announced plans to award contracts for the construction of a 36,000-ton-lifting-capacity floating drydock and related ship repair facilities at its North Vancouver shipyard. According to the shipyard, a low bid by a Japanese firm indicates a firm price of $26.8 million for the steel-hulled drydock, which will be built in Japan. Based on the Japanese tender and prices for related facilities, total cost of the project will be an estimated $63.3 million.

The Canadian Federal Government will contribute $40.6 million to the project, with Burrard Yarrows contributing $21.2 million, according to the announcement. It was also stated this is the first time in Canada that a private company has made such an investment in the construction of large drydock facilities, and that the British Columbian Government has offered a grant equal to the amount of sales tax payable, estimated at $1.5 million.

Six Transtainer® Cranes Delivered To Singapore

Paceco, Inc. of Alameda, Calif., a subsidiary of Detroit, Mich.-based Fruehauf Corporation, recently delivered six Rubber Tired Transtainer® cranes to the Port of Singapore Authority, Singapore, Republic of Singapore.

New Paceco Transtainer® cranes at Port of Singapore. Eleven of these Paceco Rubber Tired terminal cranes are now in operation at PSA.

The new terminal cranes were ordered in late 1978 to meet the port's program of continuing development of one of the world's most modern and efficient container-handling terminals.

All of the 30 Long Ton Paceco Transtainer cranes have a 74-foot span, enabling them to stack containers four-high and six-wide, plus a tractor roadway. They are equipped with reeved-in telescopic spreaders that will handle 20-foot/35-foot/40-foot containers. Each one has an air-conditioned cab for operator comfort.

This delivery makes a total of 11 Paceco Transtainer cranes operating in the Port of Singapore's terminal facilities.

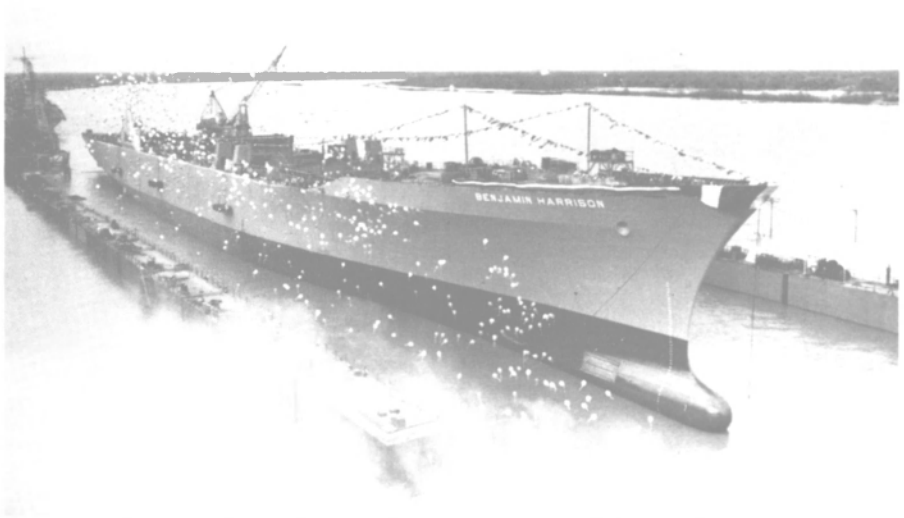
Paceco's Gulfport, Miss., plant, and Promet Pte. Ltd., Singapore, coordinated fabrication of the Transtainer cranes. Paceco representative Hargill Singapore Ltd. was erection contractor on the job.

Phillip Gresser Associates Will Move Offices To Palm Beach, Florida

Phillip F. Gresser, managing director of Phillip Gresser & Associates (Pte.) Ltd., the well-known firm of marine engineers, consultants and surveyors, recently announced that the firm's Singapore office is being closed. Effective May 1, 1980, Phillip Gresser Associates Limited will be located at 3250 South Ocean Boulevard, Palm Beach, Fla. 33480. The new telephone number will be (305) 586-0813.

Mr. **Gresser,** a graduate of the United States Merchant Marine Academy and the College of Engineering of New York University, has more than 39 years of background and experience in the shipping industry. He served with the United States merchant marine and the Navy during World War II, and held management positions with shipowning companies prior to going into business independently in Singapore in 1969.

He is a member of The Society of Naval Architects and Marine Engineers, the Institute of Marine Engineers, the Professional Engineers Board of Singapore, the United States Merchant Marine Academy, and New York University Alumni Association.



Shown during recent christening ceremonies, the S/S Benjamin Harrison is the first of two LASH-container carriers currently being built for Waterman Steamship Corporation at Avondale Shipyards, Inc.

First Of Two For Waterman –S/S Benjamin Harrison– Christened At Avondale

Avondale Shipyards, Inc., New Orleans, La., a subsidiary of Ogden Corporation, held christening ceremonies recently for the LASH vessel S/S Benjamin Harrison, the first of two LASH vessels currently being built for Waterman Steamship Corporation.

Named for the distinguished member of the Continental Congress which approved the Declaration of Independence, and father and grandfather of two U.S. Presidents, the S/S Benjamin Harrison is a combination LASH-container carrier. The vessel, designed by Friede & Goldman, Ltd., is scheduled to join Waterman Steamship Corporation's fleet in late June 1980 serving trade routes 12/22, which includes the Gulf, East Coast to the Far East.

Miss Suzanne P. Walsh, daughter of Mr. and **Mrs. Cornelius S. Walsh,** served as sponsor of the S/S Benjamin Harrison. **Miss Walsh,** whose father is chairman of Waterman Steamship Corporation, is a graduate of Mount Vernon Seminary in Washington, D.C., and Hollins College in Roanoke, Va. **Miss Walsh** was attended by her mother, **Mrs. Cornelius S. Walsh,** who served as matron of honor.

Principals of the S/S Benjamin Harrison christening ceremony were **Albert L. Bossier Jr.,** president of Avondale Shipyards, Inc., who presided over the ceremony; the Honorable **Thomas F. Moakley,** Commissioner, Federal Maritime Commission, United States Department of Commerce, and the Honorable **Samuel B. Nemirow,** Assistant Secretary of Commerce for Maritime Affairs, United States Department of Commerce, who were principal speakers for the occasion.

The invocation was given by the Most Reverend **Edwin B. Broderick** of New York City.

Miss Rebecca Bealer, daughter of Mr. and **Mrs. Ronald Bealer** of ASI's Night Shift Crane Department, served in the traditional role of flower girl.

Waterman Steamship Corporation, one of the oldest American steamship companies, was founded in 1919 in Mobile, Ala. A major freight cargo operator, Waterman Steamship Corporation is headquartered in New York, with branch offices in Washington, Mobile, Houston, Chicago, San Francisco, Dallas, and New Orleans. Currently, its fleet consists of 11 vessels offering fast and efficient service to the Far East, Middle East and North European ports via U.S. Gulf and Atlantic ports.

Principals of the S/S Benjamin Harrison christening ceremony were (from left to right), the Honorable Samuel **B. Nemirow,** Assistant Secretary of Commerce for Maritime Affairs, United States Department of Commerce; **Cornelius S. Walsh,** chairman, Waterman Steamship Corporation; **Miss Suzanne P. Walsh,** sponsor of the S/S Benjamin Harrison; **Albert L. Bossier Jr.,** president, Avondale Shipyards, Inc.; the Honorable **Thomas F. Moakley,** Commissioner, Federal Maritime Commission, United States Department of Commerce; and the Most Reverend **Edwin B. Broderick,** D.D., executive director, Catholic Relief Services.

$61.6 Million Awarded To Newport News For Navy Overhaul Work

Newport News Shipbuilding, Newport News, Va., is being awarded a $61,653,341 modification to a previously awarded contract for the overhaul and refueling of the SSBN 632 Von Steuben. The Naval Sea Systems Command is the contracting activity. (N00024-78-C-2361)

Title XI Sought By Gisclair For $1.7-Million Towboat

Gisclair Bros. Towing, Inc., Post Office Box 1798, Galliano, La. 70354, has applied for a Title XI guarantee to aid in financing one steel-hull towboat. The 110-foot (33-meter) oil screw vessel was built by Bollinger Machine Shop & Shipyard, Inc., Lockport, La., and delivered January 1, 1979.

The actual cost of the vessel is $1,776,771. The requested Title XI guarantee would cover up to 87½ percent of that amount.

Wiley Completes Ferryboat Surry To Operate At James River Crossing

The new ferry Surry constructed by Wiley Manufacturing of Port Deposit, Md.

Wiley Manufacturing, Port Deposit, Md., has completed and delivered to its new owners a passenger and automobile ferryboat, Surry, that will operate on the James River between Glasshouse Point and Scotland, Va.

Designed by Coast Engineering Company of Norfolk, Va., for the Virginia Department of Highways and Transportation, the ferry has a capacity of 50 automobiles and 350 passengers. It was constructed at Wiley's Port Deposit yards. Service schedules began in January 1980.

The principal dimensions of the Surry are length 200 feet, beam 64 feet, and depth amidships of 16 feet, with a design operating draft of 9 feet 6 inches. Powered by a GM Electro-Motive 12E6 1,450-hp diesel engine, the ferry has two Columbian Bronze propellers fore and aft, propeller shafts manufactured by Morgan Engineering, a subsidiary of AMCA International, Fernstrum keel coolers, two Raytheon radars, three Detroit Diesel ship's service generators, and one emergency generator by Detroit.

The introduction of this 350-passenger ferryboat will help alleviate peak travel tie-ups in the important James River historic and tourist areas. Wiley Manufacturing is a unit of AMCA International Corporation. A fabricating and shipyard facility, the Wiley plant is equipped for the construction of vessels up to 425 feet in length, and of any type of floating steel equipment up to 2,400 deadweight tons.

More Plain Talk
about sophisticated communications.

If you have a new ship on the ways, or an old one that's costing you a bundle every trip for radioroom repairs and message costs, check out this ENS 600 Radio Station/STB 750 Telex package.

You'll have a lot working for you. 1500 watts of clean antenna power that lets you contact anyone, anytime, anywhere in the world. Autotuning that lets you make the contact much faster. Unattended round-the-clock telex monitoring and copying. With automatic error detection and correction. In dialogue mode, broadcast, phone, CW, you name it.

Which means you'll be able to get your message through, anytime, from anywhere, to anywhere. Accurately. Immediately. Plus:

Philips STB 750 Telex Full CCIR compliance

Real savings. Telex has the lowest cost-per-word of any marine electronics communications system, and the ENS 600/STB 750 package makes that cost a lot lower. Much lower than what you now pay for Morse telegraphy. So low that even with moderate ship/shore traffic your telex could easily pay for itself within the first year. And then start paying off for you. More. Your master will receive, say, your diversion message just about as soon as you send it. So there's no time wasted, or fuel burned, going in the wrong direction for hours. And the world-wide range means you can use your local coastal stations, so land rates —both ways—will be a lot less.

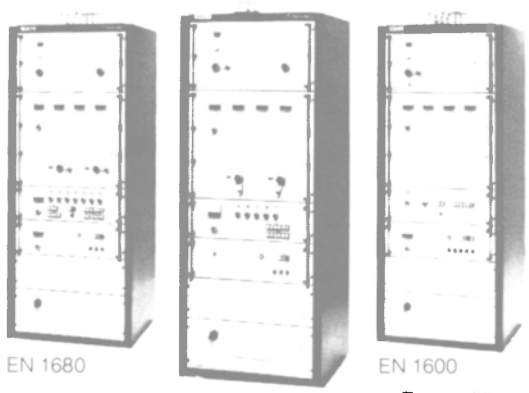
ENS 600 synthesized frequency control saves you even more, because there's no expensive new equipment to buy the next time some international conference decides to allocate new frequencies.

Real privacy. Your business is nobody else's business. So we've designed a real privacy option. When you send a private directly addressed message to one of your ships, nobody else—not even the other ships in your fleet—will be able to receive that message, if that's how you want it. You can even have a Philips PACT 200 teleprinter in the master's quarters for situations

Philips PACT 200 Teleprinter

where top secrecy is desired. With your choice of paper tape or electronic memory.

Real flexibility. ENS 600 offers you your choice of synthesized SSB, high power, high performance transmitters. With a remote control option that lets you operate your transmitter and telex directly from the bridge. Or locate them anywhere up to 100 meters from the console, for privacy and convenience. A broad selection of other options lets you equip your ship with the features you want, without having to pay for features you don't need.



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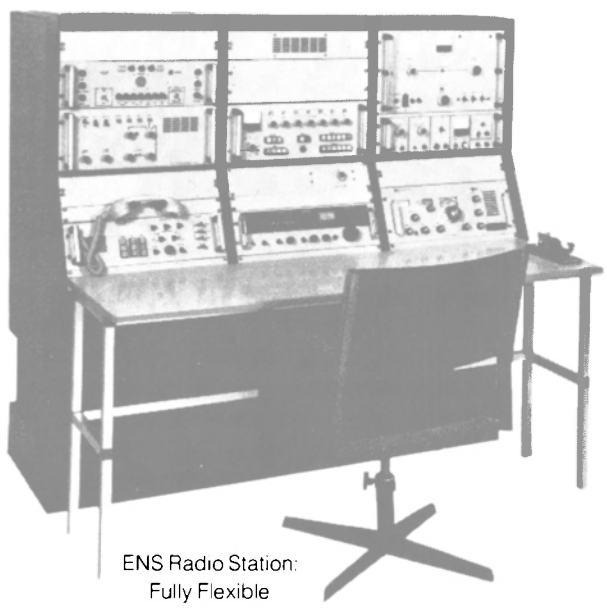
Real reliability. ENS 600 has triple redundancy back-up circuitry that takes over if your oscillator fails, so you won't lose any sleep about losing your signal. And STB 750 unattended round-the-clock monitoring means you'll always get your message right. Right away.

The package is state-of-the art, designed and manufactured by two world leaders in sophisticated marine electronics. So we're not just talking specs, but real reliability, proven day in and day out, on thousands of ships at sea. And at 30 major coastal stations which have chosen Philips STB telex for their operations.

Real convenience. Neat uncluttered console layout, eye-level instrumentation, and conveniently located controls make it a pleasure to work your ENS 600. The STB 750 panel mounts in the console. The PACT 200 teleprinter can be located anywhere



ENS Radio Station: Fully Flexible

you choose. And you don't have to be an engineer to operate the telex.

Real plain talk. The ENS 600/STB 750 package is not inexpensive. But it will do a lot more—and cost a lot less—than any comparable system. And it's backed up by two extensive world-wide service networks.

Check it out for yourself.

For additional information write, call or telex **Electro-Nav** at any of the locations listed below.

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Tel: (201) 527-0099; Telex 13-9381 NAVELECTR ELBT
750 Kennedy Street, **Oakland, CA** 94606 Tel: (415) 533-1840; Telex 338509
1404 High Road, Whetstone, **London N20, England;** Telex (851) 299785
Bowen Building, 815-15th Street NW, **Washington, DC** 20005 Tel: (202) 347-8231

Electro-Nav

For everything you need in marine electronics

Title XI Sought To Build Two Tankers Costing $58 Million Each

Two subsidiaries of Ogden Corporation, 277 Park Avenue, New York N.Y. 10017, have each applied for a Title XI guarantee to aid in financing the construction of a chemical tanker. The proposed shipbuilder of the two vessels is Avondale Shipyards, Inc., New Orleans, La.

The subsidiaries, Ogden Shamrock Transport, Inc., and Ogden Shannon Transport, Inc., are both located at 280 Park Avenue, New York, N.Y. Deliveries of their vessels are scheduled for March 30 and June 30, 1981, respectively.

Each of the tankers will have a capacity of 50,624 deadweight tons, and will be powered by a 14,100-horsepower diesel engine. The vessels will be employed in the domestic coastwise trade.

The estimated actual cost of each of the tankers is $58,376,000. If approved, the Title XI guarantee will cover 87½ percent of that amount.

Thompsen Appointed VP At Jackson Engineering

N. Seregos, president of Jackson Engineering & Drydock Co., Inc. (formerly Brewer Drydock Co.), Staten Island, N.Y., recently announced the appointment of **James A. Thompsen** as vice president-Marketing and Sales.

James A. Thompsen

Mr. **Thompsen** will be responsible for all marketing functions, including sales, advertising, and public relations. Mr. **Thompsen** is a graduate of the Merchant Marine Academy, and served 10 years on various deepsea and inland vessels. He is a member of The Society of Naval Architects and Marine Engineers, United States Naval Institute, and The Propeller Club of the United States. He has served in various management positions for companies such as Amerace Corp., Cabot Corp., and Standard Oil of California.

Mr. **Thompsen** has authored various technical papers and magazine articles on marine and industrial applications of plastics. He worked with the U.S. Navy Bureau of Ships on the Development of the A.B.C. Washdown System for naval vessels, as well as plastic piping systems for nuclear submarine application. With the Maritime Administration he was involved with the development of plastic piping systems for merchant ship applications, as well as reinforced fiberglass structural components.

Prior to joining Jackson Engineering, he was president of Thompsen Marine Supply Co., Inc., a company which he organized in 1971, and of which is a member of the board.

Seatrain Lines Names Howard Pack Chairman

Seatrain Lines, New York, N.Y., recently elected **Howard M. Pack** as board chairman, succeeding the late **Joseph Kahn**.

Mr. **Pack** will continue as chairman of this diversified steamship company's executive committee. Seatrain does not designate a chief executive officer because it has an executive committee. Mr. **Pack**'s former title was vice chairman and this title will be dropped.

Mr. **Pack** has been with Seatrain since 1965, when a company owned mainly by him and Mr. **Kahn** purchased control of Seatrain.

Leonard **Kahn**, a private investor and brother of the late **Joseph Kahn**, and **James T. Owens**, a lawyer, were elected new directors of Seatrain.

Orleans's Castle Island Terminal terminal support facilities. limitations near the airport, low agement services geared toward Kearney Castle Island Terminal's

Warren Rhoades Named Marchem General Manager

Robert A. Hansen, president of Marchem Products Co., announced the appointment of **Warren A. Rhoades** as vice president and general manager.

Mr. **Rhoades** was formerly chief engineer of the Engine and Compressor Division of Transamerica Delaval Inc. In 1975, he was voted ASME's "Engineer-of-the-Year" for his work in reciprocating engines and compressors.

A manufacturer of film-lubricated bearings and labyrinth seals, Marchem Products Co. (formerly Marchem Resources Incorporated) was acquired by Teton Inc. in 1979.

Wendt Named President Of Sperry Division

Robert L. Wendt has been named president of the Sperry Division of Sperry Corporation. Mr. **Wendt** will succeed **Salvatore A. Conigliaro** as head of the Great Neck, N.Y.-based division.

Mr. **Conigliaro** will take a leave of absence for six months, and will return to the newly created post of chairman of the division.

Robert L. Wendt

Prior to Mr. **Wendt's** appointment as president, he was vice president and general manager of the division's Gyroscope unit, which is primarily involved in the design, manufacture and support of radar systems, sonar systems, radio and inertial navigation systems and military test equipment. Mr. **Wendt** had served in that position since 1975.

From 1971 to 1975, he headed the division's Systems Management unit. Systems Management's programs include the design and management of the Polaris/Poseidon submarine navigation subsystem, ocean and military system design and management, and civil and industrial systems design.

Mr. **Wendt** joined Sperry in 1940, following his graduation

member of the Navy League, he is also a member of the Institute of Navigation, the American Society of Naval Engineers (ASNE), and the Society of Harvard Engineers and Scientists.

He has served on the U.S. Department of Defense Science Board panel on strategic weapons accuracy, and on the U.S. Navy Fleet Ballistic Missile Weapons Systems Steering Task Group.

Canal Barge Co. Granted Title XI For One Towboat Costing $2.2 Million

Assistant Secretary of Commerce for Maritime Affairs **Samuel B. Nemirow**, Maritime Administration, has approved in principle an application from Canal Barge Company, Inc., New Orleans, La., for a Title XI guarantee to aid in financing the construction of one 4,200-horsepower towboat.

The 140-foot (42-meter) vessel is scheduled to be delivered by Superior Boat Works, Greenville, Miss., in March 1980. The estimated actual cost is $2,263,400, with the guarantee to be for 75 percent of that amount ($1,697,000).

N.Y. Marine Society Annual Set For April 14 —M. Lee Rice To Speak

The 210th Annual Dinner of The Marine Society of the City of New York will be held on Monday, April 14, 1980, at the Plaza Hotel in New York City. **M. Lee Rice,** president and chief executive officer of Ogden Transportation Corporation, Inc., will be the honored guest and speaker. Reservations for

Sayville Ferry Service Adds New Vessel To Fleet

ert E. Derecktor at Mamaroneck, N.Y., was placed into service on the company's Sayville, N.Y., to Fire Island run immediately upon delivery.

Designed by John K. Roper Associates, Inc. of Hancock, N.H., the Clipper is particularly well-suited to her environment. She is powered by three Detroit Diesel 12V71 naturally aspirated engines and will carry up to 344 passengers at speeds in excess of 20 mph in less than 4 feet of water. To do

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Mr. **Wendt** joined Sperry in 1940, following his graduation from Harvard University with a bachelor's degree in electrical engineering and physics. He holds two patents for navigation systems, and is the author of numerous papers on systems engineering.

A senior member of the Institute of Electrical and Electronics Engineers (IEEE) and a life member of the Navy League, he is also a member of the Institute of Navigation, the American Society of Naval Engineers (ASNE), and the Society of Harvard Engineers and Scientists.

He has served on the U.S. Department of Defense Science Board panel on strategic weapons accuracy, and on the U.S. Navy Fleet Ballistic Missile Weapons Systems Steering Task Group.

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Parsons Brinckerhoff Will Develop Boston Container Terminal

The Boston office of Parsons Brinckerhoff, the engineering, architectural, and planning firm, is currently at work on a project that will transform the west end of the Massachusetts Port Authority's Castle Island Terminal into a modern container terminal. This is a first step in significantly increasing the container-handling capacity of Boston Harbor.

When completed, the South Boston Terminal located across the Harbor from Logan Airport, will be upgraded to include a 1,000-foot berth, two container cranes, and a 10-acre upland area with terminal support facilities. Ground-breaking ceremonies are expected to take place this month.

The scope of work includes detailed inspection of the existing marginal timber wharf, rehabilitating and upgrading the wharf foundation, extending the wharf deck, and adding crane rail foundations to support the crane runway. Due to airplane glide path limitations near the airport, low profile cranes will be specified. Further steps in the rehabilitation call for the design of three buildings—an administrative center, a service garage, and an employee facility—as well as the design of all new utilities, security fencing, and ship's services.

Parsons Brinckerhoff will follow the project through to completion, with construction management services geared toward keeping Castle Island Terminal's busy shipping schedule in operation while the conversion is underway. A fast-track design and construction schedule is being used to achieve startup in the first quarter of 1981.

Common Brothers U.S.A. Appoints Leo McKay

Common Brothers U.S.A. Limited, the New York arm of the Common Brothers Group, Newcastle, England-based shipowning and shipbroking company, recently announced the appointment as a nonexecutive director of **Leo McKay**, president of S.E.L. Maduro (Florida).

Mr. **McKay** brings to the Common Brothers board over 30 years of experience in the U.S. steamship business. Most recently, he is based in Miami, where he heads S.E.L. Maduro's Florida operation.

Common Brothers' New York office is active in the sale and purchase of vessels, and additionally specializes in the chartering and sale of roll-on roll-off and container vessels.

Free Bulletin Offered On Marine Alternators For Work, Crew, Supply Boats

A free technical bulletin just released by the LIMA Electric Company, Inc., Lima, Ohio, completely describes the company's SER® (Synchronous Externally Regulated) Alternators for marine applications.

The 361 and 441 Frame SER 1,200 RPM brushless alternators are built especially for use on work, crew, supply and fish boats because of the low noise and vibration levels associated with lower engine operating speed. They are easily adaptable to all makes of 1,200 RPM marine genset engines.

