

# MARITIME REPORTER AND ENGINEERING NEWS



## CORE '84

Marathon-built "Rowan Gorilla" Offshore Nova Scotia

**Canadian Offshore  
Resources Exposition**  
— Preview —

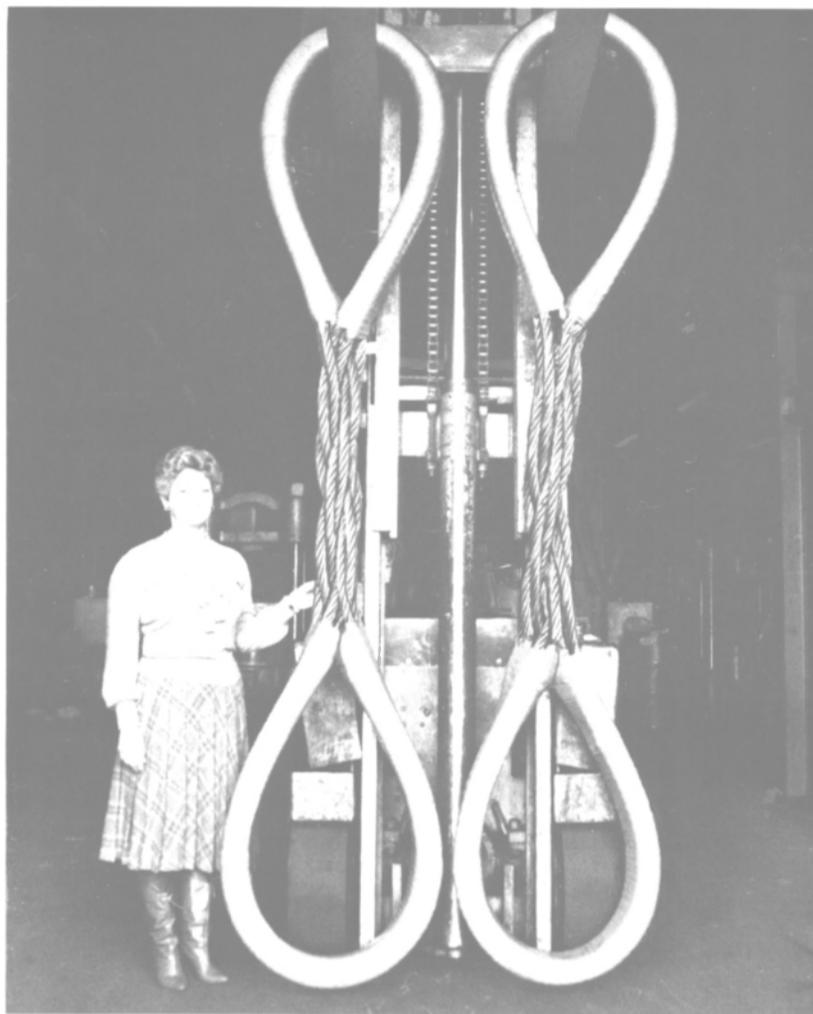
(SEE PAGE 4)

— Previews —  
**A.S.N.E. Fall Symposium**  
●  
**Marine Salvage Symposium**

(SEE PAGE 4)

**SEPTEMBER 15, 1984**

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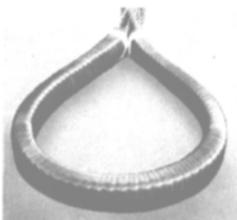
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## House Passes \$250-Million Shipbuilding Subsidy Authorization Bill

The U.S. House of Representatives recently passed by voice vote a special subsidy bill (HR-5220) that would authorize the appropriation of \$250 million "to protect the national defense shipyards of the United States" by helping to build ships domestically.

The legislation would authorize the appropriation of \$200 million in "shipyard incentive payments" of not more than 50 percent of the price to construct a commercial vessel in a U.S. yard, to be paid to the shipyard submitting the lowest bid. It would also authorize \$50 million to finance the purchase of commercially obsolete vessels by the Secretary of Transportation for inclusion in the National Defense Reserve Fleet.

The new ships would be built for the government's account and then either chartered or sold to private operators for operation in U.S. foreign trade.

The bill is subject to Senate passage. Actual appropriation of the money will depend upon passage of a separate spending bill.