LIMA alternator foot mounting is directly interchangeable with most 1,200 RPM alternators in service, allowing easy field replacement. Standard LIMA 1,200 RPM SER Alternators have ABS approval, which simplifies certification of particular units for specific hulls.

For copies of the free literature or more information on 1,200 RPM alternators, write to **J.D. Bourque**, Sales Manager, Lima Electric Company, 200 East Chapman Road, Lima, Ohio 45802.

N.Y. Marine Society Annual Set For April 14 —M. Lee Rice To Speak

The 210th Annual Dinner of The Marine Society of the City of New York will be held on Monday, April 14, 1980, at the Plaza Hotel in New York City. **M. Lee Rice,** president and chief executive officer of Ogden Transportation Corporation, Inc., will be the honored guest and speaker. Reservations for the dinner, which will be held in the Grand Ballroom of the Plaza, following a reception from 6:30 to 7:30 p.m., may be made by calling the secretary at The Marine Society, (212) 425-0448. Capt. **Thomas Pineault,** 1st vice president of The Marine Society, is chairman of the Dinner Committee.

Sayville Ferry Service Adds New Vessel To Fleet

Sayville Ferry Service Inc. recently announced the addition of the Fire Island Clipper to its fleet.

The Clipper (shown above), built by **Robert E. Derecktor** at Mamaroneck, N.Y., was placed into service on the company's Sayville, N.Y., to Fire Island run immediately upon delivery.

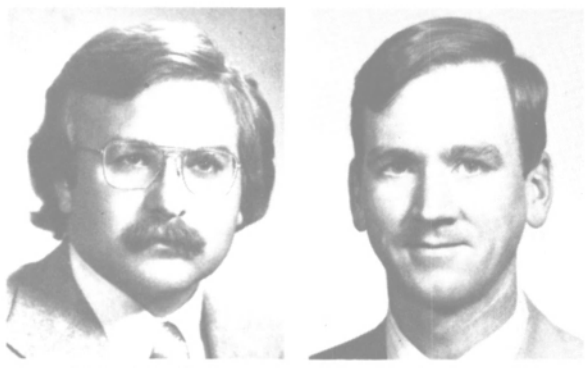
Designed by John K. Roper Associates, Inc. of Hancock, N.H., the Clipper is particularly well-suited to her environment. She is powered by three Detroit Diesel 12V71 naturally aspirated engines and will carry up to 344 passengers at speeds in excess of 20 mph in less than 4 feet of water. To do this, she has an efficient aluminum hull structure designed to take full advantage of the bottom effect.

Performance predictions, based on model tests conducted by **Daniel Savitsky** and **Pierre De Saix** at Stevens Institute of Technology, have been fully confirmed in operation.

Owner **Ken Stein,** president of Sayville Ferry Service, reports that the Clipper has met or exceeded all of his expectations in service on Great South Bay, and predicts that craft of this type will be used extensively in the passenger service industry.

Fire Island Clipper	
Main Engine	3 Detroit Diesel (Allison Div.) RC 7122-7000
Engine Controls	Panish Controls
Shaft Size/Material	2½" Aquamet 17
Propeller	Columbian type 316 stainless 4-Blade 32" Dia.
Pumps, Bilge	Jabsco 18-320-0001
Radar	Raytheon 3900
Radiotelephone	SSB Modar MO 3002
Searchlight	Jabsco Rayline 40833-0240
Running & Navigation Lights	Pauluhn Electric Mfg.

Fink And Calvert Named At Wichita Clutch Co.



Robert P. Fink — David Calvert

The appointments of **Robert P. Fink** as sales manager and **David Calvert** as parts sales supervisor of Wichita Clutch Company, division of Dana Corporation, P.O. Box 1550, Wichita Falls, Texas 76307, have been announced by **Thomas F. Long,** general manager of the division.

Mr. **Fink** joined the Formsprag Company, which is now a unit of Dana Corporation, in 1976. He was a sales engineer in the Cincinnati, Ohio, area until assuming this current assignment. Mr. **Fink** received his Bachelor of Science degree in engineering from the University of Michigan in 1972, and his master's degree in business administration from Wayne State University in 1975.

Mr. **Calvert** joined Wichita Clutch in 1976. Before assuming his new position in parts sales, he was a production control supervisor. Mr. **Calvert** was graduated from Texas A & M University with a B.S. degree in industrial technology in 1972. Prior to that, he was an officer in the U.S. Army.

Wichita Clutch Company produces a broad line of quality air-operated clutches and brakes for the marine and a wide range of other industries.

NEW

Save about 2% on Fuel Costs

Modernize your B&W air cooler and save about 2% on fuel costs!

B&W Marine Service has launched a topical innovation: The FUEL SAVING UNIT 2 programme.

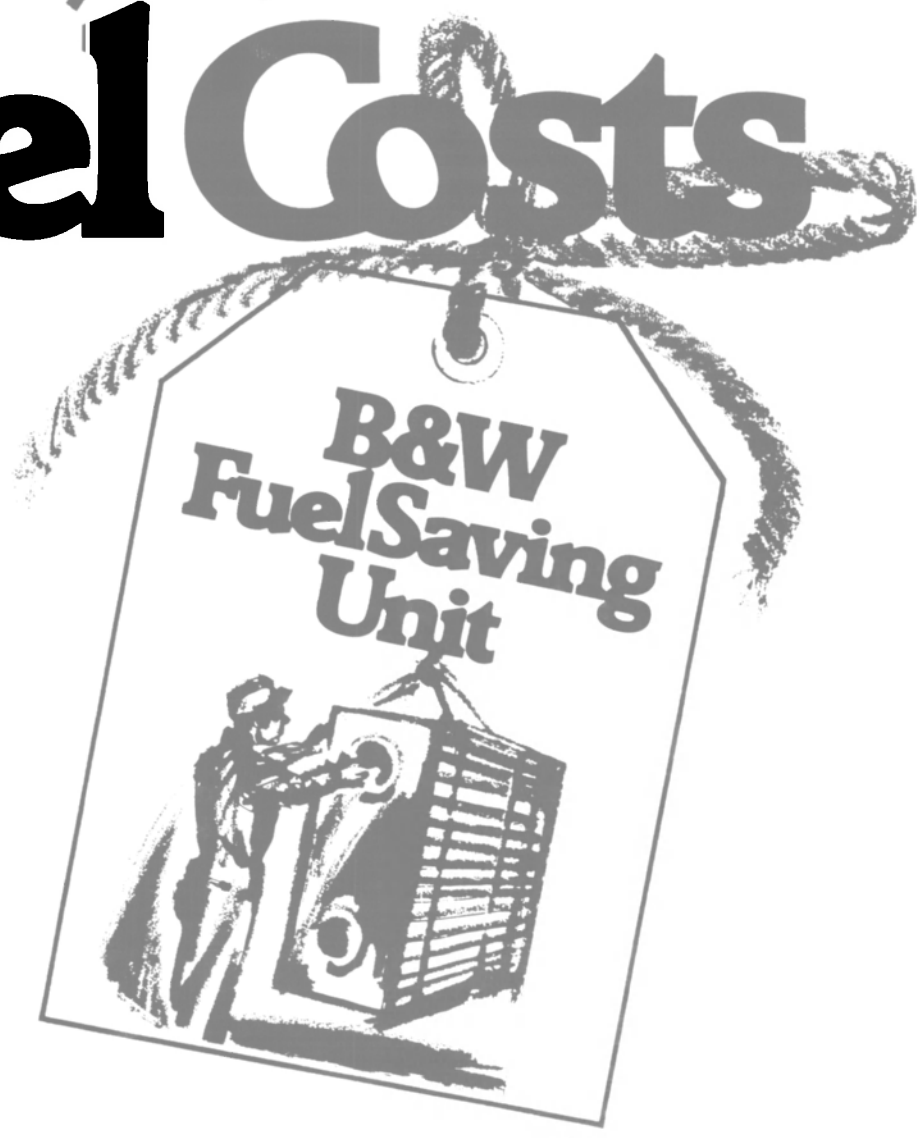
This means that your B&W air cooler can be easily modernized by building in a water mist catcher - thereby immediately achieving significantly lower fuel consumption.

The water mist catcher permits a reduction of the scavenging air temperature - and for every 10°C reduction, fuel consumption decreases by 1-1,5 g/BHPh. Dependent on the sea water temperature you can save about 2% on your fuel costs.

At the same time you achieve a lower exhaust temperature - and spare parts costs for thermically loaded parts will fall significantly. If your coolers are corroded this investment will have a pay back time of 3-5 months.

The FUEL SAVING UNIT 2 can be installed on all B&W main engine types K67GF, K80GF and K90GF which were built before 1978.

Contact B&W Marine Service for further information - also concerning YOUR specific saving potential.



B&W Marine Service

Engines, Components & Services

2, Torvegade · DK 1449 Copenhagen K · Cables: BW MARINESERVICE · Teleph: + 45-1-54 25 01
Spare Parts: Telex: 31 197 bw part dk · Technical Service: Telex: 31 151 bw serv dk

17 B&W Marine Service Centres · 28 B&W Marine Service Agents · 51 B&W Authorized Repair Shops · 26 B&W Licensees

Burmeister & Wain AS·Copenhagen·Denmark

B&W Offices (+ telephone number). Cape Town (21) 514111/Copenhagen (1) 542501/London (1) 5805391/Madrid (1) 4111413/New York (212) 269-0980/ Oslo (2) 113385/Paris (1) 522-5057/Piraeus (21) 417 6573/Rio de Janeiro (21) 232-2643/Rotterdam (10) 366833/Tokyo (3) 278-0891/
New York — One State Street Plaza, New York, N.Y. 10004

Chesapeake Section SNAME Hears Ocean Energy Systems Paper

Authors **William W. Rogalski** and **Eric A. Midboe**, both of Gibbs & Cox, Inc., **Wilbur G. Sherwood**, National Science Foundation, and **Feat Szeto**, National Oceanic Atmospheric Administration, presented a paper titled "The State of the Art in Alternate Ocean Energy Systems" at the December meeting of the Chesapeake Section of The Society of Naval Architects and Marine Engineers.

In his presentation, Mr. **Rogalski** provided an overview of a variety of wave and current energy conversion systems. Wave energy extraction systems included heaving/pitching/rolling, Mazuda (cavity resonator), wave focusing, pressure actuated, and rotating devices, while the current energy extraction devices covered rotary (axial and radial flow) and linear types. In delineating design and evaluation criteria for these systems, the author pointed out clearly that although it is relatively simple to extract wave or current energy, many problems are encountered in converting this energy into useful or usable forms. Coupled with the problem of cost effectiveness, design criteria (operability, maintainability, environmental impact, etc), and deployment of necessarily large structures, the overall complexity of wave and current energy conversion presents a formidable challenge to the ocean engineering community. However, similar challenges relating to floating platforms, mooring systems, etc., have been overcome by the adaptation of a complete system optimization concept.

Mr. **Rogalski** concluded his presentation by offering a brighter picture of the difficulties associated with these energy conversion systems. By treating the energy resource, the conversion method, the potential market, and the environment on an integrated basis, a cost-effective system can be developed.

Subsequent discussions were presented by Dr. **Michael McCormick**, U.S. Naval Academy; Dr. **Theodore Lee**, University of Hawaii; and **Ken McDonald**, Evans-Hamilton, Inc.

Pictured at the recent SNAME Chesapeake Section meeting are, left to right: **William W. Rogalski Jr.**, Gibbs & Cox, Inc., author; **Eric A. Midboe** (seated) Gibbs & Cox, Inc., author; **Lloyd Lewis**, Ocean Systems Branch, DOE, moderator; **Feat Szeto**, NOAA, author; **Wilbur G. Sherwood**, National Science Foundation, author; **Robert Scott**, Gibbs & Cox, Inc., secretary treasurer, Chesapeake Section, and **James A. Lisnyk**, Maritime Administration, chairman, Chesapeake Section.

Marine Electronics Brochure Available From Frank L. Beier Radio

A six-page brochure, available from Frank L. Beier Radio, Inc., New Orleans, La., details the company's expanding capabilities for system consultation, custom engineering, installation and service of marine navigational aids, communications equipment, and special marine electronics. Included are descriptions of Beier Radio's services, the products it handles, and information on the company's nine strategically located service points along the Gulf Coast. The brochure is available free of charge to those requesting one on company letterhead. Address requests for a free copy to **Carl Beier**, Frank L. Beier Radio, Inc., 811 South Causeway Boulevard, New Orleans, La. 70121.

Bird-Johnson Bow Thrusters Added To 3 Ships Building At Sun

The Maritime Subsidy Board has approved the payment of construction differential subsidy (CDS) for the installation of Bird-Johnson bow thrusters on three roll-on/roll-off container vessels being built for Waterman Steamship Corporation under the CDS program at Sun Shipbuilding and Dry Dock Co., Chester, Pa.

The board said the change will not affect the delivery dates of the vessels, all expected to be in 1981.

FIFTY AND COUNTING AT DRAVO — The 50th Viking-class towboat built by Dravo Corporation's Engineering Works Division slides down the ways and into the Ohio River at the company's Neville Island shipyard near Pittsburgh, Pa. Powered by two General Motors EMD 2,800-hp diesels, the 5,600-hp boat Carl H is owned by American Financial Corporation of Cincinnati, home port for the vessel. In addition to towboats, Dravo designs, engineers and constructs dry cargo, coal, tank and special-purpose barges, as well as marine accessories. Last year, the company produced a record 355 hulls.

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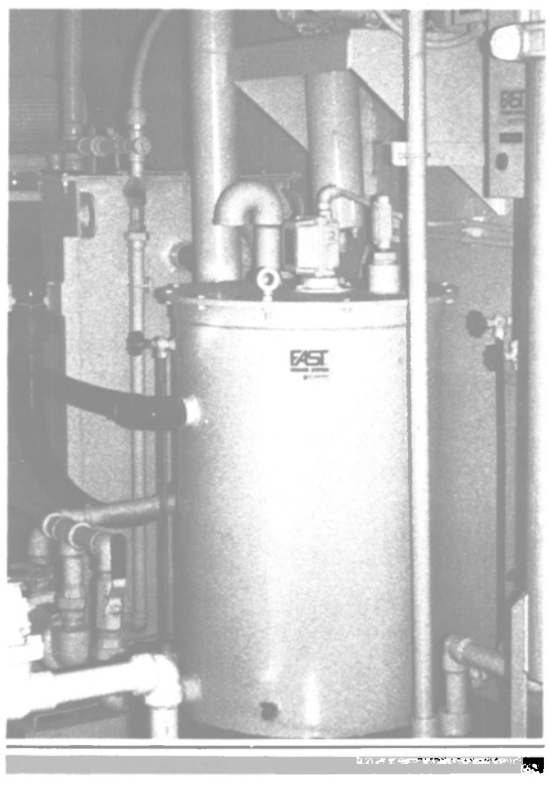
FAST Marine Sewage Systems are built exclusively by St. Louis Ship, America's Largest Inland Shipbuilding and Repair Firm. FAST® stands for Fixed Activated Sludge Treatment, which is a patented biological process for removing impurities from sewage as required by law. FAST Systems are certified by the U.S. Coast Guard as Type II flow-through devices. They also meet U.S. Public Health Service and A.B.S. Requirements, and all known or anticipated marine standards worldwide. This unique system is extremely reliable and consistent in operation. It has been proven by continuous marine service since 1970. It cannot be clogged and operates without foul odors. Simple but rugged in design, there are no adjustments. It operates with minimum maintenance, low operating costs and produces superior effluent quality. Available three ways: modular, completely assembled or built into vessel tankage. Accommodates 3 to 3000 persons. The FAST System is also convertible to Type III No Discharge operation if desired.



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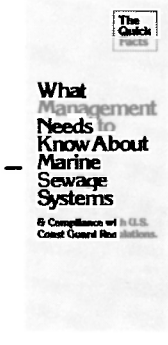
Write or call today for your copy of "What Management Needs to Know About Marine Sewage Systems, & Compliance with U.S. Coast Guard Regulations." Telephone (314) 638-4000. Telex 44-7224 ST L SHIP STL.



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Dockmaster Training Seminar Set For March 31-April 3 In Portland, Oregon

The 13th Dockmaster Training Seminar will be held March 31 through April 3 in Portland, Ore. Offered by Crandall Dry Dock Engineers, Inc. of Dedham, Mass., the seminar is intended to familiarize dockmasters and their colleagues with the many facets of drydocking vessels on all types of drydocking facilities, with special attention given to floating drydocks. **Paul S. Crandall**, president of Crandall Dry Dock Engineers, Inc., will conduct the sessions, sharing his experience and expertise gained from 34 years in the drydocking business.

The seminar will be held at the Sheraton-Portland Hotel at the Lloyd Center in Portland. Included in the program will be a tour of the Port of Portland's drydocking facilities, and in particular its new 81,000-ton floating drydock, the largest on the West Coast.

For further details, write **James Hetherman** or **Robert Nelson**, Crandall Dry Dock Engineers, Inc., 21 Pottery Lane, Dedham, Mass. 02026, or telephone (617) 329-3240.

$4-Million Navy Order To Advanced Technology For Surface Ship Work

Advanced Technology, Incorporated, McLean, Va., is being awarded a $4,028,812 negotiated cost-plus-fixed-fee contract for engineering, logistics and technical support services for surface ships. The Naval Sea Systems Command is the contracting activity. (N00024-80-C-2008)

Todd Reports 18% Rise In Sales In Third Quarter '79

Third quarter sales for Todd Shipyards Corp. rose 18 percent to $128 million compared with the same interval in 1978, while net income increased 43 percent to $4.8 million, according to **John T. Gilbride,** chairman and chief executive officer. Sales for the 39 weeks amounted to $375.2 million compared with $287.2 million in the same 1978 interval, while net income came to $13.9 million as opposed to $7.9 million the previous year.

Mr. **Gilbride** states that Todd's $1.2-billion FFG program for the construction of 22 vessels for the U.S. Navy is proceeding on schedule.

Builder sea trials for the first FFG at Todd's Los Angeles, Calif., facility have been completed and delivery is scheduled this month. The first FFG from the company's Seattle, Wash., yard is currently undergoing sea trials and delivery is scheduled for early spring. Deliveries of another four FFGs from both yards will follow during the fiscal year ending in March 1981.

Brown Named Executive Vice President-Staff At Seatrain Lines

Robert Brown, a member of Seatrain Lines' board of directors, has been designated executive vice president-staff.

At the same time, the company announced that **Peter M. Magee** has been elected a corporate officer.

Mr. **Brown** joined Seatrain in 1974. In addition to his new duties, which include business planning as well as new business development, he will continue to be responsible for the container staff group. Mr. **Magee** joined Seatrain in 1974 and is president of the company's Atlantic container division.

GREAT GRAND DADDY'S SHIP — Six-year-old **Daniel J. Callaghan IV** shows off the champagne bottle used recently in Pascagoula, Miss., to christen a new guided missile destroyer named in honor of his greatgrandfather. The ship, being built by Ingalls Shipbuilding Division of Litton Industries, is named for Rear Adm. **Daniel J. Callaghan,** a Congressional Medal of Honor winner who was killed on the bridge of his flagship during the World War II Naval Battle of Guadalcanal. The ship was christened by the admiral's granddaughter, **Mrs. Sharon Callaghan Giacone** of San Rafael, Calif. Designated DDG-994, the Callaghan is 563 feet long, displaces 8,100 tons, and is one in a series of multimission destroyers being produced at Ingalls for the U.S. Navy.

You can pay a little more now, or a lot more later.

Jeffboat refuses to compromise on quality. Because we don't, the initial cost of a Jeffboat barge may sometimes be slightly higher.

But the true cost of ownership is over the life of a vessel, not the initial investment. And no one can match the added service Jeffboat quality builds into our vessels.

A Jeffboat-built barge offers superior fitting, joining, sizing and plate preparation. No detail goes overlooked. After a weld, for example, we eliminate the slag residue to be sure the weld is true and strong.

When you build a barge this way it may cost you slightly more initially. But on the true bottom line—many extra years of dependable performance with minimal maintenance problems—it's actually going to cost a good deal less.

And we'd be happy to help you compare your barge specifications against ours so you can see for yourself the reason for these savings.

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M/V National Energy Christened In New Orleans

Powered by two GM Electro-Motive turbocharged diesel engines, the M/V National Energy joins the National Marine Service fleet. Built by Dravo's Neville Island, Pa., yard, the vessel has an overall length of 140 feet, molded width of 42 feet, and a molded depth of 11 feet.

The M/V National Energy, flagship of National Marine Service Incorporated towboat fleet, was christened recently at dockside ceremonies in New Orleans, La.

As a mover of bulk petroleum and chemical products, the new towboat will primarily serve the Gulf Intracoastal and lower Mississippi River System. The vessel measures 140 by 42 by 11 feet, and is powered by two 16-cylinder General Motors EMD turbocharged diesel engines. Engine performance is monitored by National Marine's TUGMONITOR system. It is equipped with the company's BilgeMaster oil-water separator and energy recovery system.

The 5,600-horsepower towboat was built by Dravo Corporation's Engineering Works Division and launched from its Neville Island shipyard near Pittsburgh, Pa., (see MARITIME REPORTER/ Engineering News, December 1, 1979, issue, cover story).

According to **David A. Wright**, president of National Marine Service, the name National Energy emphasizes the energy efficiency of the waterway industry and the company's role in moving the nation's energy resources.

M/V National Energy

Propulsion

Two General Motors Corporation, Electro-Motive Division Model #16-645-E7B Marine Turbo-Charged Diesel Engines, with Air-flex clutches, Falk Model 30 MR40 Reverse-Reduction Gears, and Accessory Rack Assembly. Each engine turning at 900 rpm delivers 2,800 continuous hp to its propeller.

Auxiliary Equipment

Generator Sets ... 2 each 150-kw generators, GM Model No. 7083 driven by 8V-71N, Model 7005 diesel engines.

Propellers ... Cast stainless steel, 9'0" diameter with Dravo modified Kort nozzles.

Engine Monitoring ... National Marine Service Tugmonitor and National Marine Service TaCHRONitor.

Searchlights ... One each 19" 45 amp carbon arc and Xenon searchlights.

Bilge Control ... One each National Marine Service BilgeMaster I (microprocessor) installed for use in the stack evaporation mode.

Navigation Equipment

2 each Raytheon, Model 1625-6XR radars.

1 each Sideband Associates Model SBA312 SSB transceiver.

2 each Motorola Model 5575 VHF FM transceiver.

1 each Raytheon Model DE 740 depth-sounder.

1 each Motorola Model Triton portable FM transceiver.

David A. Wright, president of National Marine Service, Incorporated, welcomed guests and dignitaries at the christening ceremonies for the M/V National Energy, flagship of National Marine Service, Inc.'s towboat fleet.

Vice president-Sales, Dravo Corporation, **N.B. Mortimer's** comments are applauded by National Energy's sponsor **Grayce Gauthier. Mrs. Gauthier** is wife of **C.J. Gauthier**, chairman and president of NICOR, holding company of National Marine.

Literature Offered On New Harris RF Communications Synthesized Transceiver

Literature is now available describing the RF-230M, a powerful synthesized transceiver from Harris RF Communications, Rochester, N.Y. The new model is designed for channelized operation on up to 96 preset channels and up to 1,000 watts for onboard or limited coast capabilities.

Designed with Electronically Alterable Read Only Memory (EAROM), it is easily programmed with no crystals to change.

Modular construction, completely solid-state design, and simple operator controls make the RF-230M an easy to operate, compact unit. Banded automatic servo tuning in the antenna coupler directs the 125-watt PEP output to the antenna and constantly monitors and adjusts to changing environmental conditions. The full line of accessories are all designed around the building block concept.

For complete literature, write **J.D. Vatcher,** Harris Corporation, RF Communications Division, 1680 University Avenue, Rochester, N.Y. 14610.

The John Gregory was delivered recently by Atlantic Marine, Inc. to owners **Manly R.** and **Diane Willis**. The 74-foot combination trawler will be bottom trawling along the Atlantic Coast from Virginia to New England.

Atlantic Marine Delivers 74' Combination Trawler John Gregory

The John Gregory, a new 74-foot combination trawler, has been delivered by Atlantic Marine, Inc., Ft. George Island, Fla., to owners **Manly R.** and **Diane Willis** of Virginia Beach, Va.

The vessel, modified by the addition of a stern ramp, will be used for bottom trawling from Virginia up the Atlantic Coast to New England. Designed to carry a crew of four, the trawler has a 20-foot 6-inch beam and a molded depth of 11 feet 6 inches.

A Caterpillar 3408 engine supplies 365 hp at 1,800 rpm, with Twin Disc reduction gear MG 514C, 6:1 ratio. The fish hold volume is 2,400 cubic feet, and the new vessel has a 1,800-gallon freshwater capacity and 17,500-gallon fuel oil capacity.

Atlantic Marine, Inc. builds steel-hulled boats for fishing and offshore supply purposes, featuring inverted-hull assembly for stronger seam welds. The shipyard is located on the St. John River entrance to the Port of Jacksonville, two miles from the Atlantic Ocean.

The John Gregory

Main Engine	Caterpillar 3408
Reduction Gear	Twin Disc MG 514C, 6:1 ratio
Propeller	66" Columbian Bronze 4-Blade
Tailshaft	Aquamet 18 4½" stainless
Auxiliary Engine	Lister ST-2
Deck Equipment	McElroy 504 mechanical winch
VHF	Modar Triton 55/25
Fathometer	Sitex
Autopilot	Wood Freeman Model 15B
Loran	Micrologic Model ML-320 w/ ML-85 plotter
Pumps	(2) 1¼" ITT Jabsco

Mark Twain, on piloting a riverboat:

"I loved that profession far better than any I have followed since, and I took a measureless pride in it."

"Old Times on the Mississippi"

There's a deep feeling of accomplishment that goes with pushing tons of barge and freight up and down the river. Now, as in the 1850's, it takes superior men and rugged machinery. Gulf Marine Lubricants are manufactured for these men and this machinery. Gulf products and Gulf services meet the standards of the river.

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For information on any Gulf marine product, ask your Gulf pro, or write for the Gulf Inland & Coastal Marine Lubricants brochure and Midstreamers Directory. Gulf Oil Corporation, P.O. Box 1563, Houston, Texas 77001

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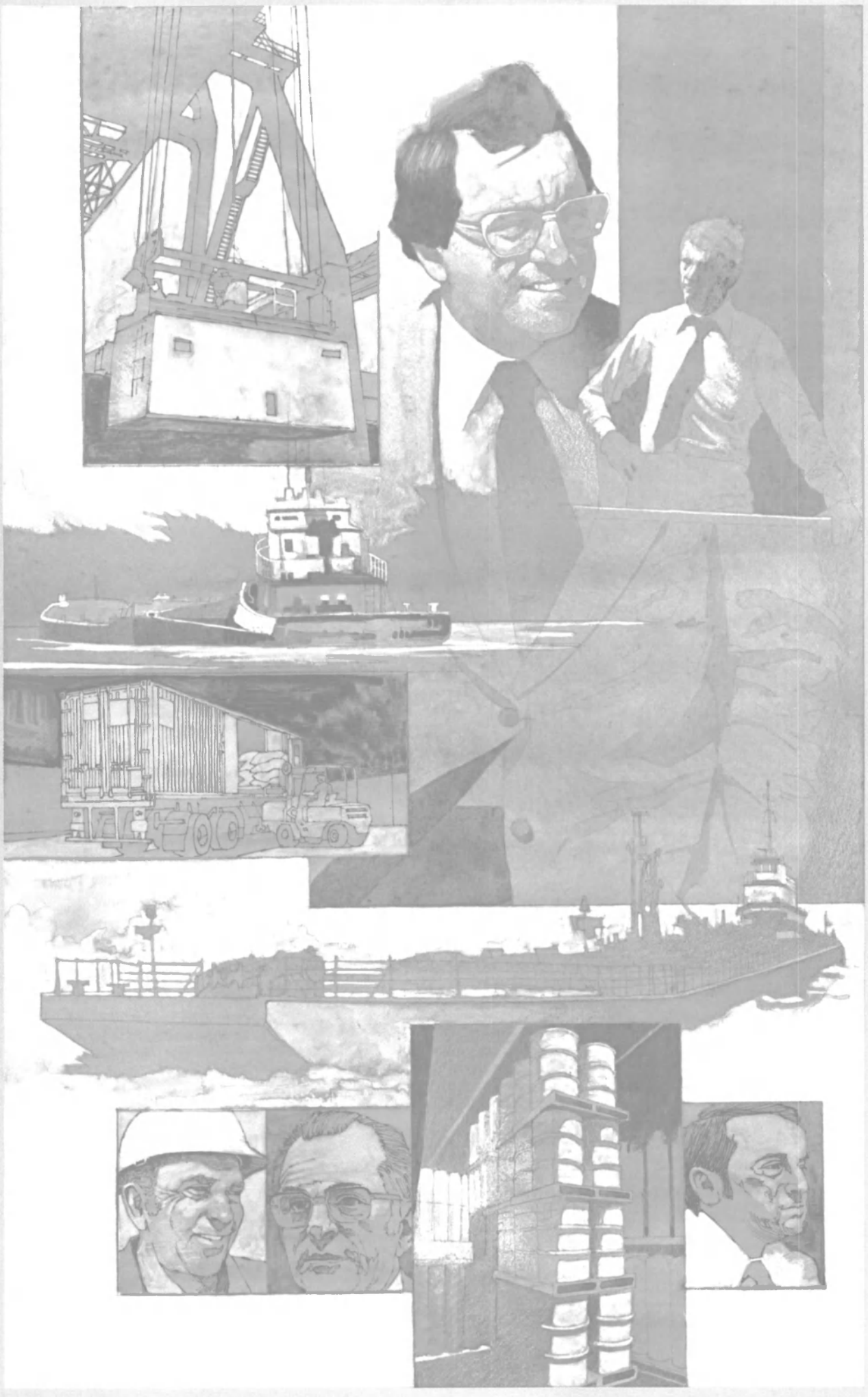

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$76 Million Awarded To Ingalls By Navy For Additional CG-48 Work

Litton Systems, Inc., Ingalls Shipbuilding Division, Pascagoula, Miss., is being awarded a $76,153,578 modification to a previously awarded cost-plus-award-fee contract for long lead time materials for the construction of guided missile cruiser CG-48 (formerly DDG-48). The Naval Sea Systems Command is the contracting activity. (N00024-78-C-2316)

Second Tsavliris Bulkcarrier Delivered By CCN

Companhia Comercio e Navegacao (CCN) of Brazil recently delivered the Claire A. Tsavliris, a 26,500-dwt Prinasa 26/15 bulkcarrier, to her owners the Greek Tsavliris Group.

The second vessel to be delivered by CCN for Greek account, the Claire A. Tsavliris joins her sistership, the Alexandros G. Tsavliris, which was delivered last year.

The vessel was put into service upon delivery. The Claire A. Tsavliris has full container capability and can carry about 600 twenty-foot containers, as well as timber, on deck. She has a lifting capacity of 32 tons on twin crane operation, and can carry general cargo, containers, iron ore, and a variety of other goods in her five holds.

Equipped with a 13,300-bhp diesel engine, the vessel can develop a service speed of 15.4 knots at 85 percent MCR. The ship's length overall is 173.16 meters, length bp, 163 meters, breadth, molded, 16.6 meters, depth, molded, 13.5 meters, and a mean summer draft of 9.72 meters (about 568 feet by 535 feet by 54 feet by 44 feet by 31 feet).

McDermott Develops New Pipeline Welding System —Literature Available

J. Ray McDermott & Co., Inc. of New Orleans, La., has completed tests on a new automatic marine pipeline welding system. McDermott reports the system, under development since 1976, will increase the speed and quality with which large diameter pipe can be welded aboard marine lay barges. The company is offering a free, full-color brochure describing the new method.

This system utilizes the gas tungsten arc welding process with two carriages that operate on a forged aluminum track, hinged at its top to open and close like a clamshell. Each carriage positions two torches, and each torch welds 90° of the pipe circumference. The carriages are mechanical mirror images of each other, and they contain all of the mechanical parts that convert electronic commands into the physical motion to perform the weld. Pipe ends are prepared for welding and aligned using conventional end-facing machines and internal line-up clamps.

At each of five weld stations, four solid-state 600-ampere direct-current power supplies with 100 percent duty cycle are used. A sequence and control console manages the system at each station. The modular design of the console permits quick removal and replacement of components.

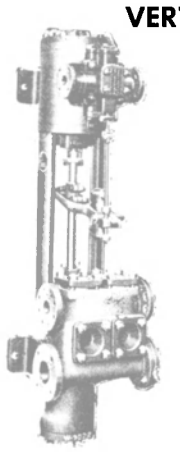
Consumables required for the McDermott system include helium gas, argon gas, 0.045-inch-diameter welding wire on 12-pound spools, 0.156-inch-diameter tungsten electrodes, torch gas lenses, and torch collets.

McDermott estimates that, conservatively, the weld cycle time required for 36-inch-diameter, 1-inch-thick pipe will be less than five minutes when five or more stations are used. This equals about 240 joints per day (9,600 feet) if no weld repairs are required. Developmental welds have exceeded API STD 1104 requirements for both X-ray inspection and mechanical testing.

For more information on the system and a free brochure, write to **William Finger**, P.O. Box 60035, New Orleans, La. 70160.

PUMPS

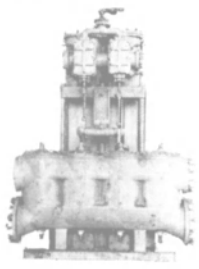
UNUSED WORTHINGTON VERTICAL SIMPLEX PUMPS



8 to 20 GPM—up to 350#. Also suitable for small boiler feed service. Steam WP 220# and 10# exhaust.
for Liberty Ships EC-2 & Victory Ships VC2, AP2 & AP3. (Fuel oil service) Liquid capacity from 7½ x 4 x 10—3" suction—2" discharge—1¼" steam—1½" exhaust. OAH 5'2"; OA depth 23"; OAW over air dome 2'2". Weight about 800#. Suitable

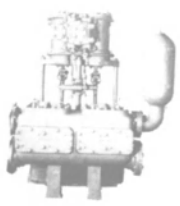
$1195

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



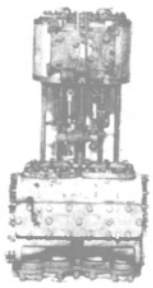
1400 GPM @ 110 PSI — suction lift 11.5 ft. — steam back pressure 15 lbs. 14" Suction — 10" discharge — 2½" steam — 4" exhaust. Overall width 6'8" — overall height 9'1½" — depth 3'9½". Wt. approx. 10,000 lbs.

STEAM DRIVEN VERTICAL DUPLEX FIRE & GENERAL SERVICE PUMPS



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

8" X 8" X 10" VERTICAL DUPLEX PUMP



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

PRACTICALLY NEW

LIDGERWOOD STEAM CAPSTAN

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

4 NEW UNUSED SUMP OR LOW PRESSURE DRAIN PUMPS

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

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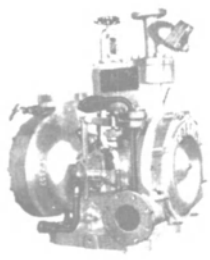
COFFIN FEED PUMPS — ALL SIZES —

TYPE DE

3 TYPE DE-2
540 GPM 1870' NET HEAD

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



TYPE CG

2 TYPE CG 350 GPM 1880' NET HEAD

7220 RPM—311 HP. Steam pressure 580 PSIG—0°-100° superheat. Exhaust 15 lbs—typical serial #5437-CG-8-8-33

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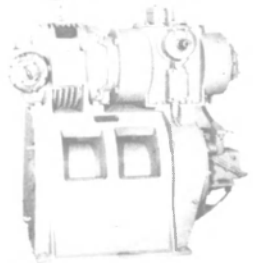
Mfg. by Skagit

Rated 4000 lbs. @ 80 FPM

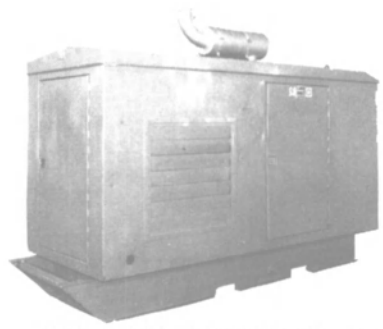
6500 LBS OF BOAT & MAN AT 40 F.P.M.



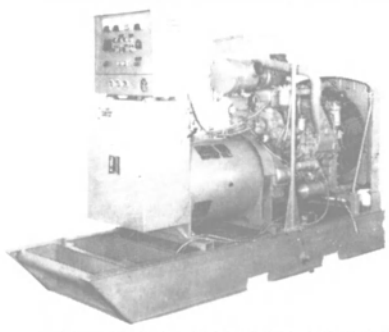
Motor: 13.5 HP — 440/3/60. Designed for ½" 6x37 wire rope. Divided drum with 2 spooling areas. Drum 8½ wide — 4" flange — 10" diameter. Complete with level wind. Also capable of manual operation by crank in case of motor failure. Hand brake & speed limiting brake are provided for holding & lowering boat by gravity. Non-magnetic.

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

ALL VOLTAGES POSSIBLE



UNIT WITH CABINET IN PLACE

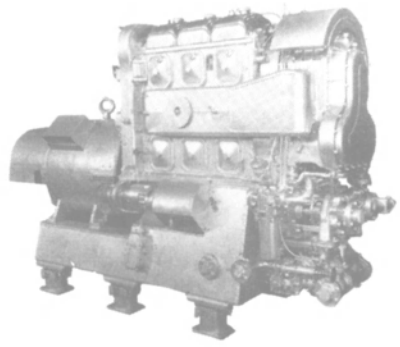


UNIT WITH CABINET REMOVED

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

WITH SWITCHGEAR / ALARMS / DISCONNECT

G. M. 3-268A 100 KW A.C. DIESEL GENERATOR SETS



ENGINE: GM 3-268A — 6½ x 7 — 1200 RPM — 80% power factor — electric starting. GENERATOR: 100 KW — 440/3/60/1200 RPM — 161 amps. Dripproof — open — self-ventilated. (Class "A" insulation stator — Class "B" insulation on field). EXCITATION: 2 KW DC unit — 9' 1¾" long — 37" wide.

FOR C4-SA1-VESSELS

"General" Class — like-new condition

2 MAIN CF2V

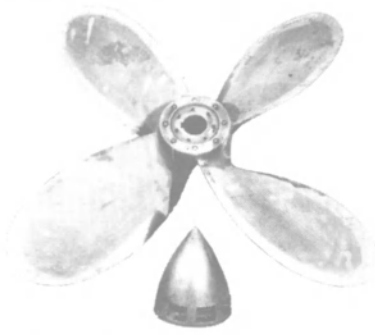
CONDENSATE PUMPS

Size 6X3 — 175 GPM
185 Ft. Head — 1750 RPM

ALSO AVAILABLE

Turbine rotors — transfer pumps — complete Turbo Generators, etc.

4-BLADE LST BRONZE PROPELLERS



Starboard — 7' diameter — pitch constant 4.699: Bore tapers from 6⅛" to 4 53/64". 14½" taper equal to 1"/foot on diameter. U.S. Navy reconditioned. Average weight 1760 lbs.

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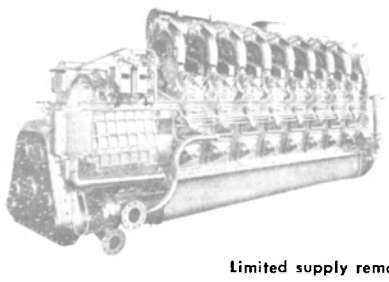
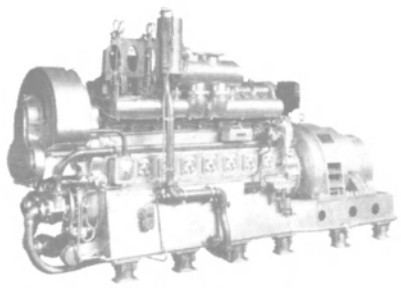
G. M. 16-278A 1700 H. P. DIESEL ENGINES



Limited supply remaining

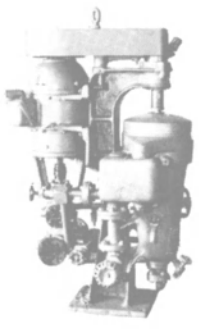
Complete, clean and in very good condition. As removed from U.S. Naval vessels. 1700 HP @ 750 R.P.M. Your inspection invited.

G. M. 8-268A 200 KW A.C. DIESEL GENERATOR SETS



ENGINE: 8-268A — 6½" bore — 7" stroke — 1200 RPM — driving Westinghouse generator — 200 KW — 440 volts — 3-phase — 60 cycle — 321 amps — 80% power factor at 1200 RPM. Switchgear available.

SHARPLES OIL PURIFIER



Ex. U.S.N. As removed from vessel. For lube or fuel oil. 225 GPH — viscosity 45, SSU @ 100°F fuel oil. 225 GPH — viscosity 180-200 SSU—130° lube oil. For lube oil models M-85-34-5-23BM-44 — for fuel oil M-85-35-5-8CA-13. Bowl speed 17,000 RPM—1" oil inlet & outlet. Vertical 2 HP 440/4/3400 RPM motor. Many units with stainless steel bowls.

$1695 EACH

located at Md. 21230

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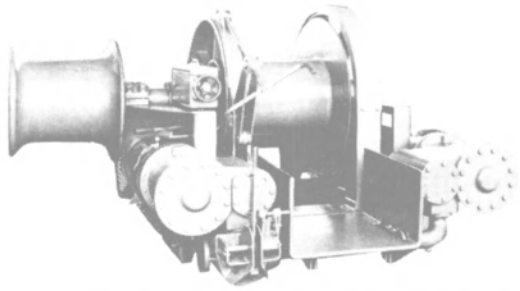
MD. U.S.A. TWX 710-234-1637

STEAM MOORING WINCHES

12" x 14" — AUTOMATIC TENSIONING with foot brake & declutchable gypsy head

20,000 LBS @ 100 FPM—FIRST LAYER



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

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

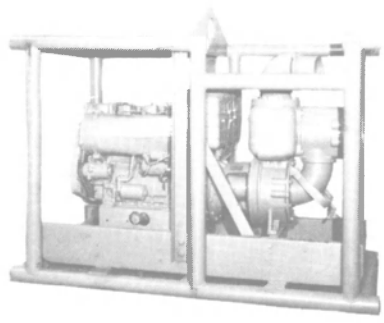
ALSO IN STOCK

12" x 14" Double Gypsy Unit

ALL UNITS CAN BE DEMONSTRATED RUNNING

MARLOW

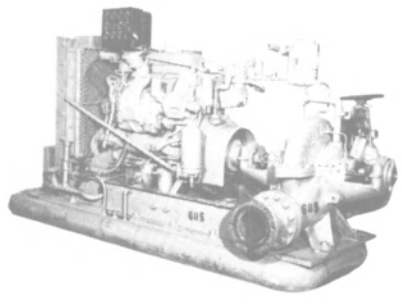
6" Self-Priming Salvage Pump



Marlow model 6EF18—driven by VM air-cooled 3-cylinder 52 HP diesel engine. 96,000 GPH at 40 ft. Maximum heads to 70 feet.

GARDNER-DENVER 6" X 5"

BRONZE CENTRIFUGAL FIRE or JETTING PUMP



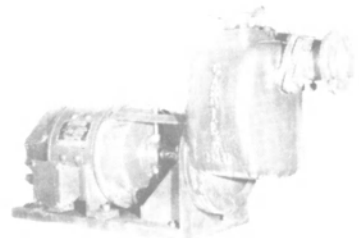
Driven by GM 3-71 diesel engine. PUMP: 1000 GPM @ 150 PSI/1500 GPM @ 100 PSI — 1750/2000 RPM. Maximum 175 PSI. Self-contained fuel tank in base. Automatic self-priming optional.

IMMEDIATE DELIVERY

2 3/4" STUD LINK CHAIN

10 Shots — with connecting links. ABS certificate. Practically New

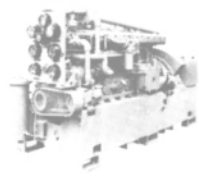
CARTER BRONZE SELF-PRIMING BILGE & GEN. SERVICE PUMP



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

$1466

100 KW GBD-8 DIESEL GENS.



From LST vessels. 120/240 VDC — 417 amps — stab shunt — 1200 RPM —Delco gen.—self-excited. ENGINE: Superior GBD-8 — 8 cyl — 5½x7 — 150 HP — 30 volt electric starting. Reconditioned to ABS. Dry wt 10,000 lbs — DAL 124" — 65-11/16" high — 42" wide. Ht necessary to pull piston 68". Fuel consumption 0.620 lbs/hr

T-2 EQUIPMENT

Selected Items Listed

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

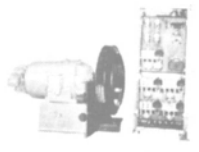
10 Stage — 435# — 720°T.T.

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

WESTINGHOUSE MAIN PROPULSION GENERATOR STATOR

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

5-SPEED FORCED DRAFT FAN MOTOR



For T-2 Tanker. MOTOR: Totally enclosed—frame 505-S—440/3/60 —1770 RPM—typical serial #673-1807. CONTROLLER: 50 HP — CR-5333-820 — Cat. 932-1485. Max. amps 60.

WESTINGHOUSE 538KW TURBINE ROTORS

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

We have both types:
110KW — 32KW — 5.5KW
110KW — 28KW — 5.5KW

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

- G.E. DORV-325M TURBINE ROTORS
- 400 KW 450/3/60/1200 A.C. 6-POLE REVOLVING FIELDS
- D.C. EXCITERS — 75KW/55KW
- AMPLIDYNE GENERATORS — NEW STYLE — LY-148

Wayne Musgrove To Head New Chem-Marine Corp.

Wayne Musgrove

Kenneth Dunagin

John W. Lambert

Larry Musgrove

Bob Hougland

Morgan City businessman and marine specialist **Wayne Musgrove** has been elected president and board chairman of Chem-Marine Corporation. The new Louisiana corporate structure was organized by Twin City Barge & Towing Company (TCB) of St. Paul, Minn., and Transload & Transport, Inc. (TTI) of Morgan City, La.

With headquarters in Morgan City, the company is also opening sales offices in Houston, Texas, and in Baton Rouge, La.

In making the joint announcement, **Kenneth Dunagin,** TTI president, and **John W. Lambert,** TCB president, said the freightment corporation will take delivery of 11 specialized 1,400-ton tank barges with double skin construction. The vessels are built to carry petrochemicals and water white products, including all products regulated by Sub-Chapter O.

Wayne Musgrove said the fleet is expected to provide "a major chemical transportation company to serve the Gulf (of Mexico) coastal area."

The Houston sales office will be headed by **Larry Musgrove,** formerly employed by Zigler Shipyards, a division of Lee-Vac, Ltd. **Bob Hougland** moves to Baton Rouge to head the sales operation there from St. Paul, where he served as director of administration and development for Harcon Barge Company.

Serving the Chem-Marine board of directors in addition to **Wayne Musgrove,** Mr. **Dunagin,** and Mr. **Lambert,** will be **William L. Lusk,** now a TCB vice president.

In addition to heading up Chem-Marine, **Wayne Musgrove** is also the owner of Musgrove Marine, Inc. and Robinhood Shifting & Fleeting Services, Inc. He is part owner of Claiborne Island Marine Service, Inc. All the corporations owned by **Wayne Musgrove** are headquartered in Morgan City.

Before organizing his own companies beginning in 1976, **Wayne Musgrove** worked for Lee-Vac, Ltd., where he held various positions including vice president, MarVac Gulf, Gateway Barge Line, Domar Ocean Transportation, and Zigler Shipyards (all Lee-Vac subsidiaries).