## Gibbs & Cox Firm Awarded \$30-Million Navy Contract For Design Agent Services

Gibbs & Cox Inc., naval architects and marine engineers of New York City, has been awarded a \$30,518,837 cost-plus-fixed-fee Navy contract for class design agent services for the FFG-7 Class guided-missile frigate construction program. The Naval Sea Systems Command is the contracting activity.

# MARITIME REPORTER and Engineering News

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**MARITIME REPORTER**  
AND  
**ENGINEERING NEWS**

(USPS) 016-750

No. 18

Volume 46

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

(212) 689-3266

Telex: MARINTI 424768

ESTABLISHED 1939

Maritime Reporter/Engineering News is published the 1st and 15th of each month by Maritime Activity Reports, Inc. Application to Mail at Second Class Postage Rates is Pending at Waterbury, CT 06701 and additional mailing offices.

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

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Maritime Reporter/Engineering News

## Symon Appointed New Director Of Tankers At Stolt-Nielsen



Stanley Symon

Stanley Symon has been named director of tankers at Stolt-Nielsen Inc, Greenwich, Conn., to succeed Per Heidenreich, according to an announcement by Jacob Stolt-Nielsen Jr., chairman of Stolt Tankers and Terminals. Mr. Heidenreich is leaving the company to pursue other business interests.

Mr. Symon has 30 years of experience in the shipping industry. He began his seafaring career as an engineering cadet with BP, rising to chief engineer. In 1969, he was assigned to a technical position ashore with BP, and in 1974 transferred to the Commercial Division, subsequently becoming trade manager of BP Shipping in London.

In 1977, when the Stolt-Nielsen/BP Shipping Limited agreement was made, Mr. Symon was seconded to Stolt-Nielsen Inc. in Greenwich. Instead of returning to England when the secondment term was over, he decided to take up permanent employment with Stolt-Nielsen, first as manager of the Ship Management Department, and now as manager of the entire tanker business.

Mr. Symon is a chartered marine engineer, a fellow of the Institute of Marine Engineers, and a fellow of the Institute of Chartered Shipbrokers. He has served as chairman of the board of the Liberian Shipowners' Council, and remains a member of the board. He also serves on Lloyd's Register North American Committee.

## FMC Announces New Model Coffin Turbo Feed Pump —Literature Available

A medium-to-high-capacity, turbine-driven centrifugal pump for marine and industrial applications is now available from FMC Coffin Turbo Pump Division of FMC Corporation of Englewood, N.J. Designated type CG, the Coffin® turbo pump can handle capacities to 550 gallons per minute and total head to 1,900 feet, 825 psf—about one-third higher head pressure than the company's type T turbo pump.

The rugged, dependable type CG carries a 24-month warranty and is said to be ideal for general boiler feed service, in-plant cogeneration systems, and wherever a high-pressure characteristic is desired.

For further information and free literature on the CG pump,

Circle 29 on Reader Service Card

September 15, 1984

## SOFEC Awarded NavSea Contract For Offshore Mooring Terminal

SOFEC, Inc. of Houston has received a contract from the Naval Sea Systems Command for the construction, testing, and sea trials of a rapid deployment single anchor leg mooring terminal known by the trade name RA-DE SALM™. The unit will moor and unload tankers of up to 70,000 dwt in the open sea,

and will allow the prompt and efficient delivery of fuel products for shore-based military equipment. The entire system is designed to be deployed and operational within 48 hours of its arrival at site. Installation can be accomplished with a minimum of manpower and equipment.

The RA-DE SALM is similar to other commercial systems designed and constructed by SOFEC. It may be delivered to site by towing or it may be carried on the deck of a ship

in a special launching frame. The unit utilizes preplaced solid ballast in the mooring base, and will function in a wide range of seafloor conditions ranging from soft mud to firm sand or coral.