Earlier in his career, he gained experience as a salesman/pilot/wireline operator for Schlumberger, petroleum reservoir engineer for Core Lab, Inc., and as a mud engineer and pilot for Intracoastal Liquid Mud.

Mr. **Dunagin,** in addition to the presidency of TTI, is owner of K-D Marine, Inc. and part owner of Claiborne Island Marine Service, Inc. A former coach and teacher and former Lee-Vac, Ltd. executive, Mr. **Dunagin** is a native of Decatur, Miss.

In addition to the experience gained as chief executive officer of TCB, Mr. **Lambert** brings to the Chem-Marine board experience as officer and/or director of Twin City Shipyard, Inc., United Coal Sales Co., Twin Tech Oil Co., Houston; Packer River Terminal, Inc., and River Logistics.

Mr. **Lambert** is also a member of the executive committee of the Upper Mississippi Waterway Association, and a former director of the Public Affairs Committee of American Waterways Operators, Inc. He is the author of a volume entitled "The Economic Impact of Waterborne Transportation on the Upper Mississippi River Basin."

Larry Musgrove, a Beaumont, Texas, native, brings to the Houston sales office extensive experience. Before beginning his tenure with Zigler Shipyards, he worked with a drafting and engineering firm in Houston.

Mr. **Hougland** brings to the Baton Rouge sales office a lifetime of experience in the "inland towing industry," where he "worked in all phases from making rigging to pilot work."

During earlier employment with TCB, Mr. **Hougland** worked extensively in the movement of liquid products ranging from petrochemicals to asphalt. His experience also includes operations, sales and marine program development. In addition to his most recent TCB assignment, he has also served as vice president of operations of United Coal Sales and as president of Rochester Dock Co.

$3.8-Million Navy Overhaul Contract To Marine Inc., San Diego

Marine Incorporated, San Diego, Calif., is being awarded a $3,846,000 formally advertised firm fixed price contract for the regularly scheduled overhaul of the San Onofre (ARD-30). The Supervisor of Shipbuilding, Conversion and Repair, USN, San Diego, is the contracting activity. (N62791-77-C-0001)

Brochure Available On Norshipco Repair Facility —Highlights Titan Drydock

Norfolk Shipbuilding and Drydock Corp. recently published a full-color brochure featuring the $27-million expansion of the company's ship repair station in Norfolk, Va.

Highlight of the multimillion-dollar expansion project is the Norshipco Titan, one of the world's largest and most modern floating steel drydocks. The illustrated brochure describes access, capacity, and services available at the Norshipco repair facility. A list of Norshipco offices and agents, complete with addresses, phone and telex numbers, is included.

For a free copy of the brochure, "Berth Place of the Superships, The Norshipco Titan Drydock," write **Fred Ganter,** Norfolk Shipbuilding and Drydock Corp., 65 Broadway, Suite 1127, New York, N.Y. 10006.

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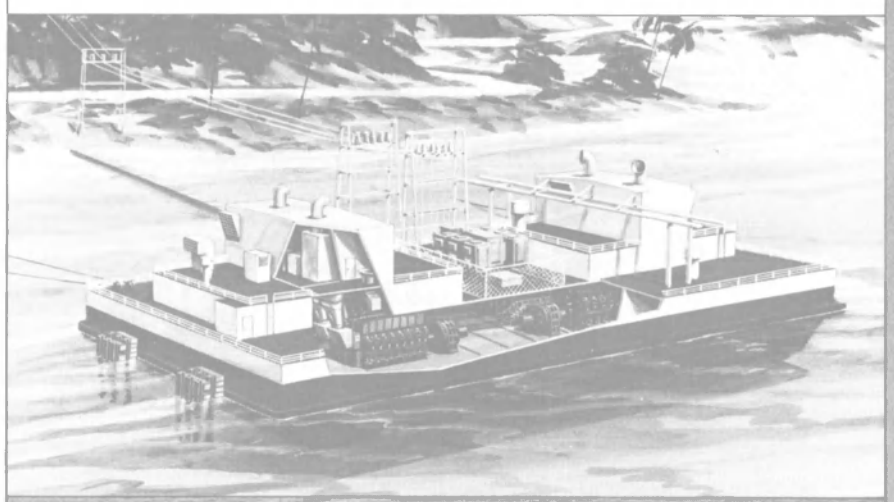
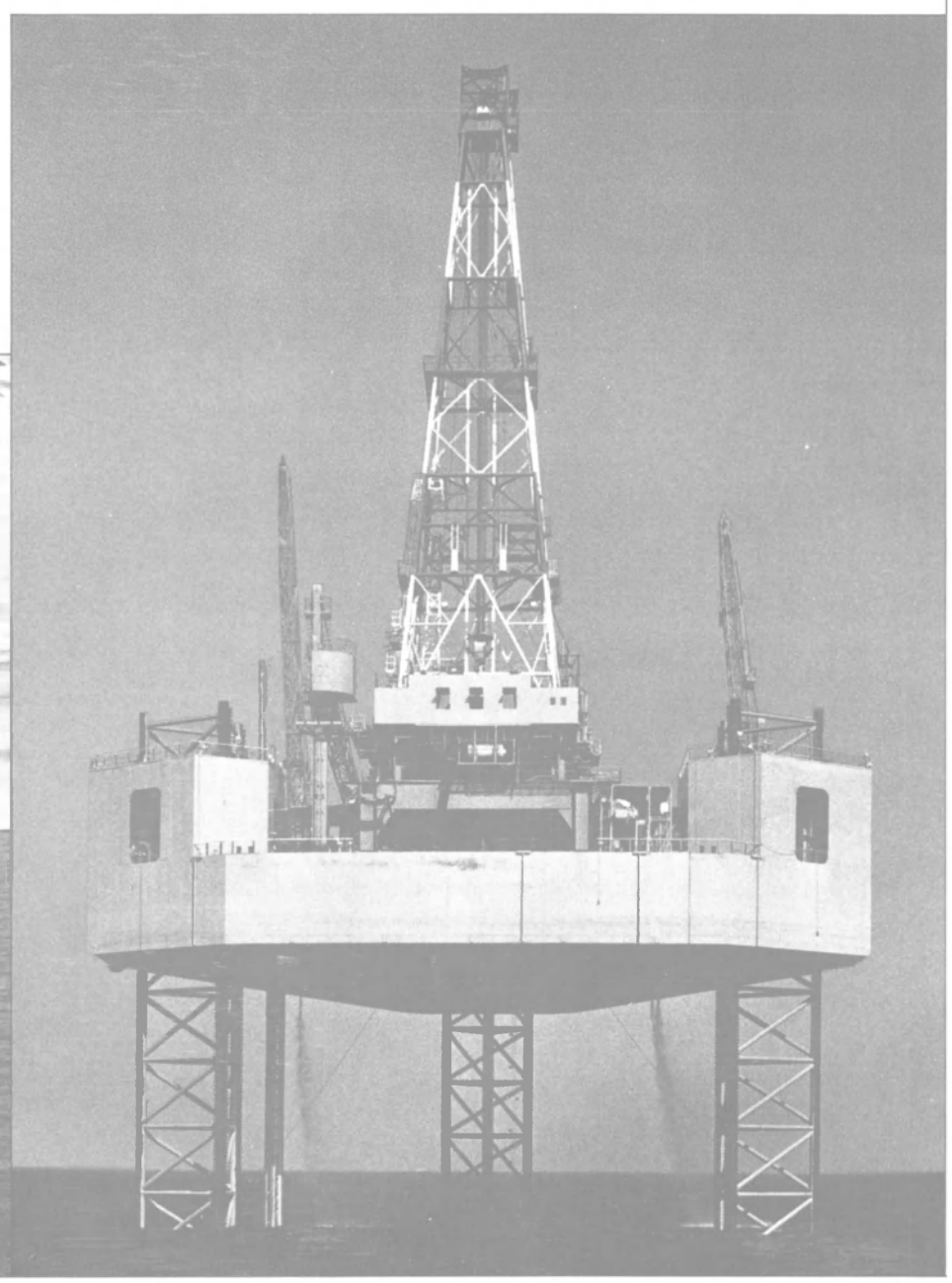
This expertise is apparent in the world's largest barge-mounted desalination plant that we constructed for the Middle East. In addition, we have recently received an order to build two barge-mounted power plants for the Philippines.

Our approach is total. So whenever you have a comprehensive offshore project in mind, get in touch with us or our overseas representative nearest you. Your project's in good hands when you do.





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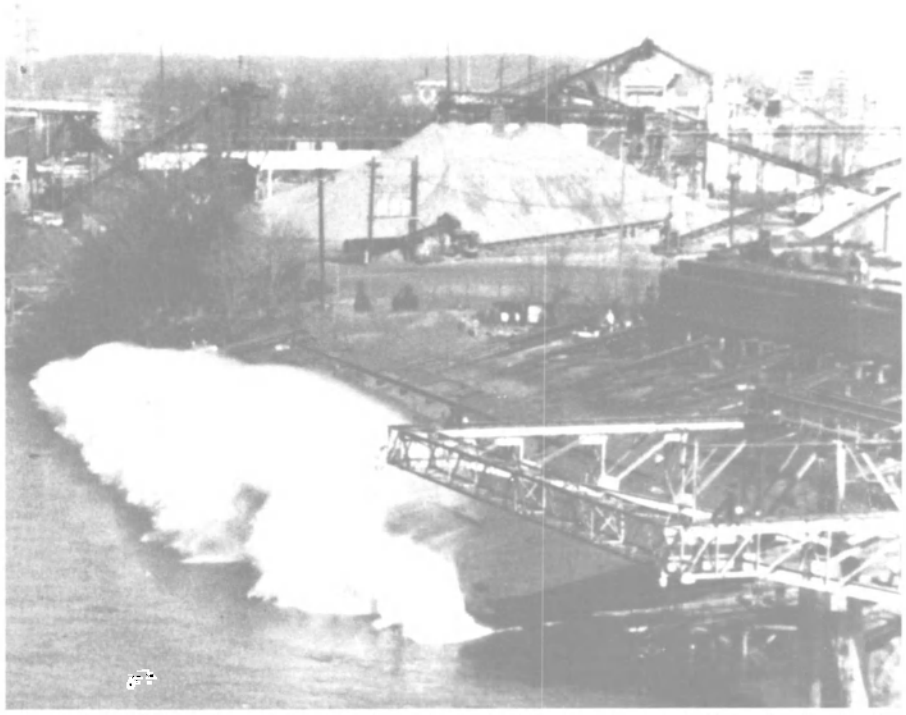

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The barges, certified by the United States Coast Guard, have the proper valves and fittings for grade "A" and limited subchapter "O" products for type II and III hulls. They are classed by the American Bureau of Shipping as +A-1 Tank Barge River Service.

All tank barges built by NABRICO meet the full requirements established by the American Bureau of Shipping and the United States Coast Guard.

Cargo capacity for each barge is 30,720 barrels. The cargo dwt at 9-foot draft is 3,204 tons, based on light ship weight of 755 tons.

Combined cost for the six barges, which are being built under three separate contracts, is approximately $5.54 million. The two remaining barges are scheduled for completion this month.

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Voss Brochure Describes Metric Hose Assemblies

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Voss also manufactures metric steel tube fittings, tube clamps and metrically dimensioned steel tubing. The addition of hydraulic hose to the Voss product line will provide customers with a one-stop source for metric requirements, says **Les Stoller**, vice president and general manager.

A free brochure is available by writing **Les Stoller**, Voss, Inc., Suite J, 7029 Huntley Road, Columbus, Ohio 43229.

Santa Fe Names Three To Top Management Posts

Edfred L. Shannon Jr.

Gordon M. Anderson

Clyde F. Dawson

Edfred L. Shannon Jr., president of Santa Fe International Corporation, Orange, Calif., for the past 17 years, has been elected chairman of the board of directors and chief executive officer.

Assuming the newly created office of president and chief operating officer is **Gordon M. Anderson**, who has been president of the subsidiary, Santa Fe Drilling Co., since 1970.

The newly elected president of Santa Fe Drilling Co. succeeding Mr. **Anderson** is **Clyde F. Dawson**, who has been senior vice president and assistant to the president of the drilling subsidiary.

In stepping up to chairman, Mr. **Shannon** becomes only the second person to serve in that capacity during the 33-year history of the company. He was elected president and chief executive officer in 1962 to succeed the founder of the company, the late **Jerald D. (Joe) Robinson**, who served as chairman until 1966. The position had been vacant since that time.

The company was founded at Santa Fe Springs, Calif., as Santa Fe Drilling Co. in 1946, and became one of the leading international drilling contractors before changing its name in 1968 to Santa Fe International Corp.

After accepting its first foreign drilling job in Venezuela in 1948, Santa Fe expanded its operations to more than 70 countries and branched out from drilling to construction, exploration, engineering, oil and gas production and pipelaying. Under Mr. **Shannon's** leadership, company revenues have risen from $24 million in 1962 to an annual rate of more than $500 million, and a further increase of some $300 million is expected this year when the merger with C F Braun & Co. is closed.

Mr. **Shannon** graduated from the University of California, Berkeley, in petroleum engineering in 1951, and worked two years for Union Oil Co. of California before joining Santa Fe in 1953. Now 53 years old, he lives in Whittier, Calif., with his wife, **Ruth**.

Mr. **Anderson**, a 1954 mechanical engineering graduate of the University of Southern California, completed his 10th year as president of Santa Fe Drilling Co. early in January.

The company now owns and/or operates more than 80 onshore and offshore drilling rigs in the United States and 14 foreign countries. Drilling operations account for approximately one-half of Santa Fe International's gross revenues.

Mr. **Anderson** started work for the company as a roughneck during summer vacations from Glendale College and the University of Southern California. He joined the company full time as an engineering trainee following his graduation in 1954, and later held management positions with the company in Chile, Libya and other foreign zones before returning to the home office in Santa Fe Springs in 1967. There, he served successively as manager of Contracts Administration and executive vice president before being elected president.

He has been a member of the board of directors of the parent company since 1968, and has been senior vice president since 1974.

Mr. **Dawson**, a 1948 chemistry-engineering graduate of Stanford University, worked for Mobil Oil Corp. several years in California, Libya, Colombia, Peru, Venezuela, and in corporate headquarters in New York before joining Santa Fe as assistant manager of its Venezuelan operations in 1962.

After serving as manager in Abu Dhabi in 1963-64, Mr. **Dawson** returned to Venezuela as zone manager in 1965, and was promoted area manager for all Latin America in 1968.

The following year, Mr. **Dawson** went to Australia as vice president and general manager of the construction subsidiary, Santa Fe-Pomeroy, Inc., and later was assigned to Nigeria, where he was responsible for both drilling and construction operations.

He transferred to the Middle East in 1972, and served as Drilling Division vice president and regional manager in Tehran and Beirut. In 1976, he moved to London as vice president and general manager for the Eastern Hemisphere. He has been assigned to headquarters in Orange as senior vice president and assistant to the president since 1978.

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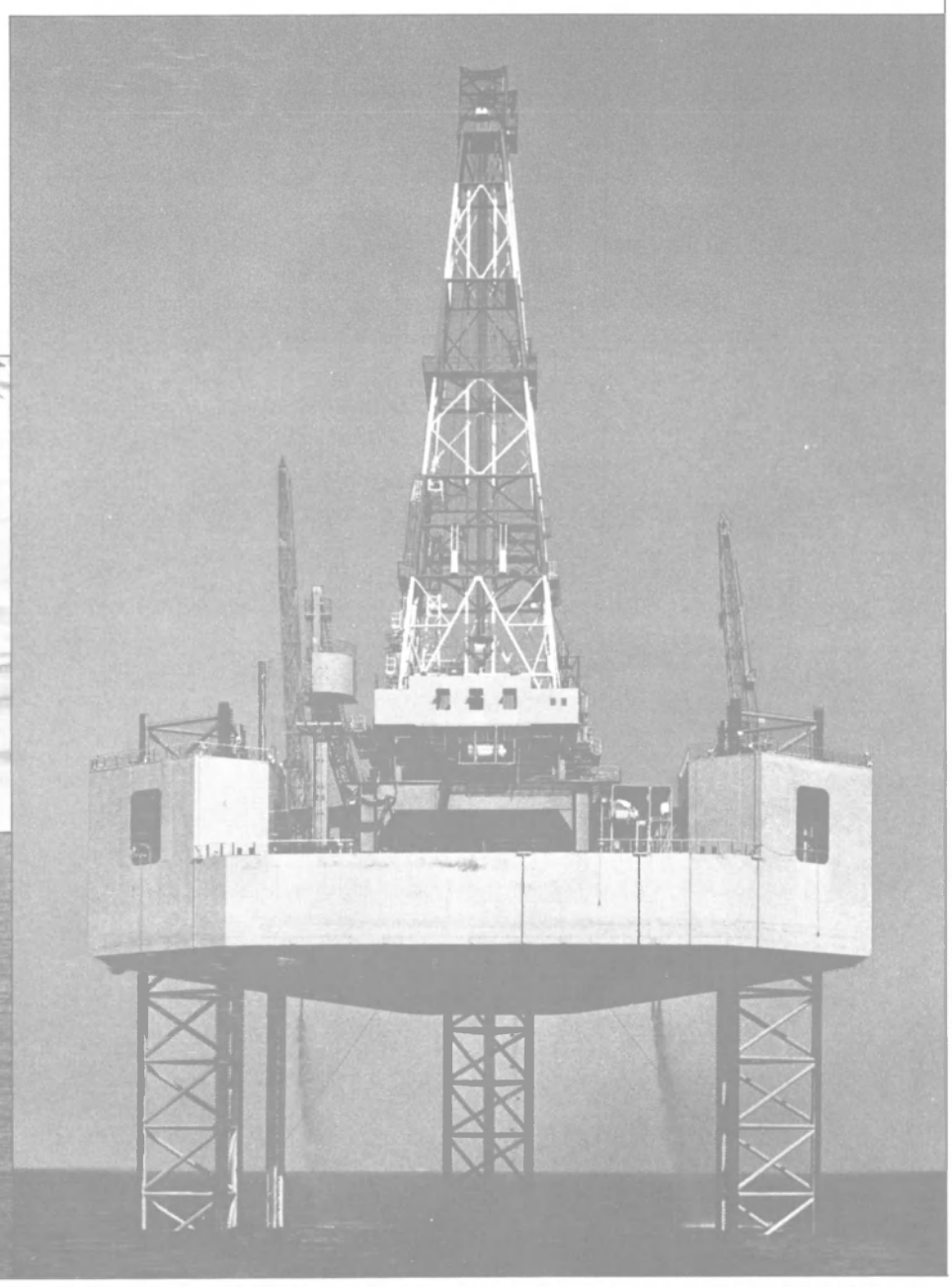

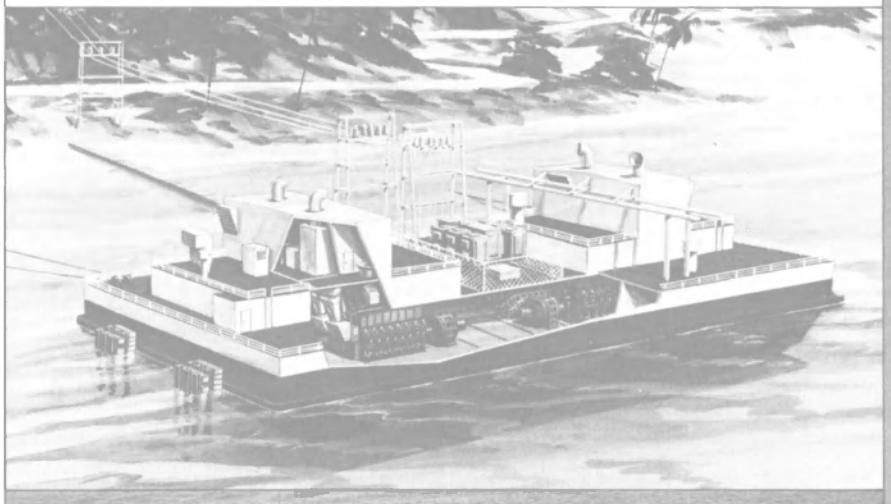

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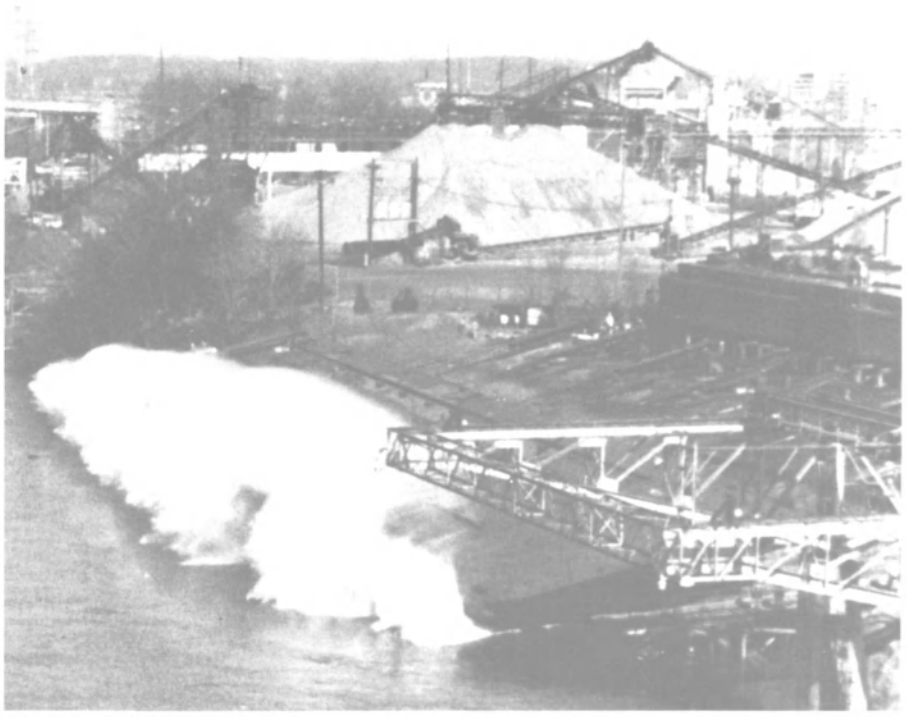

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Voss Metric Hose Assemblies can be ordered from a broad selection of popular sizes and end configurations. Hose constructions include single and double fiber braids, single and double steel wire braids, and four wire spiral reinforced. Steel end fittings are available with metric, BSP, NPT and SAE threads.

Voss also manufactures metric steel tube fittings, tube clamps and metrically dimensioned steel tubing. The addition of hydraulic hose to the Voss product line will provide customers with a one-stop source for metric requirements, says **Les Stoller,** vice president and general manager.

A free brochure is available by writing **Les Stoller,** Voss, Inc., Suite J, 7029 Huntley Road, Columbus, Ohio 43229.

Santa Fe Names Three To Top Management Posts

Edfred L. Shannon Jr. | Gordon M. Anderson | Clyde F. Dawson

Edfred L. Shannon Jr., president of Santa Fe International Corporation, Orange, Calif., for the past 17 years, has been elected chairman of the board of directors and chief executive officer.

Assuming the newly created office of president and chief operating officer is **Gordon M. Anderson,** who has been president of the subsidiary, Santa Fe Drilling Co., since 1970.

The newly elected president of Santa Fe Drilling Co. succeeding Mr. **Anderson** is **Clyde F. Dawson,** who has been senior vice president and assistant to the president of the drilling subsidiary.

In stepping up to chairman, Mr. **Shannon** becomes only the second person to serve in that capacity during the 33-year history of the company. He was elected president and chief executive officer in 1962 to succeed the founder of the company, the late **Jerald D. (Joe) Robinson,** who served as chairman until 1966. The position had been vacant since that time.