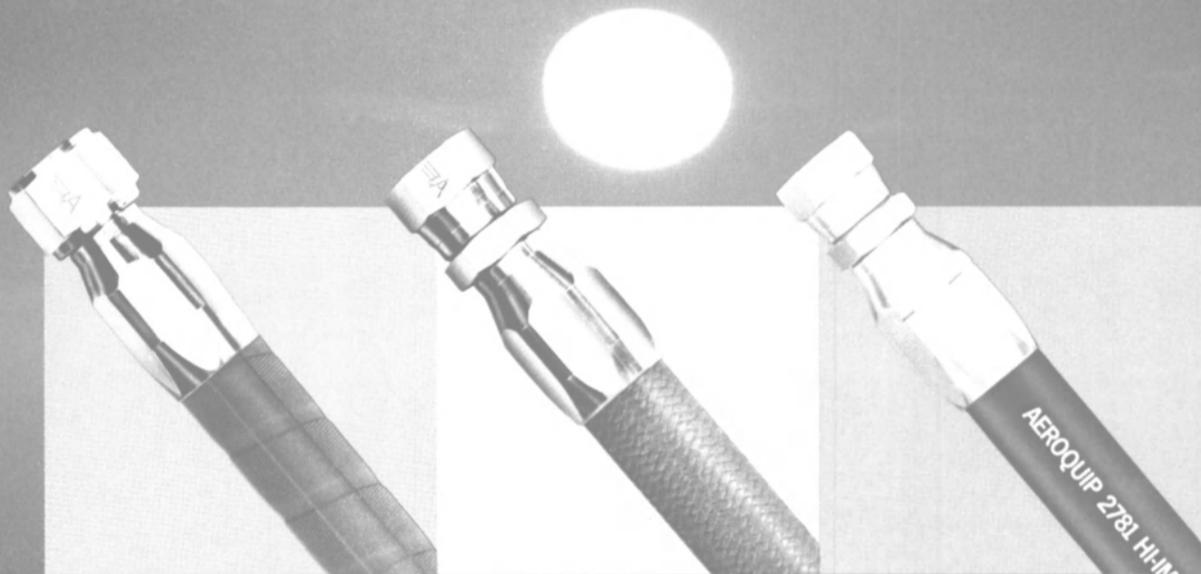
The Navy's unit is scheduled for delivery in mid-1985.

For further information on SOFEC's single anchor leg mooring terminal,

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## A view from the bridge

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### FC300 AQP™ Hose Exceeds SAE100R5 Specs

Another member of the tough Aeroquip AQP family of super performance marine hose, FC300 handles petroleum-based and fire-resistant hydraulic fluids, air, gasoline, fuel and lube oils. It features the patented AQP elastomer tube, polyester inner braid, single-wire braid reinforcement and blue polyester braid cover. The tough answer to tough problems.

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### 2781 HI-IMPULSE® Exceeds SAE100R2A

Another Aeroquip breakthrough is 2781 HI-IMPULSE hose. It's a 2-wire braid hose that lasts longer under frequent impulse conditions and also handles higher operating and peak pressures than conventional SAE100R2A hose. A patented Aeroquip braided hose manufacturing technique makes it possible.

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For information about the products shown above, write for the specific catalog or brochure mentioned or ask for Marine Catalog 305B, Aeroquip Corporation, Industrial Division, 300 South East Avenue, Jackson, Michigan 49203, a Libbey-Owens-Ford Company.



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## Sperry Gets \$62.8-Million Navy Contract For Frigate Combat Systems Work

Sperry Corporation has been awarded a \$62.8-million definitized contract by the U.S. Naval Sea Systems Command for engineering, development, integration, and production support of combat systems on 11 Perry Class (FFG-7) guided-missile frigates.

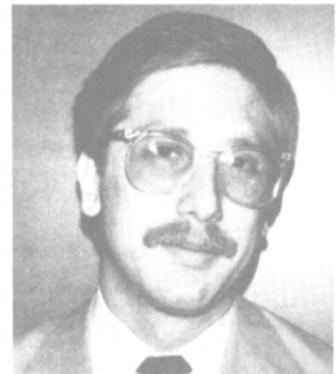
The four-year contract is a continuation of Sperry's system work on the FFG-7 ships under the latest Navy shipbuilding program. Sperry has participated in this program for the past 12 years. The combat system on the FFG-7 is designed as an integrated multi-mission system to provide simultaneous anti-air, anti-surface, and anti-submarine warfare combat capabilities.

Under the contract, Sperry will perform combat system evaluation,

test, and prove out major changes to the combat system, and integrate key electronic equipment prior to installation aboard each new ship. The equipment includes fire control systems, communications systems, command and control systems, and electronic warfare systems.

Work on this contract is being done at Great Neck and Ronkonkoma, N.Y., and at Arlington, Va.