The company was founded at Santa Fe Springs, Calif., as Santa Fe Drilling Co. in 1946, and became one of the leading international drilling contractors before changing its name in 1968 to Santa Fe International Corp.

After accepting its first foreign drilling job in Venezuela in 1948, Santa Fe expanded its operations to more than 70 countries and branched out from drilling to construction, exploration, engineering, oil and gas production and pipelaying. Under Mr. **Shannon's** leadership, company revenues have risen from $24 million in 1962 to an annual rate of more than $500 million, and a further increase of some $300 million is expected this year when the merger with C F Braun & Co. is closed.

Mr. **Shannon** graduated from the University of California, Berkeley, in petroleum engineering in 1951, and worked two years for Union Oil Co. of California before joining Santa Fe in 1953. Now 53 years old, he lives in Whittier, Calif., with his wife, **Ruth.**

Mr. **Anderson,** a 1954 mechanical engineering graduate of the University of Southern California, completed his 10th year as president of Santa Fe Drilling Co. early in January.

The company now owns and/or operates more than 80 onshore and offshore drilling rigs in the United States and 14 foreign countries. Drilling operations account for approximately one-half of Santa Fe International's gross revenues.

Mr. **Anderson** started work for the company as a roughneck during summer vacations from Glendale College and the University of Southern California. He joined the company full time as an engineering trainee following his graduation in 1954, and later held management positions with the company in Chile, Libya and other foreign zones before returning to the home office in Santa Fe Springs in 1967. There, he served successively as manager of Contracts Administration and executive vice president before being elected president.

He has been a member of the board of directors of the parent company since 1968, and has been senior vice president since 1974.

Mr. **Dawson,** a 1948 chemistry-engineering graduate of Stanford University, worked for Mobil Oil Corp. several years in California, Libya, Colombia, Peru, Venezuela, and in corporate headquarters in New York before joining Santa Fe as assistant manager of its Venezuelan operations in 1962.

After serving as manager in Abu Dhabi in 1963-64, Mr. **Dawson** returned to Venezuela as zone manager in 1965, and was promoted area manager for all Latin America in 1968.

The following year, Mr. **Dawson** went to Australia as vice president and general manager of the construction subsidiary, Santa Fe-Pomeroy, Inc., and later was assigned to Nigeria, where he was responsible for both drilling and construction operations.

He transferred to the Middle East in 1972, and served as Drilling Division vice president and regional manager in Tehran and Beirut. In 1976, he moved to London as vice president and general manager for the Eastern Hemisphere. He has been assigned to headquarters in Orange as senior vice president and assistant to the president since 1978.

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Merit Two Christened At Red Fox Industries

The dedication of Merit Drilling's Merit Two posted barge-rig was held at Red Fox Industries shipyard in New Iberia, La., recently.

Red Fox Industries began construction of the Merit Two in May of 1979, and completed the barge-rig on schedule.

Merit Two is a 209-foot by 54-foot by 14-foot barge-rig with 14-foot post to machinery deck, and carries a 148-foot by 30-foot pyramid derrick with a static hook load of 1,330,000 pounds.

The barge can accommodate 32 persons in air-conditioned quarters, complete with galley and separate recreation rooms. It is also equipped with a 50-foot by 50-foot helipad designed for a Bell 212 helicopter.

Merit Two is the second unit Merit Drilling has put into service and will operate in the South Louisiana area.

Decker Named VP And General Manager Of Sperry Gyroscope Unit

Edwin D. Decker has been named vice president and general manager of Sperry Gyroscope, a unit of the Sperry Division of Sperry Corporation.

Mr. **Decker** will succeed **Robert L. Wendt**, who was promoted to president of the division.

Mr. **Decker** will be responsible for all activities of the unit, which is principally involved in the design, manufacture and support of radar systems, sonar systems, radio and inertial navigation systems, and military test equipment.

Edwin D. Decker

Since 1975, Mr. **Decker** had served as vice president and manager of radar programs for Gyroscope, with overall responsibility for all radar programs. From 1973 to 1975, he was vice president for program development, in charge of all new business acquisitions. From 1970 to 1973, he was chief engineer for radar and anti-aircraft warfare systems, and was responsible for the engineering efforts on such programs as Terrier missile fire control systems, Mk 92 gun and missile fire control system, the AN/TPQ-37 artillery locating system, and the dome antenna system.

Prior to joining Sperry in 1953, Mr. **Decker** served as an ordnance engineer with the U.S. Navy Bureau of Ordnance, and worked on missile and gun fire control programs. During the Korean Conflict, he was commissioned as a lieutenant with the U.S. Air Force, and served as an armament systems officer.

Mr. **Decker** graduated from the City College of New York (CCNY) in 1951 with a bachelor's degree in mechanical engineering. He is a licensed professional engineer in New York State, and is a member of the American Management Association, Association of the U.S. Army, the American Defense Preparedness Association, and a life member of the Navy League of the United States.

Literature Available From Armco On Special Analysis Steel Pipe

A new four-page Armco brochure highlights the durability of Armco Special Analysis Steel Pipe in carrying harbor dredging wastes to disposal sites. The Armco pipe is specially formulated to offer the toughness and hardness to resist abrasive materials and endure the rough service encountered in hydraulic materials-handling operations. For a free copy of the brochure, write Armco Promotional Services/280 MR, Department WSP-45179, P.O. Box 600, Middletown, Ohio 45043.

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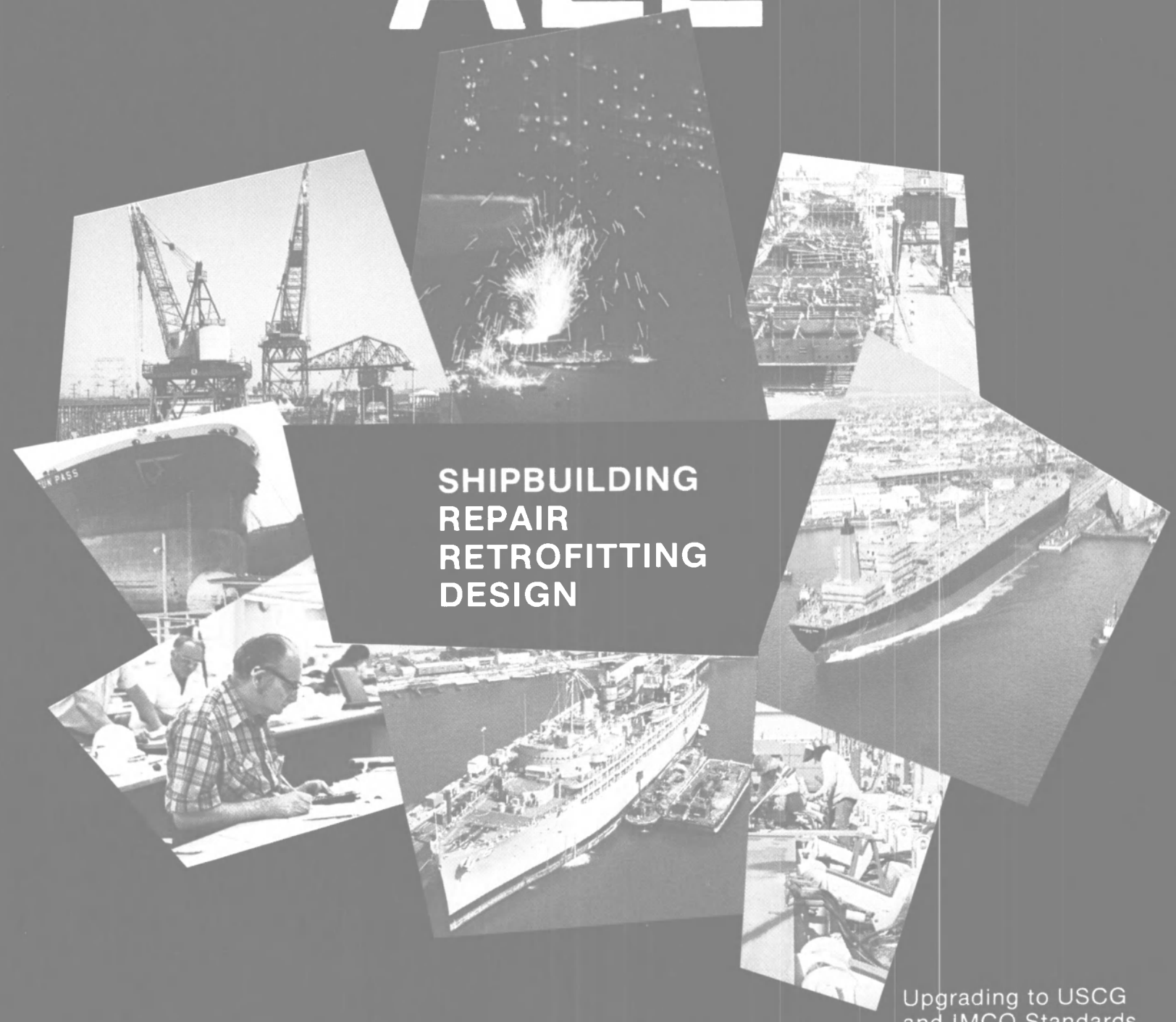

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San Marcos Purchases Vessel For Conversion In Japanese Yard

San Marcos Carrier Inc., Oakland, Calif., an affiliated company of the Oakland-based Domtar Gypsum America Inc., has announced that it has purchased the M/V Cabo San Lucas which, when converted, will be one of the world's largest oceangoing, self-unloading gypsum ore carriers.

The ship is a modern gearless bulk cargo vessel having 33,851 long tons total deadweight and a deep draft of 36.87 feet. She has seven cargo holds, an extreme breadth of 84 feet, 596 feet in length overall, a cargo capacity of over 30,000 tons of gypsum rock, a self-discharging capacity of over 2,000 tons per hour, and will have a speed of 15.5 knots. The vessel is powered by a 13,300-hp M.A.N. main engine.

During conversion, expected to be completed during 1980 in Japan, the vessel will be equipped with a totally enclosed self-discharging conveyor system. The Cabo San Lucas will enter service, supplementing other ships operated by affiliated Domtar Gypsum America Inc. shipping companies in transporting high-purity gypsum ore from San Marcos, Mexico to Domtar's gypsum wallboard manufacturing plants at Long Beach and Antioch, Calif., and Tacoma, Wash., as well as to other gypsum and cement manufacturers on the West Coast, the Vancouver, British Columbia area, and the Pacific Far East.

According to **Robert V. Hale,** president of San Marcos Carrier Inc., the Cabo San Lucas is strengthened for carrying heavy cargoes, and will be capable of transporting a wide range of bulk commodities in addition to gypsum ore.

Ingalls Outfitting Rig For Transworld Drilling

Litton's Ingalls Shipbuilding Division at Pascagoula, Miss., is now working on outfitting a new offshore oil drilling rig for Transworld Drilling Co. of Oklahoma City, Okla.

The new rig-outfitting project will involve lifting and positioning the major deck modules and installing machinery, piping and electrical systems on a 6,500-ton rig that was built in Texas.

Ingalls's previous work in production of offshore rigs includes construction of three mobile offshore units for Transworld, a subsidiary of Kerr-McGee Corp.

Jackson Engineering Names Paul Reynolds Supervisor, Coatings Dept.

Jackson Engineering and Drydock Co., Inc. (formerly Brewer Drydock) recently announced the appointment of **Paul Reynolds** as supervisor of the newly expanded blasting and coatings department.

Paul Reynolds

Mr. **Reynolds** was formerly associated with Hempel's Marine Paints, Inc. as plant manager and technical sales coordinator. He has traveled extensively throughout the United States and overseas, supervising conventional and advanced coating systems on vessels of all types. He attended Cornell University and is a graduate of the Hempel Advanced Marine Coating School in Copenhagen, Denmark.

Jackson Engineering recently completed the installation of sophisticated equipment for complete blasting, vacuuming, and coating of all types of advanced coating systems, as well as inorganic zinc systems, to commercial and military specifications.

Swiftships Completes The Streljko For Yugoslavian Owners

The MTU-powered Streljko, a 125-foot aluminum crew/supply boat built by Swiftships for Brodospas of Split, Yugoslavia, for use in offshore drilling operations in the Adriatic Sea.

Swiftships, Inc. of Morgan City, La., has announced the completion of the Streljko, a 125-foot aluminum crew/supply boat. The new craft was built for and will be operated by Brodospas of Split, Yugoslavia. The Streljko has a beam of 23 feet and a depth of 10 feet. Her draft is 5 feet (loaded), and 3 feet (light). Power for the vessel is provided by twin MTU 12V 331 TC71 engines. Auxiliary engines are three GM 71s. Speeds to 24 knots were obtained in sea trials. A full complement of electronic equipment includes Decca 110 radar, Loran C by Texas Instruments and depth sounder by Datamarine.

The Streljko's cargo deck measures 60 feet by 17 feet and supports a cargo of 60 long tons. Below capacity is 78 long tons. Other capacities include 15,000 gallons of drill water, 1,225 gallons of potable water, plus 11,440 gallons of fuel, giving the vessel 1,800 N.M. (3½ days) endurance. Full quarters are provided for a crew of six.

According to **Calvin LeLeux,** technical director of Swiftships, Inc. and project engineer for the Streljko, the new vessel will be used by Brodospas for offshore drilling operations in the Adriatic Sea. Spokesmen for Brodospas said that the Streljko will be utilized immediately.

ASNE So. New England Section Hears Gen'l Dynamics Paper On LNG Spheres

The quarterly meeting of the American Society of Naval Engineers, Southern New England Section, was held recently in New London, Conn. Capt. **Don Kern,** USN (ret.), chairman of the Section, presided over the meeting.

The large-scale ocean transportation of liquefied natural gas (LNG) to meet energy needs has presented a major challenge of the decade for ship designers and builders. One of the schemes being implemented employs 120-foot aluminum spheres for LNG containment. **Fritz G. Tovar,** general manager of the General Dynamics Quonset Point facility, talked about the manufacture of these spheres at the General Dynamics South Carolina facility. He also showed a film of the facility and the 936-foot LNG General Dynamics ships, several of which have been delivered. His talk covered the manufacture and installation of the 800-ton spheres from aluminum plate baking, forming, edge milling, welding, testing, and insulating to final installation. Each sphere contains 50 miles of aluminum welding. General Dynamics has invested $100 million in the South Carolina facility to produce one sphere every two and one-half weeks.

Mr. **Tovar** concluded his presentation with a talk and slide show on the $110-million General Dynamics Quonset Point facility for the manufacture of submarine hulls using sophisticated equipment.

Mr. **Tovar** worked as a design engineer in West Germany before becoming manager of the Davie Shipyard in Quebec, Canada. He joined General Dynamics as manager of the South Carolina facility, and for the past two years has been general manager of the General Dynamics Quonset Point facility.

Shown (left to right) at the recent ASNE Southern New England Section meeting are: Capt. **Donald Kern,** USN (ret.), chairman; Adm. **L.V. Honsinger,** USN (ret.); **J.S. Leonard,** Shearwater, Inc.; Capt. **Richard Goode,** USCG (ret.); **Fritz G. Tovar,** General Dynamics; **Harry Loeser,** NUSC, New London, Conn.; and Comdr. **O. Porter,** USN

Port Of Portland Names New Finance Director

Dennis West will return to the Port of Portland (Oregon) on March 31, 1980, replacing **Gabriel Vallicelli** as director of finance and administration.

Mr. **West** joined the port in mid-1978 as project director when the port was requested to be the lead planning agency for the Downtown Portland Transportation Center by Governor **Bob Straub**.

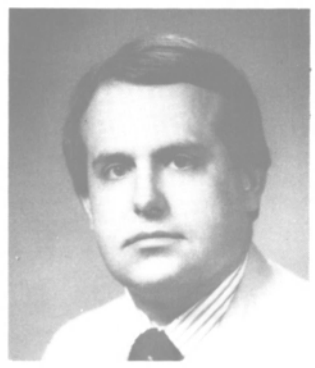
When that special project was completed last spring, Mr. **West** left the port to become a private business consultant.

Prior to joining the port, Mr. **West** was director of the office of county management for Multnomah County. He is a Portland native, a former Portland State University instructor, and was also an administrator for the City of Portland.

Bird-Johnson Names Gulf Coast Manager

Jim Darby has been appointed Gulf Coast regional manager for Bird-Johnson Company, a leading manufacturer of marine propulsion and maneuvering systems. Mr. **Darby** will manage Bird-Johnson Company's Marine Division sales office located at 6430 Hillcroft, Suite 112E, Houston, Texas 77081.

Since joining Bird-Johnson as Gulf Coast sales engineer in 1977, Mr. **Darby** has provided area customers with technical and sales information on KaMeWa propellers, thrusters and SKF OK couplings. In his new position, he will coordinate the marketing/sales effort in the Gulf Coast area for these products, as well as the Cedervall stern tube seal, a recent addition to the company's product line.



Jim Darby

A graduate of Texas A&M University, College of Texas Maritime Academy, Mr. **Darby** holds a bachelor's degree in marine engineering and a third assistant engineer's license. He is an associate member of both The Society of Naval Architects and Marine Engineers, and the Houston Engineering and Scientific Society.

Mr. **Darby's** previous experience in the marine industry includes employment as sales engineer for marine rotating equipment manufacturers and distributors. Prior to that, he sailed as a third assistant engineer on a variety of steam and diesel vessels.

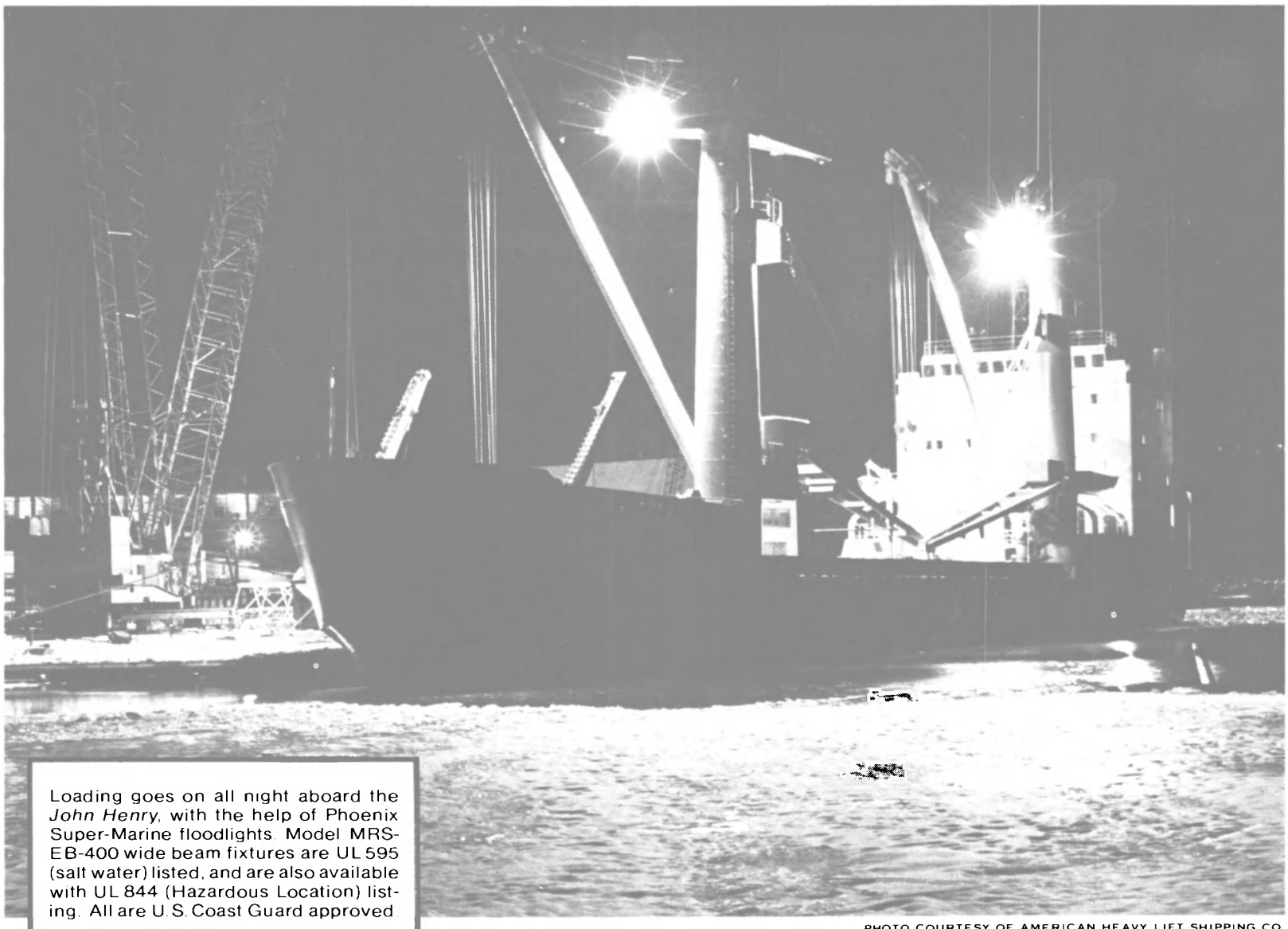
Literature Describes Expanded EPSCO Radar Line

EPSCO has recently published literature describing the new model M18 radar, a compact, counter-mounted version of the pedestal-mounted M16. The M18 incorporates the features of the M16, while meeting the space requirements of a crowded bridge.

Standard features of this 10-kw, 60-mile radar include high-definition ¼-mile range, plus short and long-pulse 3-mile ranges: short pulse for harbors and navigation, long pulse for gear finding. The 2-unit system is equipped with 6-foot antenna. A 4-foot antenna is optional as is the EPSCO "Clean-Screen™" Interference Rejection. Other options include deicing, a second VRM, magnifier, gyro-interface for heading-up display, and reflection plotter.

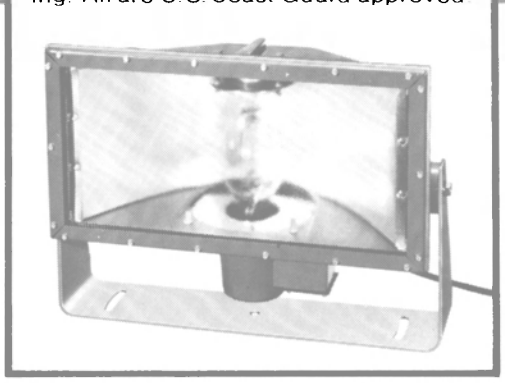
M18's electronic circuitry, weather seals, and components are engineered to perform under extreme conditions with reliability.

For detailed information on the M18 and EPSCO's complete line of navigational and fish-finding electronics, write **James A. Dhimos**, Dept. MR 280, EPSCO Marine, 411 Providence Highway, Westwood, Mass. 02090.



Loading goes on all night aboard the *John Henry*, with the help of Phoenix Super-Marine floodlights. Model MRS-EB-400 wide beam fixtures are UL 595 (salt water) listed, and are also available with UL 844 (Hazardous Location) listing. All are U.S. Coast Guard approved.

PHOTO COURTESY OF AMERICAN HEAVY LIFT SHIPPING CO



Phoenix Super-Marine® floodlights help light the way for new heavy-lift shipping venture

A new chapter is being written in American maritime history by two new ocean-going cargo ships, the *MS John Henry* and the *MS Paul Bunyan*. Built by Peterson Builders, Inc. of Sturgeon Bay, Wis. to U.S. Coast Guard standards for international trading, the ships are owned by the American Heavy Lift Shipping Co. (a joint venture of Gulf Trading & Transportation Co. and Hansa Line of Bremen, West Germany).

The 3,000-deadweight-ton vessels provide American manufacturers with the first U.S.-flag heavy lift ships. They are being used to supply the growing world market for large industrial equipment such as generators, nuclear reactors, refineries, chemical plants, oil rigs, locomotives, mining equipment, etc.

Loading huge units weighing up to 1,000 tons is a critical operation, with progress measured in inches. Work often goes on around the clock... which makes dependable lighting absolutely essential.