## Thomas Merritt Suber Appointed By Marland



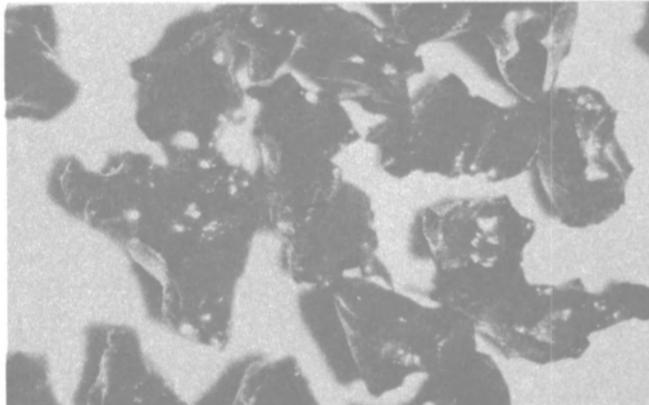
Thomas M. Suber

Marland Environmental Systems, Inc. of Great Falls, Va., a leading manufacturer of water purification and treatment systems and services, has announced that **Thomas Merritt Suber** has been appointed general manager. The announcement was made by **Bob Daniels**, president of Marland.

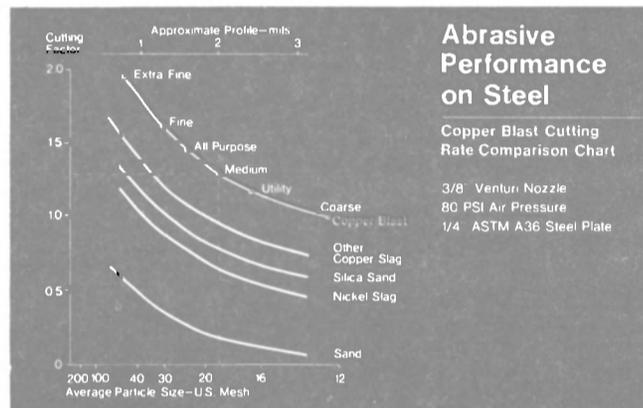
After completing his post graduate work at Georgetown University, Mr. Suber worked as a public information specialist for the National Security Council in Washington, D.C. He joined Marland in 1978 as international sales coordinator.

Mr. Suber has established Marland's export structure for the United States and the United Kingdom in addition to being instrumental in establishing Marland's European sales office, Marland's first formal direct representation in Europe.

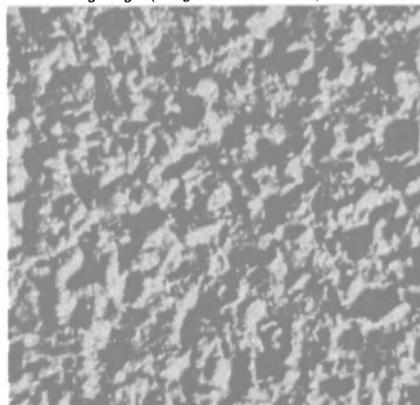
# More work in fewer hours with new super-clean Copper Blast



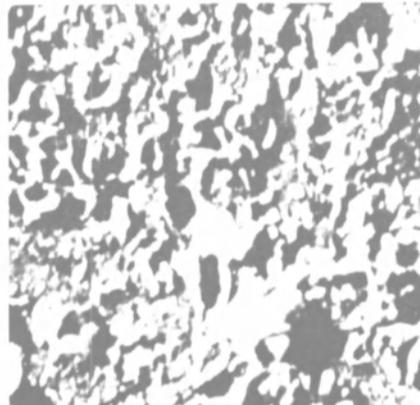
COPPER BLAST particles are reusable, virtually dust-free and every edge is a cutting edge (magnified 17 times).



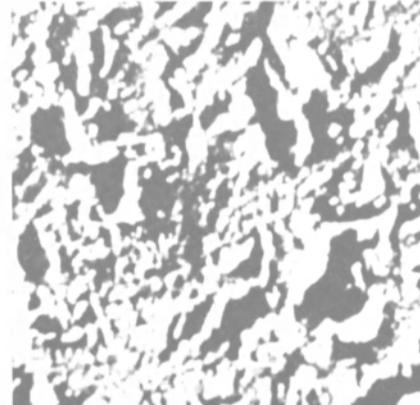
COPPER BLAST cleans metal faster, which means more work in fewer hours.



COPPER BLAST creates a uniform anchor pattern.



These cratered surfaces were made by nickel slag abrasive (left) and silica sand (right). They left more residue, have an uneven profile and will require more paint.