That's why the builders chose Phoenix Super-Marine floodlights. Each ship has eight Phoenix Model MRS-EB-400 fixtures mounted on the king post cranes to flood the entire deck with ample light. Equipped with energy-saving clear mercury vapor lamps, these 400 watt wide-beam fixtures feature shock and vibration resistant lamp mountings, with one-piece cast marine aluminum housings and gasketed watertight enclosures.

To learn how Phoenix floodlights can help you increase safety and efficiency, and reduce your lighting maintenance costs, talk to your Phoenix distributor or write for complete catalog.

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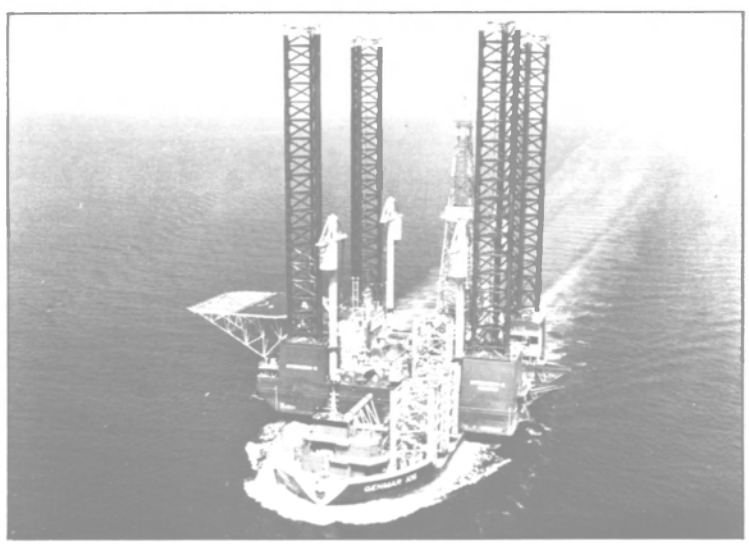

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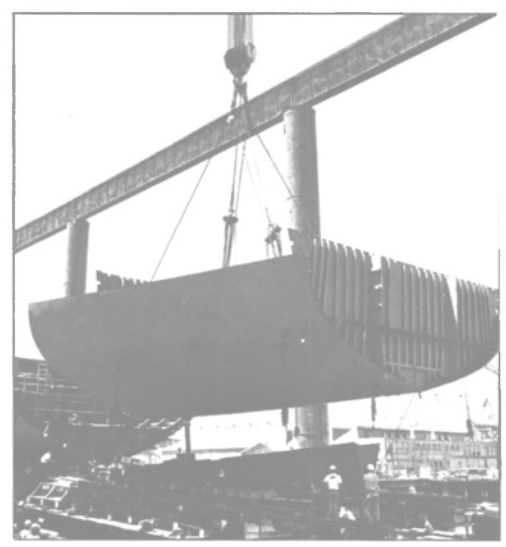

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MARITIME REPORTER AND ENGINEERING NEWS

New Hose Breakaway Coupling Prevents Spillage —Literature Available

A hose safety breakaway coupling designed to avert the danger of broken hoses and reduce the risk of pollution, will be shown for the first time in the United States at the Offshore Technology Conference in Houston, Texas, May 5-8, 1980. The hose safety breakaway coupling is a deliberately weak link that will part before the hose breaks.

Although designed initially for tankers loading and unloading oil, the system is equally suitable for vessels carrying toxic chemicals or other liquids whose accidental spillage would be undesirable. It is available in 6"-24" sizes; larger sizes can be manufactured as needed.

The upstream side of the coupling contains "petals," radially located one to another by steel balls and contained in an annular groove, pivoting so that they fit against the inside of the body when the two halves of the coupling are joined, ensuring a full through bore.

When the coupling parts, the flowing product begins to force the petals closed. However, under each petal cantilever there is a hydraulic damper unit, from which hydraulic fluid can escape via a pre-set jet; this controls the rate of closure, to prevent spillage and line shock.

The Gall Thomson hose safety breakaway coupling is designed to avert hose breakage and reduce risk of pollution.

The rate at which the petals close can be varied by altering the jet size or the viscosity of the hydraulic damper fluid.

Recharging the cylinders after rejoining the coupling, using a new set of break bolts, allows it to be reinstalled with a minimum of downtime. The parting load is also variable to suit the design limitations of the hose string.

The self-contained couplings operate automatically and need no outside power source or control gear.

For a free brochure, write **Jack Gall Thomson,** Gall Thomson Maritime Ltd., 43/44 Albemarle Street, London W1 England.

Sedco Buys 2 Rigs For $32 Million For Gulf Oil Use In W. Africa

Sedco Inc. recently purchased two jackup drilling rigs for $32 million.

The rigs were obtained from J.F.P. Well Service, a unit of Baker Marine Inc., and from Westburne International. Sedco said the rigs have been put under contract to Gulf Oil Corp, and will be used for Gulf's drilling program in West Africa.

Powertherm To Represent Westinghouse Canada

Westinghouse Canada, Inc. recently announced the appointment of Powertherm Company, Inc. as their sales representative for mechanical drive steam turbines, turbogenerators, and parts for units up to 30,000 hp. The territory involved includes Texas, Louisiana, and Oklahoma. Powertherm, a Houston, Texas-based company, has been involved in the sale of steam turbines and mechanical equipment to industrial users for the past 15 years.

Perry Receives Order From S & H Diving Corp.

Perry Oceanographics, Inc., Riviera Beach, Fla., will provide complete outfitting for shallow and deepwater diving and unmanned vehicle services to S & H Diving Corp., Morgan City, La., under a new leasing agreement.

The equipment lease was arranged by Underwater Equipment Leasing, Inc. of Riviera Beach, a recently formed Perry associate company.

Conoco Plans Tension Leg Platform For N. Sea Depths To 2,000 Feet

Conoco Inc., Houston, Texas, recently announced plans for a new type of drilling and production platform capable of operating in 2,000-foot waters, twice as deep as the previous record.

The company expects the new platform to be operating in the North Sea in four years. The first unit could cost about $1.1 billion.

Officials said the "tension leg platform" will be a floating platform firmly anchored to flexible joints on the seafloor by four bundles of three 9-inch-diameter steel tubes with 3-inch-thick walls.

The flexible joints and tubular lines—the tension legs—eliminate the need to solve the expensive engineering problem of inflexible legs currently unavailable in longer lengths than 1,000 feet.

Company representatives report technology already has been developed for driving the necessary piling in the deepwater seafloor to anchor the flexible joints.

One advantage of the tension platform is stability. The 1,000 tons of tension on the tubes will eliminate the vertical bobbing of floating platforms, although there can be horizontal shifting of up to 79 feet.

The plan calls for 32 well slots on a floating platform with displacement weight of 56,970 tons, more than twice the size of large floating rigs already operating.

"This is the first application of tension leg concept anywhere in the world," said **Jack Marshall,** Conoco's vice president of International Production. "It's a project the whole industry will want to watch."

Mr. **Marshall** said the first tension leg platform will be built at an estimated cost of $1.1 billion in the Hutton Field of the North Sea, 90 miles northeast of the Shetland Islands, in about 485 feet of water.

J.J. Krebs To Head Board Of Commissioners At Port Of New Orleans

Joseph J. Krebs Jr. has been elected to serve as president of the Board of Commissioners of the Port of New Orleans (La.) for 1980. He succeeds **Roy J. Gross,** who served as the Board's first president from St. Bernard Parish.

The Board also elected **Leander N. Bubrig** to the office of vice president, and **J.W. Clark,** secretary-treasurer. Mr. **Krebs** and Mr. **Bubrig** are Jefferson Parish appointees on the Dock Board.

Mr. **Krebs** was appointed to the Board of Commissioners on November 22, 1976, and served as vice president during 1979. A native of New Orleans, he is president of J.J. Krebs & Sons Inc., Civil Engineers and Land Surveyors.

Following the election of officers, the Board confirmed the continued service of **Edward S. Reed** in the position of executive port director-general manager.

Also confirmed by unanimous Board action were the following appointments: assistant secretary, **Lydia Joyce M. Arnold;** assistant treasurer, **William H. Urban Jr.;** recording secretary, **Edith B. Bowden;** general counsel, **Louis B. Claverie;** and public relations counsel, **Kenneth H. Gormin.**

Mr. **Krebs** appointed a Budget Committee of the following members: **Roy Gross,** chairman; **John Meghrian** and **Lee Bubrig,** members.

Gulf And Eastern Names J.R. Holman Gen. Mgr. Full Cargo And Tankers

Gulf and Eastern Steamship and Chartering Corp., Houston, Texas, have announced the appointment of **Jack R. Holman** as general manager for full cargo and tankers in the U.S. West Gulf, effective immediately.

Mr. **Holman** was formerly associated with Biehl and Company. He is a graduate of the University of Houston.

Gulf and Eastern have offices in major U.S. Atlantic and Gulf Ports and according to the announcement, Mr. **Holman's** expertise will complement Gulf and Eastern's growth plans to better serve their principals.

Is A Big Bulk Carrier A Good Bet?

Entering the 1980s, it is hard to believe that it is now more than six years since the last "boom" in the big bulk carrier market was ended by the "Oil Crisis," and an abrupt change in the trading pattern of the combined fleet. For much of this period, operators of big bulk carriers—and by "big" one means a ship of at least "Panamax" size—sustained heavy losses. However, over the past year or so, the market has undergone a remarkable transformation, with freight rates obtained by large carriers again rising to profitable levels. Hampton Roads-Japan has hit $18.50 and is still rising, while in the Gulf-Holland grain trade, the going rate for large shipments is $16.50-$17.50 per ton. Even more encouraging is the level of "spot" rates in the iron ore trade, with up to $12.50 being conceded for 100,000-ton shipments of Brazilian ore to Europe.

Present charter rates do, of course, reflect cost increases, currency changes and the enormous increase in the price of bunkers, but there is no doubt that the market for large bulk carriers has completely changed, with most vessels actively employed in this sector operating profitably. To take one example, a 120,000-tonner can expect to earn up to $15 a ton on FIO terms for the 13,800-mile, 40-day haul from Australia to, say Italy, voyaging round the Cape. The costs, including the ballast voyage from Japan, are likely to be in the vicinity of U.S. $1.4 million — equivalent to $12 a ton — with fuel accounting for up to 35 percent of the total outgoings. Of course, much depends on the level of capital charges, as well as crew costs, but operators of big bulkers are in a much stronger position financially, with freights twice, or three times the levels seen in the first half of 1978.

Big bulkers have, in fact, benefited most from the market upturn, although this is best illustrated by the trend in one-year time-charter rates (U.S. Dollars per DWT/Month):

SIZE (DWT):	1978		1979				1980
	July	Oct.	Jan.	April	July	Oct.	Jan.
± 65,000	4.20	5.05	5.20	5.50	5.35	5.75	6.50
± 120,000	0.95	1.50	2.05	2.20	3.60	3.85	4.00

Source: HPD Shipping Consultants

These rates are simply an indication of what charterers would have been prepared to concede to secure suitable tonnage for about a year's trading, but the popular "Panamax" (±65,000-dwt) size can currently expect to earn up to $13,500 daily while on period charter. For tonnage in the ±120,000-dwt category, a hire rate of $15,500 daily would be a reasonable expectation, the revenue permitting most owners to meet repayment of capital, as well as all operating expenses. Typically, operating costs of this class of bulk carrier are in the range US$5,500-$6,000 daily, and unless the capital charges are exceptionally heavy (which would only apply if the ship was newly built), there should be a profit from present trading operations.

Initially, the response to the market's rise was increased interest in secondhand tonnage, many large bulk carriers and OBOs changing hands in the second half of 1978 at what can now be seen to have been extremely attractive prices. This speculative activity certainly paid off, as the value of early 1970s-built tonnage in the ±120,000-dwt class has risen from $6 million to $18 million over the past 18 months. Inevitably, with less good-class tonnage for sale, interest has focused increasingly on newbuildings, and in recent months there has been a spate of orders for both "Panamaxes" and large carriers of up to 150,000 dwt. Since mid-1979, over 3.5 million dwt has been added to the orderbook, mainly by established owners seeking to enlarge or replace their fleets.

Characteristically, those owners with a "tramping" philosophy have been hedging their bets, and going for good standard design bulk carriers in the "Panamax" class. For a time, such ships could have been contracted from Far Eastern yards for as little as $18 million, and cheapness, combined with the flexibility of the "Panamax," was very much a factor. Prices have moved up as berths have filled, however, rising to between $24-27 million in the Far East, and to over $30 million in Western Europe, but orders continue to be placed. The Danish B & W yard — which built a long series in the early 1970s — is one of those back in the business of building "Panamaxes," having recently obtained contracts for five ships from Norwegian and Hong Kong owners.

The flexibility offered by the low-draft "Panamax"—preferably one of ±65,000 dwt —has obvious attractions for the 1980s, but major owners with either "captive" cargo, or long-term freight contracts for ore or coal, are more inclined to see the ±120,000-dwt class as the most economic ship for long-haul trading. A major factor in their thinking is the forecast growth of "steam" coal shipments through the 1980s, although the 120,000-tonner is also well-suited to ore trading.

Already, quite a few contracts for ships of this size have been confirmed, and in most instances, the owner will use the ship, when built, to service coal contracts. The Shell group — which now has extensive interests in coal, notably in Southern Africa — is behind a number of these newbuildings, and has itself contracted for two 120,000-tonners in South Korea. The price was reportedly over $30 million per ship, but $37-39 million is now being quoted by Japanese shipyards for 1982 delivery. Nevertheless, the level of enquiry suggests that further orders for bulk carriers of ±120,000 dwt will be confirmed, both in the Far East and Europe, by major independent owners or coal shipping interests located in South Africa or Australia. For example, as many as eight ships of ± 120,000 dwt may be needed to haul South African coal to Israel, four being operated by Safmarine and four by Zim Israel. Australian interests have also been actively negotiating for coal carriers.

Ore carriers are an altogether different proposition, as the next generation will be considerably larger than the last, and very much more expensive. What the trade needs is more carriers in the ± 250,000-dwt class, but owners — even those with contracts for long-haul shipments — are reluctant to make such an investment. This is hardly surpris-

ing, as there is still a large amount of "reserve" ore-carrying capacity in the combined carrier fleet which could be brought into use. Owners are also hesitating because ore trade may grow relatively slowly in the early 1980s, and the recent performance of the steel industry has done nothing to alter that view.

Significantly, there have been few orders for combined carriers, and those that have materialized have virtually all been "Panamax" OBOs. Despite the high cost, there are those who see the ±160,000-dwt OBO as the most efficient type/size for combining the ore, coal and oil trades, and one must admit that such a ship might be a better investment than an ore-oil ship of ±250,000 dwt, which is restricted by draft to a few long-haul trades. The deepening of the Suez Canal will add a new dimension to the employment of the large OBO, which is more broadly based than it was when the first ships of this size entered service in the early 1970s. However, the price of a new 160,000-ton OBO in Japan would probably be $43-45 million, and the prospective owner (and his banker) would think long and hard before ordering such a ship.

For further information, write **P.J. Rowbotham,** H.P. Drewry Ltd., 34 Brook Street, Mayfair, London W1Y 2LL, England. Telephone 01-629-5362/5366.

Key Promotions At Lockheed Shipbuilding

The past five years in the history of Lockheed Shipbuilding and Construction Company, Seattle, Wash., have been marked by construction of three new submarine tenders for the U.S. Navy and expansion of ship repair capabilities.

Concurrent with construction of AS-39 Land-class submarine tenders, Lockheed Shipbuilding has pursued and captured "lead-in" contracts for a new class of Landing Ship Docks (LSD-41). It is anticipated that construction start of the LSD-41 "Lead Ship" will overlap delivery of the third submarine tender (AS-41) in 1981. Lockheed's shipyard expects to build LSD-41 and following ships of this class well into the 1980s.

John N. Watt

William A. Woodrow

Through the 70s, Lockheed Shipbuilding's marketing activities were directed primarily by the president's office. Marketing plans for the 80s will require more attention and have prompted the promotion of **John N. Watt** to a newly established position—director of marketing. Mr. **Watt** has been program manager of the successful submarine tender program.

Mr. **Watt** received a B.S. degree in engineering from the University of Portland, Portland, Ore., following active duty. He continued graduate studies in naval architecture at the University of Washington, Seattle.

In 1952, he joined the Puget Sound Naval Shipyard as a naval architect. At PSNS in 1954, he directed engineering and installation of the first canted deck on a U.S. Navy aircraft carrier.

Leaving PSNS in 1955, he developed shipboard and submarine fleet ballistic missile support systems for Chrysler Missile Corporation in Detroit, Mich., until moving to Aerojet General in Sacramento, Calif. in 1957.

He held key program and engineering assignments during Aerojet's work on the propulsion system for Polaris missiles. He later was involved in engineering studies of surface effect ships, air cushion vehicles, and amphibious assault craft. He held positions of increasing responsibility, beginning in 1969 in Aerojet General's 100-ton Surface Effect Ship Program through delivery and tests of the craft, serving as deputy program manager in Tacoma, Wash., until joining Lockheed in 1974.

Mr. **Watt** is a past national secretary of the Society of Aerospace Materials and Process Engineers, and a member of the American Society of Naval Engineers.

A long-time company veteran in manager and director positions, **William A. Woodrow** will succeed Mr. **Watt** as submarine tender program manager.

Mr. **Woodrow** joined Lockheed Shipbuilding and Construction Company in 1956 as a buyer. He progressed through positions of increasing responsibility as director of purchasing and material control, industrial engineering, management control and scheduling, contract administration, production planning and director of new program development.

Following World War II, Mr. **Woodrow** joined the Westinghouse Electric Corporation in Seattle. In 1950, he joined the Puget Sound Naval Shipyard, and in 1953 he transferred to the supervisor of shipbuilding office, Seattle, as a Naval Progressman. Named Civilian Assistant to the Resident Supervisor of Shipbuilding, he assisted in establishing the first Resident's office at the shipyard, then Puget Sound Bridge and Dredging Company.

As LSCC's director of new program development, he has headed the teams responding to the Navy's Request for Proposal for the LSD-41 (Landing Ship Dock), T-ARC-7 (Cable Repair Ship) and the proposal for overhaul and repair of the USS Sacramento, AOE-1.

Personnel Marker Lights Approved By USCG

The Cyalume PML personnel marker light, developed by American Cyanamid Company, has been approved by the U.S. Coast Guard ruling (161.012/2/0) for use on all regulation life vests and personnel flotation devices on commercial vessels.

The chemical light system called "chemiluminescence" is produced by activating the PML, which causes two nontoxic chemicals within to mix together, producing a safe, cool, yellow-green glow visible for at least one mile on clear, dark nights. The glow lasts at least eight hours. The PML is windproof, waterproof, lightweight, requires no batteries or electricity. Cyalume PML personnel marker lights have a shelf life of five years and carry a 2½-year expiration date.

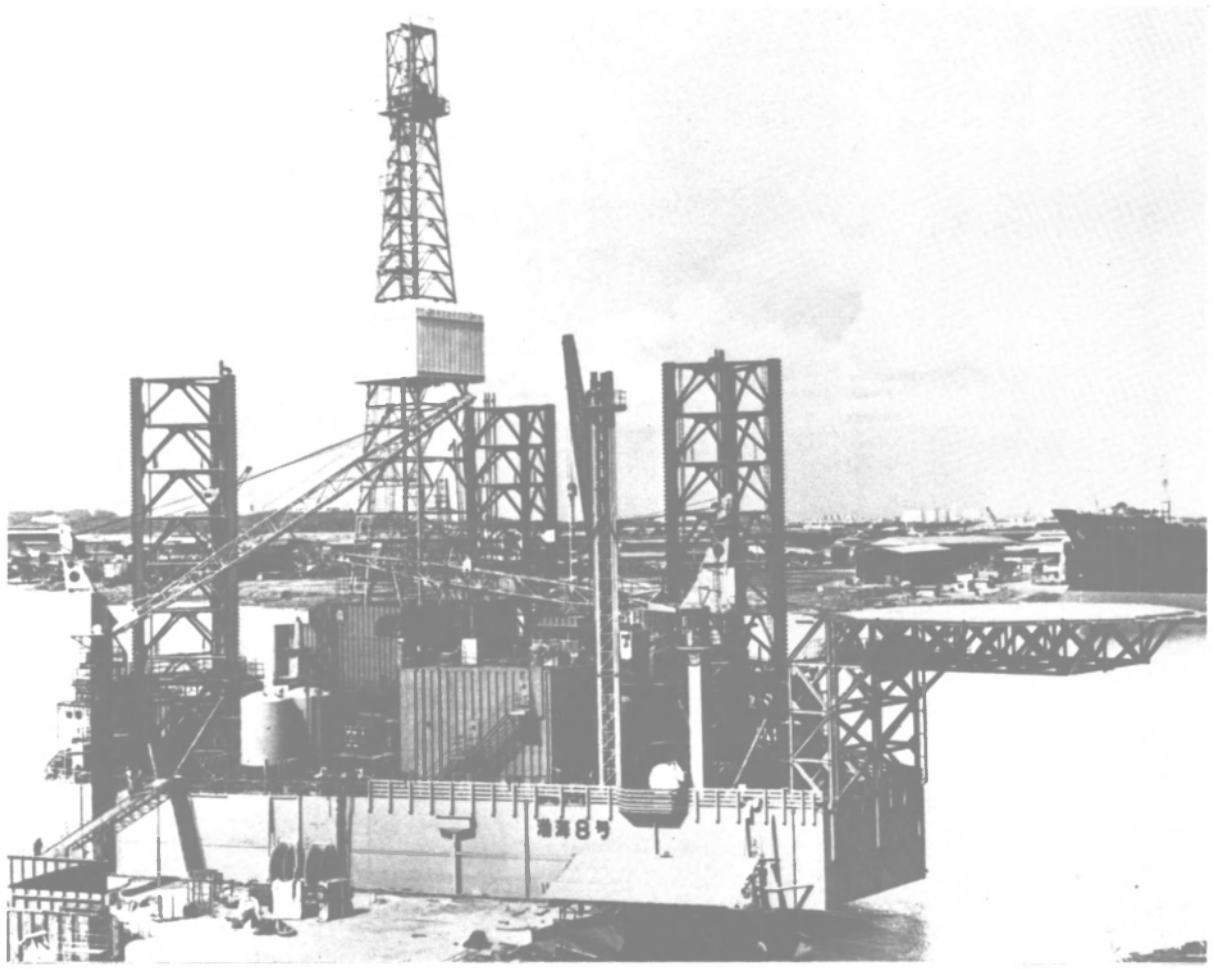
For further information on the Cyalume PML personnel marker light, write to **Clem W. Kohlman,** American Cyanamid Company, Chemical Light Department, Wayne, N.J. 07470.

Navy Changes DDG-47 Classification To CG-47

The Department of the Navy has announced it is changing the classification of the DDG-47, a new ship currently under construction, to CG-47. The ship, which was originally classified as a guided missile destroyer with the hull number DDG-47, is being reclassified a guided missile cruiser with a hull designation of CG-47.

With the unique effectiveness of the AEGIS system on this class ship, the change is based on size and armament, since the CG-47 is comparable to modern cruisers of the U.S. Navy, allied navies, and the Soviet navy.

CG-47, the lead ship of this class, is currently under construction at the Ingalls Shipbuilding Division of Litton Industries at Pascagoula, Miss. The ship is scheduled for delivery in January 1983.



The Pohai VIII, a Marathon LeTourneau jackup drilling rig built for the People's Republic of China by Marathon's Republic of Singapore yard. The rig is a Marathon class 82-SD-S shallow-draft, slot-type drilling rig.

Marathon Delivers Jackup Rig For China

In early January, Marathon Manufacturing Company's Republic of Singapore yard delivered the first of two jackup rigs ordered by the China National Machinery Import and Export Corporation.

The People's Republic of China rig, Pohai VIII, was originally scheduled for delivery in March of this year. **Gene M. Woodfin,** chairman of the board and chief executive officer of Marathon Manufacturing Company, was pleased to announce that the Singapore yard was able to improve the contracted delivery date by almost two months. He said the sister rig now nearing completion at the Singapore yard is expected to be delivered to the Chinese in March.

Mr. **Woodfin** said that this was Marathon's first business venture with the People's Republic of China, and among the unique features of the agreement was that it called for "turnkey" rig construction. (Turnkey is a term used in the trade whereby the builder also provides the drilling equipment, engine and generator packages, derrick, drawworks, etc. Normally, these items are selected and purchased by the rig owner.) Mr. **Woodfin** stated that from initial negotiations through delivery, Marathon's dealings with the Chinese have been a first-class commercial relationship, and we certainly look forward to additional orders.

Marathon announced the original contract for the two rigs in May 1978, shortly after the contract signing in Peking, China.

The Pohai VIII is a Marathon-class 82-SD-S, shallow-draft, slot-type jackup drilling rig. It is equipped with 360 feet of leg and capable of drilling in 250 feet of water to a drilling depth of 20,000 feet.

Marathon Manufacturing Company, a subsidiary of The Penn Central Corporation, is a leading manufacturer of mobile offshore jackup drilling rigs.

Shown here at Marathon's Singapore yard, the Pohai VIII is equipped with 360 feet of leg. The unit is capable of drilling in 250 feet of water to a drilling depth of 20,000 feet.

Ocean Salvors And Crescent Towing Add Gulf Salvage Station

Ocean Salvors Company of New York, N.Y., and Crescent Towing and Salvage Company, Inc. of New Orleans, La., have jointly announced the establishment of a Gulf Coast salvage station in New Orleans. Ocean Salvors, an expanding enterprise of two leading towing firms in the United States—Moran Towing Corporation of New York and Crowley Maritime Corporation of San Francisco — had previously established stations in Rahway, N.J. and Miami, Fla.

As on the East Coast stations, the New Orleans station will be equipped with hydraulic pumping units for petroleum lightering, conventional salvage pumps, air compressors, beach gear, and other salvage and oil pollution equipment. This modern equipment is maintained in a state of readiness for rapid response by salvage/oil pollution strike teams providing capability for handling a full range of marine casualties.

Crescent Towing and Salvage Company's fleet of harbor and oceangoing tugs and barges will complement the fleets of Crowley and Moran operating in that area.

Since its formation in 1978, Ocean Salvors has expanded its staff of experienced salvage masters, oil pollution specialists, diving and salvage personnel, and modern equipment. Ocean Salvors has conducted several major ship salvage and oil pollution control operations with the combined forces of affiliate companies.

For more information, write Ocean Salvors Company, One World Trade Center, Suite 4971, New York, N.Y. 10048.

Ten EB Engineers Deliver Papers At Fourth Annual Honors Seminar

Ten engineers of General Dynamics' Electric Boat Division, Groton, Conn., delivered professional papers on submarine design and construction innovation at EB's recent fourth Annual Professional Honors Seminar.

The audience at the honors seminar included a number of college engineering department heads as well as professional engineers and managers from Electric Boat.

EB authors who presented papers included:

Petros P. Petrides of Stonington, engineering specialist in ship control system design, "Trident Steering and Diving Control System."

E. Judson Cole of Old Saybrook, supervisor in the structural section of EB's construction engineering department, "Cost Effective Tank Design."

Linda A. Kelly of East Greenwich, R.I., senior engineer in nuclear engineering analysis, "Current Acoustic Investigation of Flow-Related Noise Problems."

Robert H. Grills of New London, supervisor in EB's nondestructive testing technology development group, "Ultra Image—A New Technology in the World of Nondestructive Testing."

Lawrence R. Jacobsen of Groton, a principal engineer on the Trident program, "Photogrammetry—A New Shipyard Measuring Tool."

Rodney R. Cordeiro of Stonington, chief in the welding section of EB's automated systems engineering department, and **Quentin R. Long** of Gales Ferry, senior design engineer in EB's systems technology department, "Electric Boat Designed Automated Welding Machines for Submarine Piping."

John H. Leckenby of East Greenwich, R.I., systems development specialist at EB's Quonset Point Facility, "Upgrading of the In-Process Buffer Storage Areas Servicing the Quonset Point Pipe Shop."

Bernard A. Gigliotti of Lyme, senior engineer in EB's lifting and handling equipment section, and **John A. Rodolico** of Gales Ferry, senior engineer in the EB Operations engineering department, "The Evolution of SSN-688 Class Construction in the North Yard."

Aerospace/Marine Technology Compared In New Book Available From SNAME

The Society of Naval Architects and Marine Engineers recently announced the availability of the book "Aerospace Technology and the Marine Transport Industry." The hardbound book is the carefully edited result of a workshop-conference between the two disciplines, held in Williamsburg, Va., December 1-3, 1978. The meeting was co-sponsored by the American Institute of Aeronautics and Astronautics and The Society of Naval Architects and Marine Engineers, with the support of the U.S. Coast Guard and the National Aeronautics and Space Administration (NASA).

Representatives of the institutions met at the workshop-conference to compare aerospace technology with maritime technology. Seven panels of experts met with the goal of identifying any aerospace technology that might present economically acceptable solutions to maritime technical advancement.

The workshop, structured by a steering committee chaired by Capt. **Richards T. Miller**, USN (ret.), SNAME's vice president-Technical and Research, and cochaired by Dr. **H. Norman Abramson** for AIAA, addressed the subjects of (1) Traffic Control, (2) Ship Control, (3) Weather Ocean Surface Conditions, (4) Bulk Cargoes of Particular Hazard, (5) Structures, Materials and Fabrications, (6) Stress Analysis, Monitoring, and Inspection During Fleet Operations, and (7) Containerized Cargo Handling and Control.

Recommendations in the seven areas were developed by the workshop's 135 participants, showing that even though some aerospace techniques are already well established in the marine industry, there is some technology developed from the space program that could be investigated for use by marine researchers.

The book begins with a Summary of Findings, Conclusions and Recommendations; continues with a transcript of the keynote address, and then delves into the detailed panel reports.

Heading the panels from the marine side were Capt. **Warren Leback, C. Lincoln Crane,** Dr. **Glenn Flittner,** Rear Adm. **W.M. Benkert,** USCG (ret.), **William Brayton, Stanley Stiansen** and **David B. Letteney.**

The hardbound illustrated book "Aerospace Technology and Marine Transport," 146 pages, is available in a limited quantity from the Society at $13.50 per copy to SNAME members if payment accompanies the order, list price $15. For additional information, write the Publications Department, The Society of Naval Architects and Marine Engineers, One World Trade Center, Suite 1369, New York, N.Y. 10048.

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Four VLCC Supertanker Conversions To Include Megasystems Seamatic II

Megasystems, Inc., Cleveland, Ohio, has announced that Seamatic II engine monitoring and control systems will be an integral part of the conversion of four VLCC supertankers to diesel operation for Mobil Shipping and Transportation Co., now underway in Japan via IHI (Ishikawajima-Harima Heavy Industries Co., Ltd.).

Megasystems president **Dean Chimples** reported that this will be the second conversion project for Mobil at IHI yards using the firm's microprocessor-based computer and monitoring system. (The Seamatic II system was installed on the 285,000-dwt Mobil Hawk in a similar conversion to diesel power completed by IHI in late 1978.)

All four new conversions include an optional combustion analysis feature on the diesel cylinders in addition to the basic monitoring and control functions. The vessels being converted by IHI are the Mobil Eagle, the Mobil Falcon—both ABS-class vessels—and the Mobil Athos and the Mobil D'Artagnan which carry the BV designation from France's Bureau Veritas.

The combustion analysis feature will also be added to the original Seamatic II electronics package aboard the Mobil Hawk.

Mr. **Chimples** recently announced orders for computerized systems with three other major carriers: Texaco Inc. for the 93,800-dwt tanker Texaco Hanover; Hanna Mining Co. for the 1,000-foot, self-unloading Great Lakes ore carrier M/V George Stinson, delivered last year by the American Ship Building Company; and Hapag-Lloyd of Germany for the 16,265-dwt container liner Leverkusen Express.

Port Of Portland Elects Officers For 1980

The Port of Portland (Ore.) Commission recently elected **Joseph M. Edgar** its president for 1980. Mr. **Edgar** has served on the commission since August 1973, and was president in 1977.

Joseph M. Edgar

Alan Green Jr.

Samuel T. Naito

G. Johnny Parks

Other officers for the nine-member board elected at the regular meeting were **Alan Green Jr.**, vice president; **Samuel T. Naito**, treasurer, and **G. Johnny Parks**, secretary.

Mr. **Edgar** is president of the Joint Council of Teamsters No. 37. He has been business representative and secretary-treasurer of General Teamsters Local 162, and is a member of the Policy Committee of the Western Conference of Teamsters and a trustee of the Western Conference trust fund. Mr. **Edgar** has been appointed to two consecutive four-year terms on the Port of Portland Commission. As 1979 vice president, he served on the commission's Ship Repair Yard and Marketing Committees, and as chairman of the Marine Committee.

Mr. **Green** is chairman of Tom Benson Industries. A graduate of Stanford University, he served his first two terms on the Port Commission from December 1970 through November 1977, and was reappointed in January 1979.

Mr. **Naito** is founder and vice president of Norcrest China Co., and was named to the Port Commission in October 1977. A graduate of the University of Utah with a master's degree from Columbia University, he has played a major role in the restoration of Portland's Old Town area and the development of the downtown Galleria.

Mr. **Parks**, the Northwest regional director of the International Longshoremen's and Warehousemen's Union, was appointed to the Port Commission in October 1977. A longshoreman since 1946, Mr. **Parks** has served on the Portland City Planning Commission and as an aide to then Governor **Mark O. Hatfield** in implementing the Federal Manpower Development and Retraining Act within the state. He was recently elected to the board of directors of the Pacific Northwest Waterways Association.

Port of Portland commissioners are appointed by the Governor to staggered, four-year terms and serve without pay. The Port Commission sets policy for the organization that operates docks, airports, a shipyard and industrial property.

Marine Architects, Inc. Formed In Corpus Christi Area

C. Steve Yates recently announced the formation of a new company, Marine Architects, Inc., P.O. Box 350, Aransas Pass, Texas 78336, telephone (512) 884-5481. The new company will provide technical services to the marine industry. Mr. **Yates** was formerly the naval architect and marine engineer for Rockport (Texas) Yacht and Supply Company, Inc.

Marine Architects, Inc. is associated with Marine Surveyors, Inc., P.O. Box 1913, Corpus Christi, Texas 78403, an established marine surveying company owned and operated by **Peter J. Fox**.

RCA Globcom Completes China Marisat Tests

RCA Global Communications, Inc., selected as coordinator by the People's Republic of China to conduct a marine satellite test program, recently announced the successful completion of the tests.

The program, designed to evaluate China's use of the Marisat Satellite System, included a series of tests on telex, voice, data and facsimile services in a variety of ship-to-shore, shore-to-ship and ship-to-ship configurations.

In a message to **Eugene F. Murphy**, president of RCA Globcom, **Tsung Ju-Li**, Director of China's Communications Engineering Institute, said that evaluation of the program showed that the tests had been satisfactorily completed. He added, "At the time that RCA Globcom was selected to coordinate the tests in August, we realized that many obstacles would have to be overcome to complete the tests."

Mr. **Ju-Li** also advised RCA Globcom that China will be establishing a formal Marisat training program prior to its participation in the Marisat program in the near future.

Results of the tests were evaluated by China's Communications Engineering Institute and the China Electronic System Engineering Company. Magnavox Corporation provided the Marisat ship terminals utilized in the tests.

Eastern U.S. Representative For SSPA Appointed

Dr. **Hans Edstrand,** director general of the Swedish Center for Advanced Maritime Research, recently announced the appointment of **Gunnar C.F. Asker** as the exclusive representative for SSPA (Statens Skeppsprovningsanstalt) in the Eastern United States.

Mr. **Asker** graduated from the Royal Institute of Technology in Stockholm, Sweden, and was a commander in the Royal Swedish Navy. He has held a number of executive positions as chairman of the board, and president of medium-sized technological corporations. Mr. **Asker** is a member of The Society of Naval Architects and Marine Engineers.

Dr. **Edstrand** noted that the Swedish model testing facility has become a link in the marine fuel economy program, and that testing costs may be recovered in fuel savings after a short time of full-size operations. Mr. **Asker** will be responsible for assisting U.S. clients of the Swedish testing facility in their fuel conservation program. Mr. **Asker's** office is Room 411, 60 East 42nd Street, New York, N.Y. 10017.

Literature Available On Rockwell's New High Pressure/Temp. Valves

The Flow Control Division of Rockwell International Corporation, Pittsburgh, Pa., has introduced a new generation of high-pressure high-temperature forged steel globe valves.

Incorporating modern technology and materials, the manufacturer reports the new Univalve® design offers higher pressure/temperature ratings, a new two-piece yoke and bonnet assembly for easier in-line maintenance and a new graphitic stem sealing system that greatly reduces the need for periodic stem packing adjustment or replacement. Time-proven features are also retained in the new design. These include the inclined stem design for flow efficiency, a body guided disk for smooth throttling and shut-off and hardfacing of disk and seat for long service life.

Creation of the new design, available in seal-welded or unwelded models, followed extensive market surveys conducted by Rockwell which pointed out the need for a more efficient, faster, in-line valve maintenance and repair capability which could be performed by in-plant personnel.

The new model has a seal-welded bonnet for service on hazardous or toxic fluids where absolute protection from body-bonnet leakage outweighs the disadvantage of slower disassembly for maintenance. Where service doesn't require the seal-welded model, an unwelded bonnet model is available for faster in-line maintenance.

Three new service tools were developed to aid in efficient and fast maintenance of the new Univalves.

Both of the new Univalve models are available in classes 1690, 2680, and 4500. Stop, stop-check and check Univalves in sizes ½ inch through 4 inches can be ordered with threaded, socket weld or butt welding end configurations.

For more information on the new Univalve, write to **Edward Isner,** Rockwell International, Flow Control Division, 400 North Lexington Avenue, Pittsburgh, Pa. 15208. Ask for catalog V-30.

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(A) 2 — STEEL DECK SCOWS (SAND)
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Dimensions: 120′ x 36′ x 11′
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Built: 1967
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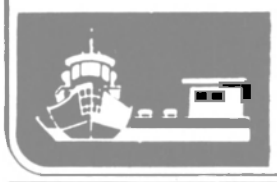
(C) STEEL T.S. DIESEL TUGBOAT
Built: 1973
Dimensions: 70′ x 24′ x 10.5′
1200 H.P.
Price: $675,000.00



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Excellent fringe benefits for you and your family are offered by this sunbelt shipyard. Other benefits include mild weather, fishing, and all kinds of water sports.

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The R/V **Advance II** was originally constructed for the US Navy as a Patrol Craft Escort (PCE). The ship has been modified for oceanographic training and research assignments and has been operating for the past 15 years. The vessel is documented and certified by the US Coast Guard as an oceanographic research vessel and has an A.B.S. loadline.

Vessel is in operating condition but all electronics have been removed as has all oceanographic winches.

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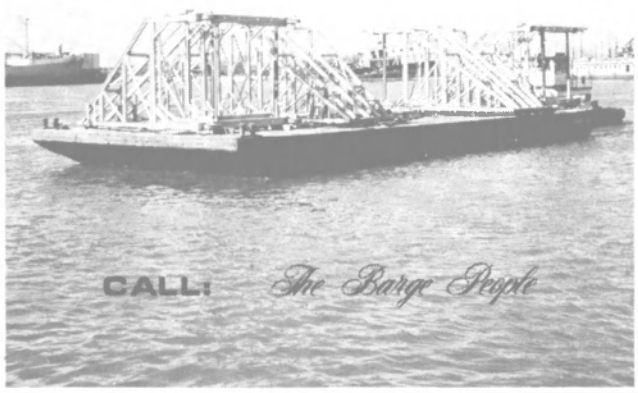

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INVITATION FOR BIDS
M/V TAKU PROJECT NO. F9500(4)

Sealed bids in single copy for furnishing all labor, materials, and equipment and performing all work on Project F9500(4) described herein will be received until 3:00 PM prevailing time April 3, 1980 in the Division Directors Office, Division of Highway Design and Construction, Island Center Building, Douglas, Alaska.

The project consists of refurbishing M/V TAKU by; replacing or rebuilding major machinery components, living accommodations and food facilities, the addition of a solarium, a passenger/freight elevator and installation of a Type I Marine Sanitation Device. ALL WORK SHALL BE COMPLETED BY APRIL 30, 1981.

In accordance with requirements set forth by the Federal Highway Administration, the following provisions are made a part of all advertisements for construction contracts; "Bidders must submit certification stating whether or not they intend to subcontract a portion of the work and, if so, that they have taken affirmative action to seek out and consider minority business enterprises as potential subcontractors. Each bidder intending to sublet part of the contract work shall make contact with potential minority business enterprise subcontractors to affirmatively solicit their interest, capability and prices and shall document the results of such contracts. A bidder's failure to submit this certification or submission of a false certification shall render his bid nonresponsive."

Plans and Specifications may be obtained by potential prime contractors for bidding purposes by contacting the Director, Division of Harbor Design and Construction, Pouch Z, Juneau, Alaska 99811, (907) 586-2195.

R.D. Shumay, Deputy Commissioner
Department of Transportation and Public Facilities

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Presently in use
Length overall 400′
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Breadth between wing walls — 42′
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Gross weight — 2,600 tons
Capacity — 2,800 tons

Three longitudinal bulkheads. Three transverse bulkheads. Sixteen water tight ballast tanks. Four 24″ centrifugal pumps with 50 H.P. vertical shaft motors (20,000 GPM). Thirty electric flood valves. Two manual cross-over valves. Hydraulic stern gate and fly bridges. Manual bilge blocks. 4′ keel blocks, full length included. Two 12 ton diesel traveling gantry cranes on tracks on port and starboard weather decks. Dravo built, formerly Navy ARD.

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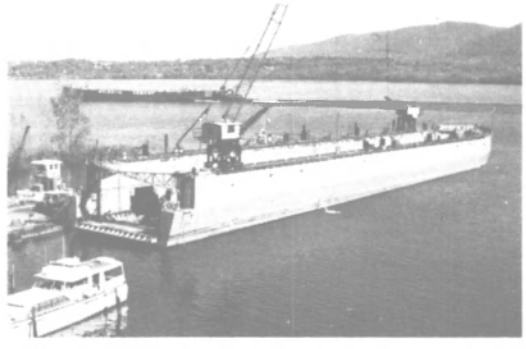

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70-foot Track Span

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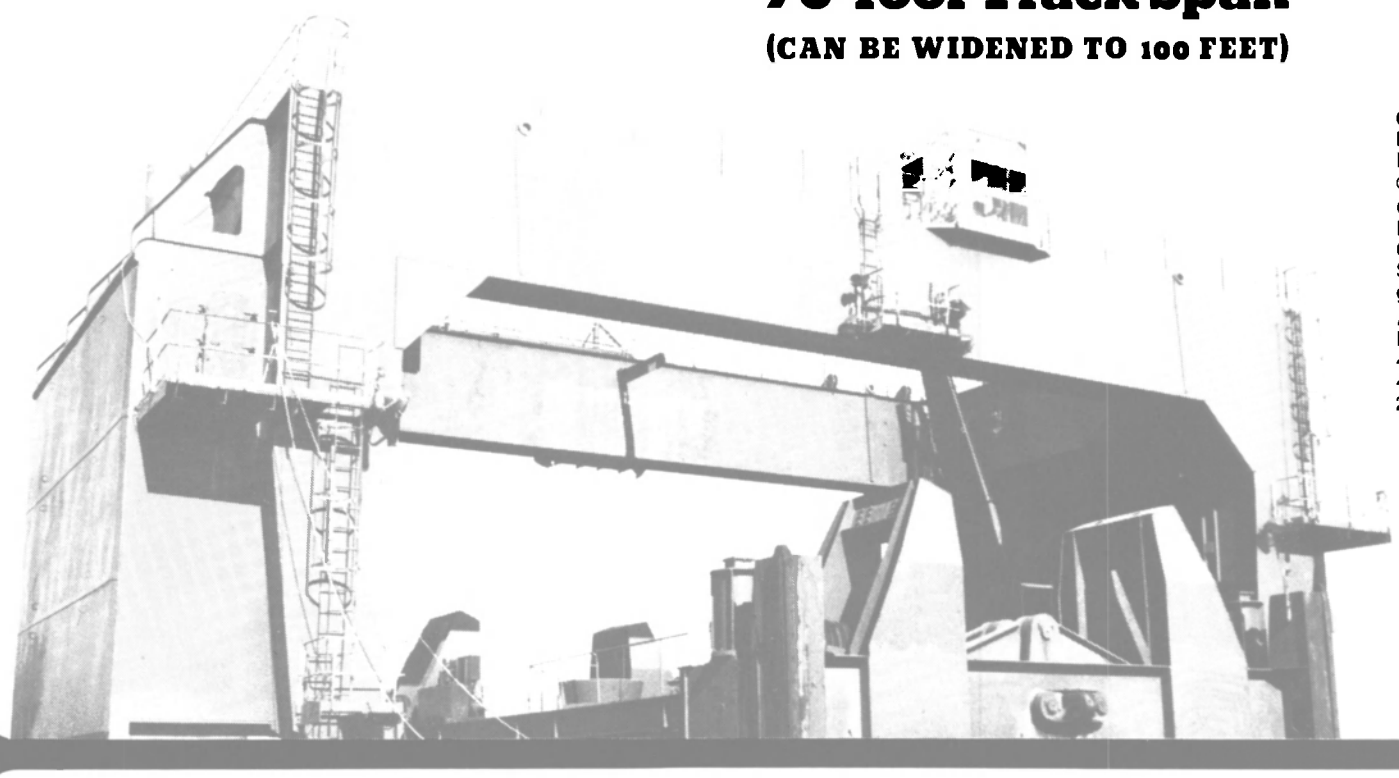

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Units Can Be Modified

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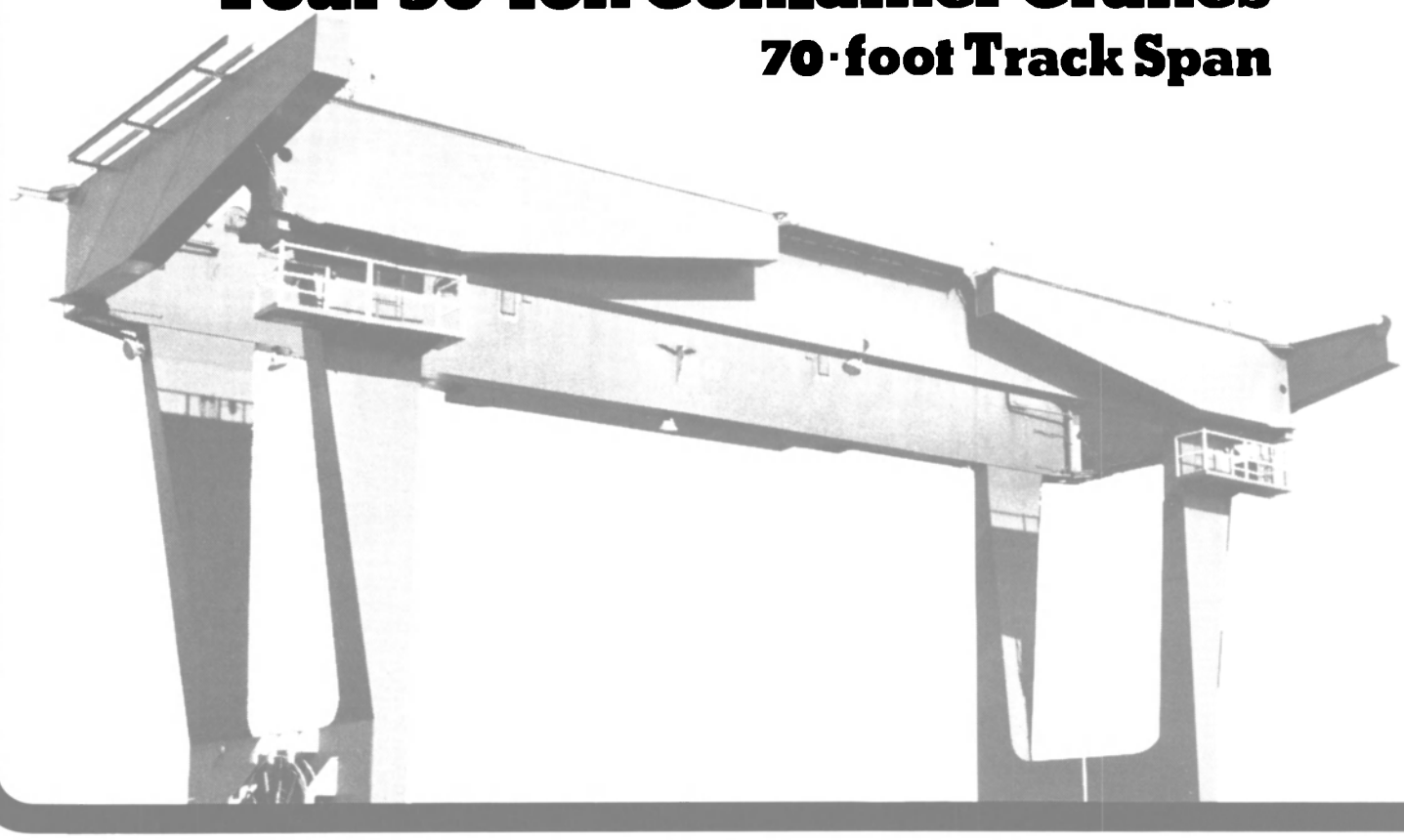

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AC Power Input with Cable Reel and 350 feet of 500 MCM Cable.