New COPPER BLAST is a premium-quality, all-purpose copper slag abrasive with more cleaning power for your money. COPPER BLAST is well-screened to retain only the particles that do the job. You don't pay for dust which does no work.

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## New HEET Fuel Additive Saves Time And Money By Preventive Maintenance

The HEET Automotive Division of DeMert & Dougherty, Inc., Oak Brook, Ill., recently announced the introduction of new HEET Diesel Fuel Treatment, a special fuel additive developed by Universal Oil Products Inc.

HEET Diesel Fuel Treatment provides important preventive maintenance benefits because it helps compensate for today's unstable fuels by keeping injectors clean and maintaining a proper spray pattern. According to the manufacturer, it helps keep the entire fuel system clean and free of deposits, prevents metal corrosion, solves emission problems, and eliminates knocks. HEET Diesel Fuel Treatment disperses water in the fuel system, but contains no alcohol.

The product is packaged in a two-gallon container that treats 4,300 gallons of diesel fuel for fleets, and also comes in an easy-to-pour bottle that treats 100-gallon and 30-gallon drums for industrial users and terminal operators.

A companion product for diesel cars is also available. One bottle of HEET Auto Diesel Fuel Treatment for cars treats 20 gallons of diesel fuel.

For more information on products from the HEET Automotive Division of DeMert & Dougherty,

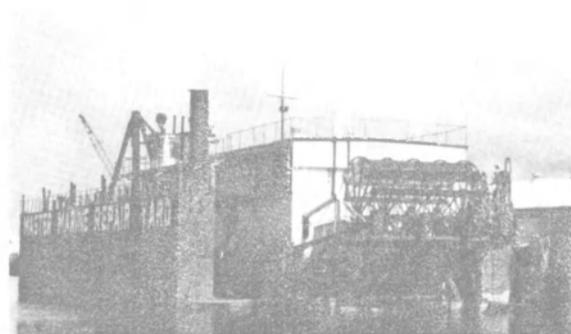
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## Master Marine Yard Awarded Contract To Refurbish Corps Of Engineers Snagboat

Master Marine, Inc. of Bayou La Batre, Ala., has been awarded the repair and refurbishing job on the U.S. Army Corps of Engineers snagboat Montgomery. The 178-foot vessel, a steam-powered paddlewheel workboat built in 1926, worked at removing trees, sunken logs, and other debris from rivers in the Deep South.

The Montgomery has a steel riveted hull with wooden superstructure. Repairs will consist of welding all hull rivets, renewing bottom plating and wood passageways, installation of new sprinkler, electrical, and communications systems, and cleaning and painting of the entire vessel.



Sternwheeler Montgomery in drydock at Master Marine.

After the refurbishing has been completed, the Montgomery will be moved to Aliceville Lock and Dam on the Tennessee-Tombigbee River in Alabama, where she will be placed on public display.

"LOW AND DRY" in graving dock at Triple A Shipyard in San Francisco, Matson Navigation Company's container-RO/RO carrier Lurline is undergoing extensive work that will improve her fuel efficiency and expand cargo capacity. During six-week shipyard stay, the 862-foot vessel's underwater hull exterior will get coats of International Paint Company's self-polishing copolymer bottom coating that repels marine growth and is another fuel saver.

## Two Key Appointments Announced By Halifax Industries



Mauritz Erhard

Tom Duncan

Halifax Industries Limited of Nova Scotia, whose two shipyards are now managed by AMCA International, recently announced two key appointments.

**Tom Duncan**, formerly general manager of the Burrard Yarrow Corporation, Vancouver, was appointed director of operations, and **Mauritz Erhard**, formerly sales manager of Wiley Manufacturing in Maryland, was appointed marketing manager.

Mr. **Duncan** has almost 40 years' experience in the shipbuilding and repair industry. This is his second time at HIL—from 1967-1969 he held the position of ship repair manager and subsequently operations manager. He is a graduate of King's College University.

Mr. **Erhard** has 20 years' experience in marine engineering and new construction. He will be responsible for both the domestic and international marketing of ship repair, new construction and offshore fabrication. He has held marine marketing and engineering positions with Mobil Oil, National Marine Service, Nashville Bridge Company and AMCA International.

He obtained a B.S. in marine engineering from the U.S. Merchant Marine Academy and an MBA in Business Economics and International Business from Columbia University.