MG set: 250 HP-AC-170 KW 230 DC.

200 HP DC Hoist Motor
100 HP DC Trolley Motor
2-40 HP DC Gantry Travel Motors

Trolley Travel 275 F.P.M.
Gantry Travel 100 F.P.M.
Hoist Speed:
30 LT @85 F.P.M.
20 LT @100 F.P.M.
Empty Spreader 200 F.P.M.

32'0" Maximum Outstretch

Hoist, Trolley Travel and Gantry Motors are DC and have VSR and VSX regulation.

Hoist and Trolley not shown but are included.

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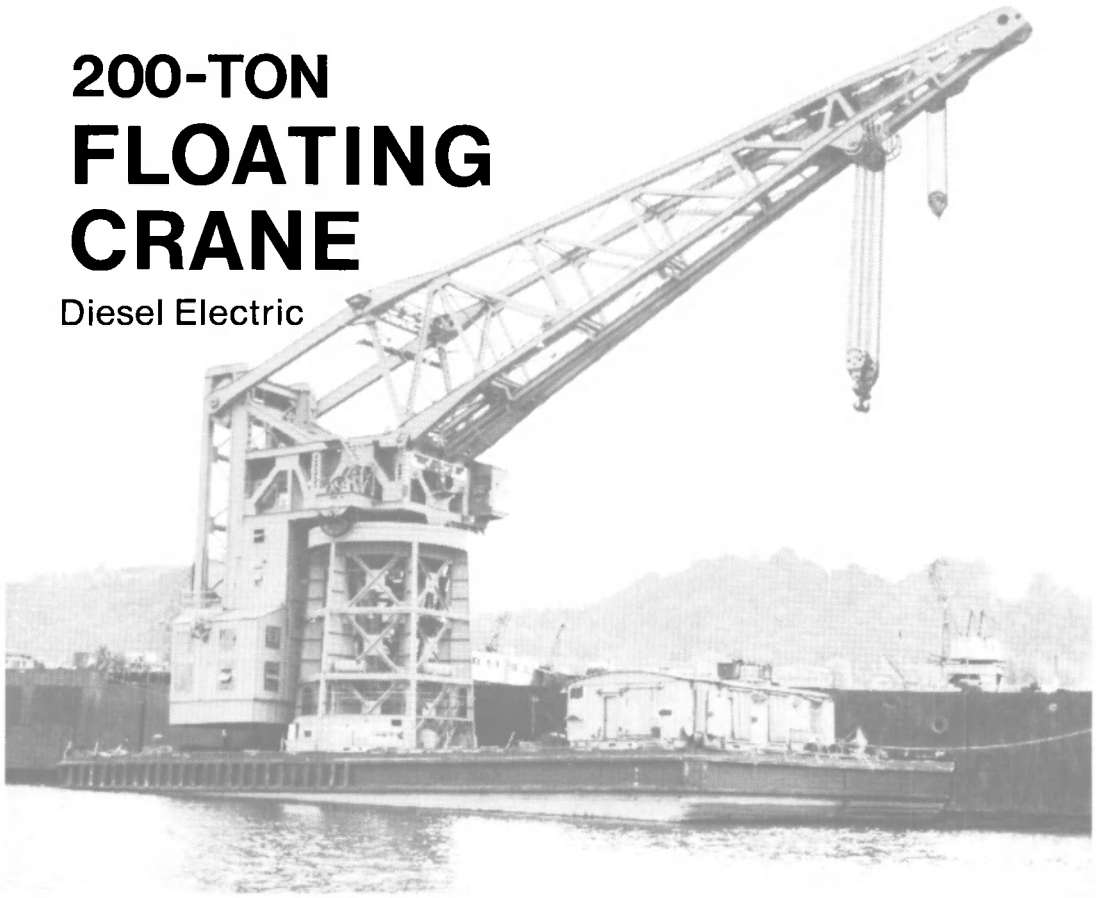

MR 7601

VESSEL CHARACTERISTICS
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LENGTH OVERALL ..... 140 FT.
BEAM ..... 84 FT.
DRAFT ..... 7 FT.
LIGHT DISPLACEMENT ..... 2,334 TONS
ALL STEEL CONSTRUCTION
ELECTRIC REVOLVING TYPE — FULL 360°
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CRANES: Main Hoist 50 Tons
Whip Hoist 10 Tons
Boom 105 Ft.

Check these ADDED FEATURES

- 400 ft. Whirley Track on deck.
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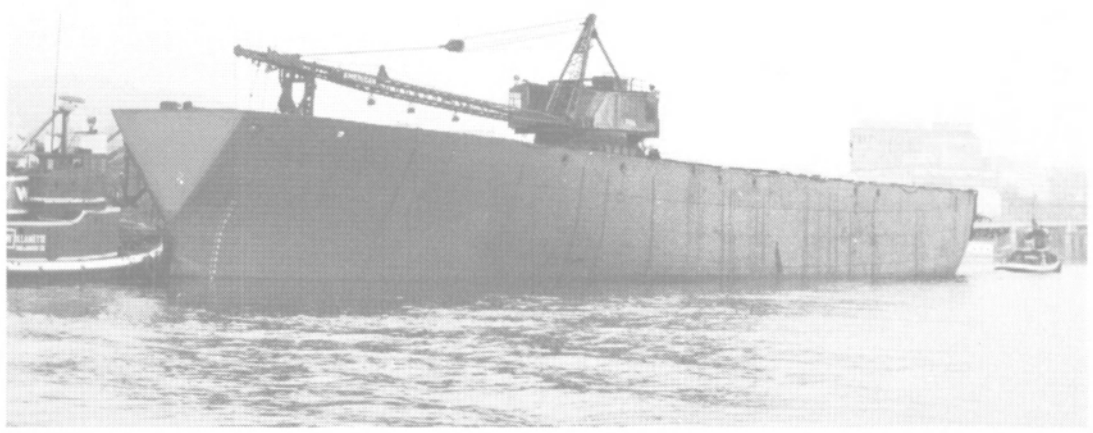
- 3 Units in One—A Dock, A Whirley Crane and Large Dry Storage Facility.



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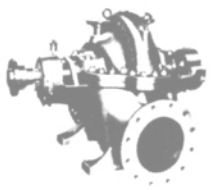

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Model 16LNCS-35 Requires 1850 HP @ 1100 RPM

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Requires 320 HP @ 1750 RPM

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6 GTM Requires 200 HP @ 1800 RPM

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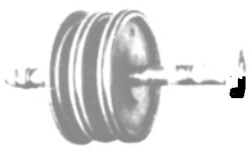

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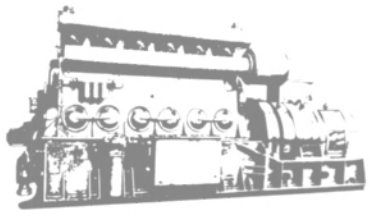

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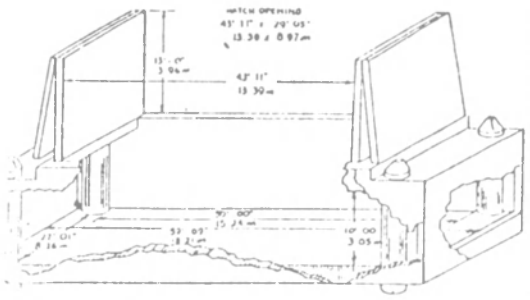
Former PFEL Lash Lighters, all steel construction, Avon type, 500 S Ton capacity. Double bottoms, sides, and ends. 61 ft. long, 31 ft. wide, and 14 ft. high. Empty Lighter weighs 91.33 S/Tons. Double accordion doors, hydraulic operated.



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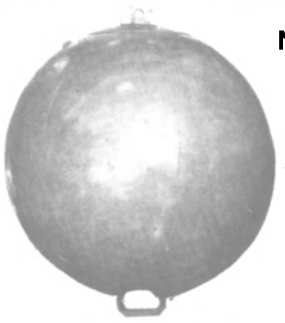

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Brass bound on rim with brass hub marked "John Hastie & Co. Ltd. — Greenock."

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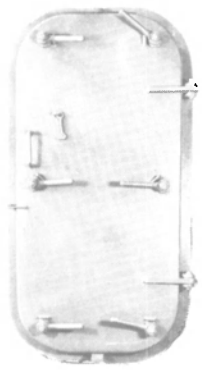

With Stainless Steel Dogs

6-Dog right and left hand hinged doors with frames. Constructed of 1/4" steel plate and meet Coast Guard regulations for above deck as well as below deck use. All dogs are bronze bushed.

SIZE

26"x48" 26"x66"
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IMMEDIATE DELIVERY

NEW 7" RADIUS PANAMA CHOCKS

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14" X 10" CLEAR OPENING

With extended legs for welding to deck. 14" Wide on base — length 28" — height 27¼". IMMEDIATE DELIVERY FROM STOCK.

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700 GPM @ 150 PSI. Inlet 8" — outlet 6". Powered by 4-speed 440/3/60 motor. 100/75/50/37.5 HP — 1200/900/600/450 RPM — with Cutler-Hammer control. Weight 10,000 lbs.

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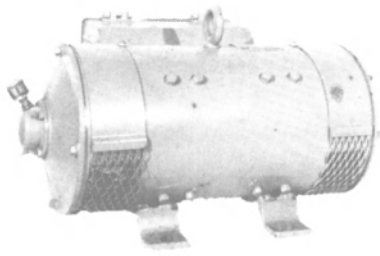

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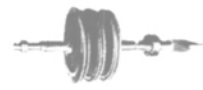

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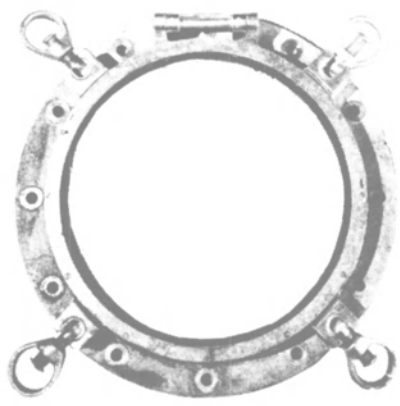
15½" CLEAR OPENING
16" CLEAR OPENING



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Pearlson Engineering Co., Inc., 8970 S.W. 87th Ct., Miami, Florida 33156
S.L. Petchul, Inc., 1380 SW 57th Ave., Fort Lauderdale, Fla. 33317
M. Rosenblatt & Son, Inc., 350 Broadway, New York, N.Y. 10013 and 657 Mission St., San Francisco, Calif.
Sargent & Herkes, Inc., 611 Gravier St., New Orleans, La. 70130
Schmahl and Schmahl, Inc., 1209 S.E. Third Ave., Fort Lauderdale, Florida 33316
Seacor Systems Engineering Associates, Corp., P.O. Box 2030, 19 Cherry Hill Industrial Park, Perina Blvd., Cherry Hill, NJ 08003
Seaworthy Engine Systems, 73 Main Street, Essex, Conn. 06426
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T. W. Spaetgens, 156 West 8th Ave., Vancouver, Canada V5Y 1N2
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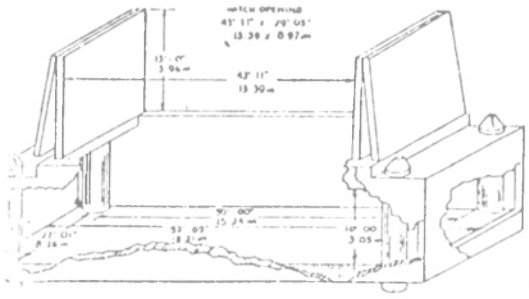

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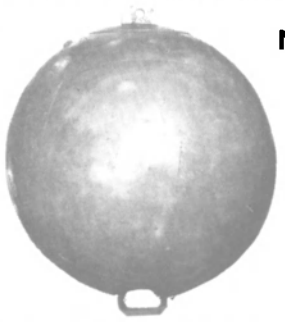

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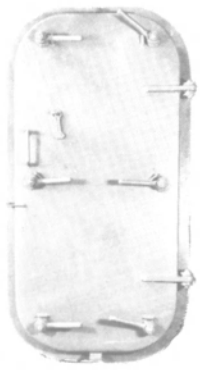

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6-Dog right and left hand hinged doors with frames. Constructed of 1/4" steel plate and meet Coast Guard regulations for above deck as well as below deck use. All dogs are bronze bushed.

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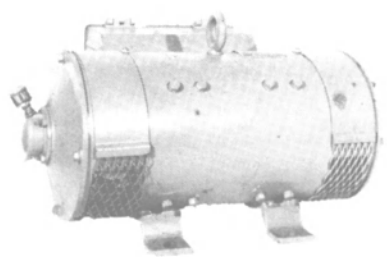

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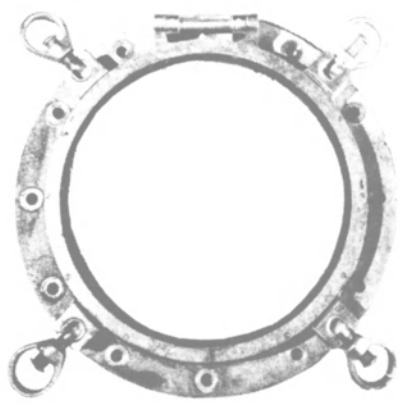

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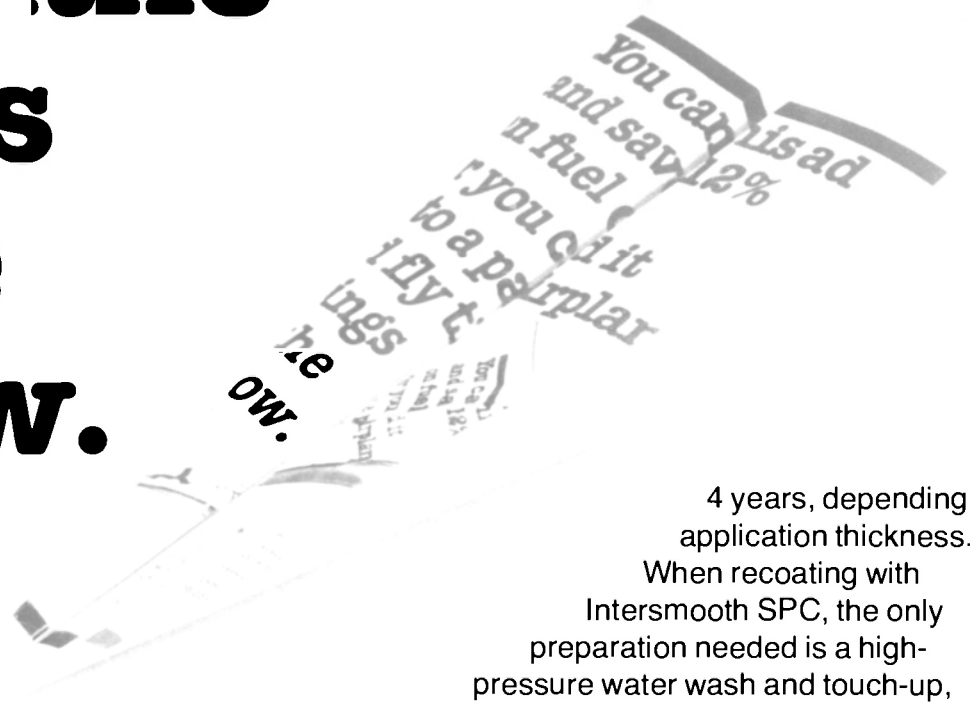

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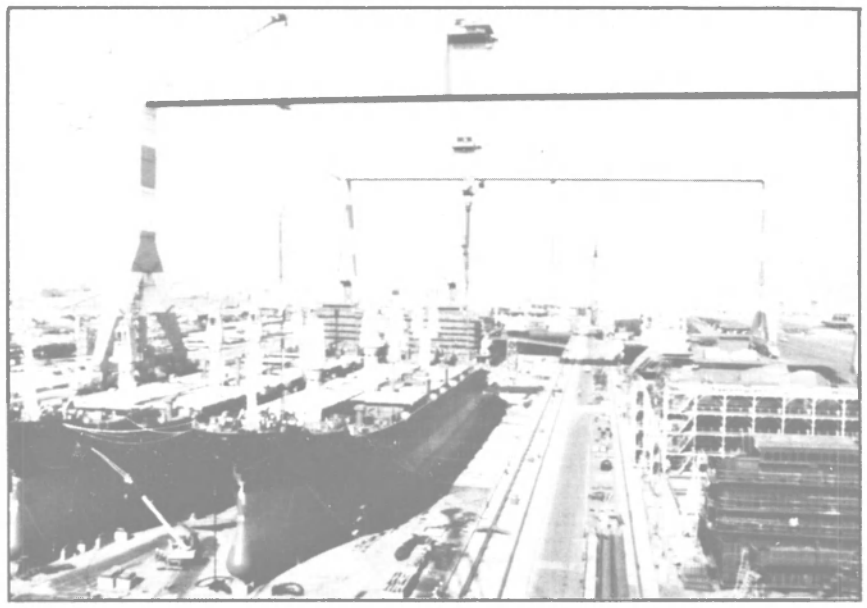

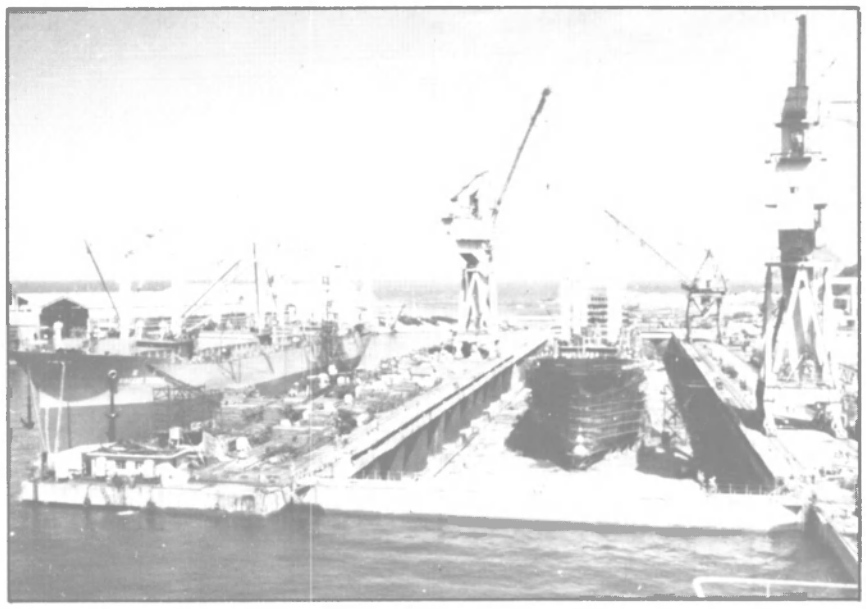

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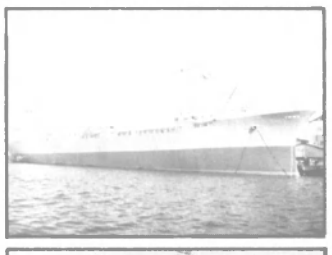

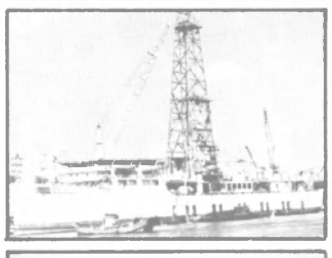

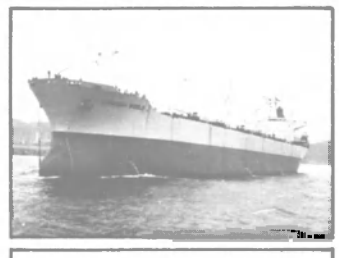

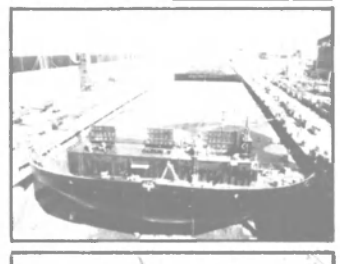

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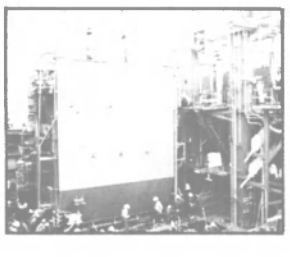

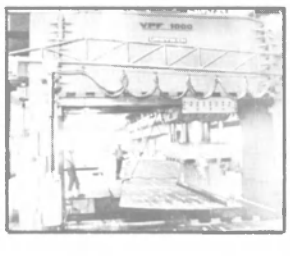

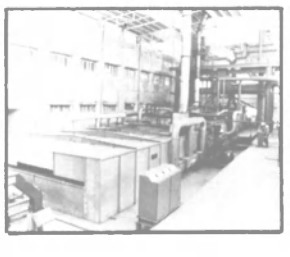

When you pass The Ambrose Light, you're not far from Gulf.

Back in 1908, U.S. Lightship No. 87 first dropped her mushroom anchor at 40° 27.5′N, 73° 49.9′ W.

She was stationed there to guide square riggers and steamers through the shifting sandbars of the newly dredged Ambrose Channel and on into New York harbor.

When fog obscured her light, she blared a warning heard for miles.

And in 1912, ships began to home in on her radio beacon, the first in the world to operate successfully.

You can board the original Ambrose at New York's South Street Seaport Museum. The less romantic, but more efficient tower above now stands where she rode at anchor, a welcome sight (or sound) to seamen inward bound.

New York. Still another port where you'll find premium Gulf marine lubricants like Gulf Veritas Cyloils.

These highly alkaline cylinder lubricants are for use in all low-speed crosshead diesel engines burning residual fuel oils. They're manufactured from highly refined base oils having maximum film strength and high oxidation stability, compounded with oil-soluble additives to provide the alkaline reserve needed to neutralize the acidic products of combustion and a high level of detergency to ensure maximum component cleanliness.

All of Gulf's marine products give you maximum quality, performance and bottom-line economy. They're available, backed by a complete and comprehensive service capability, at ports of call throughout the world. For specifics, please contact your local Gulf representative.

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