September 15, 1984

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## S.S. United States To Auction Contents Prior To Total Renovation

According to **William H. Bevan**, president of Marine Technologies and Brokerage Corp., the S.S. United States will shortly begin removals in preparation for its movement to the shipyard for a complete retrofit. The vessel will undergo a massive rip-out and rebuild, which will convert it from the world's fastest superliner to a superior world class cruise vessel.

The entire contents of furniture and art work will be placed at auction in the Norfolk International Terminal, Norfolk, Va., from October 8 to October 14, 1984. The auction site is adjacent to the vessel, which has been laid up in a remark-

able state of preservation, due to a complete dehumidification system which was installed shortly after the vessel went out of service.

Mr. **Bevan** indicated that in addition to the very typical 50's furniture, there will be many unique items such as the 20-foot Mercator Chart, 3-foot by 4-foot Indian Sand Paintings, large crystal inlaid wall panels and aluminum sculpture, unique to this famous ship. Nautical items such as entire bridge controls, gyro compasses, Chelsea Clocks, aluminum deck chairs, life jackets with ships name and even six life boats. Other nostalgic items will be blankets, silver service, china and

crystal, all displaying the famous United States Lines spread winged eagle.

In order for potential buyers to view items placed at auction, there will be regular scheduled tours of the vessel which will include most of the vessels most unique public rooms, sample staterooms and even the navigation bridge.

These tours will begin September 29 and continue throughout the auction until October 14, 1984.

For details concerning these events, information will be available from the following: AUCTION & CATALOGUE—October 8, 9, 10, 11, 12, 13 and 14, Guernsey's Auction, 253 East 77th Street, New York, N.Y. 10021, (212) 628-1702; TOURS—September 28 through October 14, Cruise International, 250 Janaf Plaza, Norfolk, Va. 23502, (804) 461-3555.

## MarAd Approves Title XI On \$5.7-Million Barge Reconstruction Work

The Maritime Administration has approved in principle an application from Puget Sound Tug & Barge Company of San Francisco, a wholly owned subsidiary of Crowley Maritime Corporation, for a Title XI guarantee to aid in financing the reconstruction of two single-deck railcar barges. FMC Corporation of Portland built the oceangoing vessels, which are named Barge 500-3 and Barge 500-4.

The two barges, along with two other oceangoing deck barges, will be operated by Arctic Marine Freighters, a division of Puget Sound T&B, to provide contract barge and railcar barge services be-

tween the U.S. Pacific Northwest and Alaska.

The Title XI approval is for \$3,807,000, or 75 percent of the actual cost of \$5,744,270.

## Imi-Tech Offers Catalog Of Insulating Products For Marine Applications

Imi-Tech Corporation, Elk Grove, Ill., recently announced the availability of its new marine products brochure describing its line of lightweight, fire-resistant insulating products for marine applications.

The brochure, Catalog No. 584, also describes the unique core material, Solimide® polyimide foam, which is used in the manufacture of this family of marine products. Having great resistance to open flame, Solimide foam emits virtually no smoke or incapacitating toxic by-products. In addition, the material's light weight (0.5 to 0.7 pounds/ft<sup>3</sup>), offers weight savings of 50 to 70 percent vs. conventional acoustical and thermal insulating materials. In use aboard the CG47 Class cruisers, Solimide-based marine products offer the Navy and shipbuilders considerable benefits in terms of labor savings, as the products' low weight and physical integrity permit a variety of improved installation techniques.

Solimide foam is available in marine end products which include thermal and acoustical hullboard, acoustical ceiling panels, duct wrap, duct lining and for other shipboard applications.

For further information regarding these marine products,

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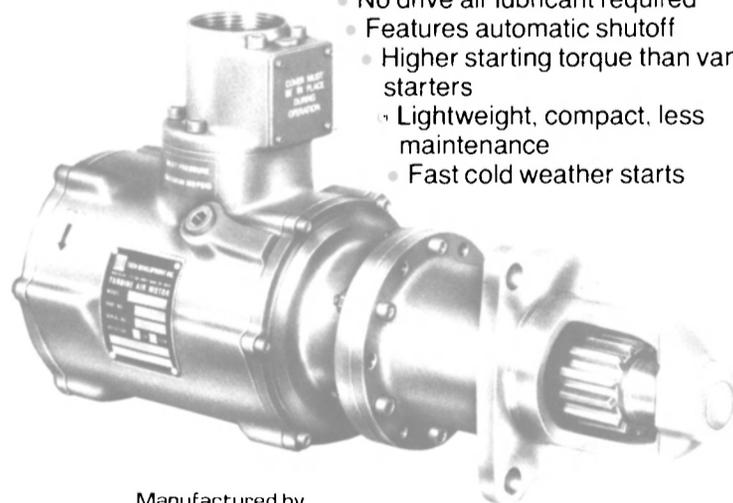


Circle 138 on Reader Service Card

## TDI TURBOSTART™ Engine Air Starters

Energy efficient turbine driven starters for diesels to 15,000 C.I.D. and carbureted engines to 25,000 C.I.D.

- No drive air lubricant required
- Features automatic shutoff
- Higher starting torque than vane starters
- Lightweight, compact, less maintenance
- Fast cold weather starts



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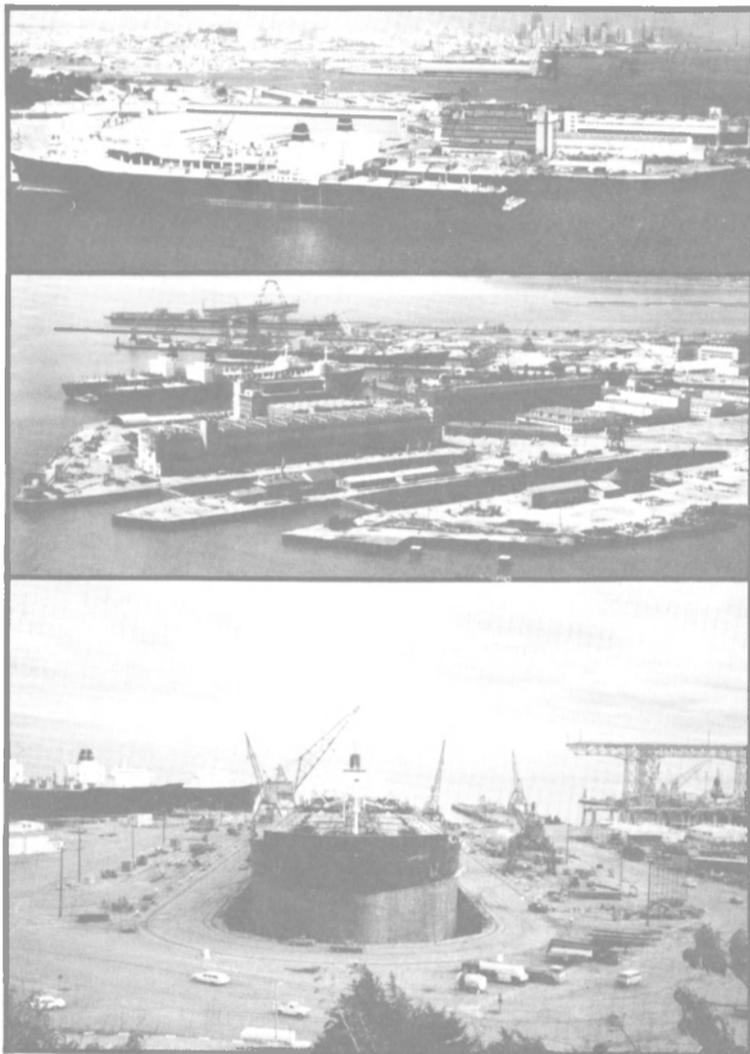
**TECH DEVELOPMENT INC.**

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Telephone: (513) 898-9600 / TWX 810-472-2822

Circle 279 on Reader Service Card

Maritime Reporter/Engineering News

# Checking into major shipyards?



- EXPERIENCE:** For almost 40 years, Triple A has maintained a "Get the job done right" reputation unequalled in the industry.
- PERFORMANCE:** We apply state-of-the-art quality control procedures of inspection and documentation to every aspect of our work.
- LOCATIONS:** Triple A has the largest, most multi-purpose, all weather facilities and capabilities on the West Coast. San Francisco and San Diego.
- COMPETITIVE:** Our on time and on budget deliveries are second to none.
- SHIP REPAIR, CONVERSIONS & CONSTRUCTION:** We are equipped to handle every large or small vessel challenge using the most advanced equipment and skills in the world.
- VOYAGE REPAIRS:** Triple A maintains, around-the-clock, a fleet of mobile equipment specializing in portable machining and boring operations.
- GRAVING DOCKS:** We have six docks, one of which accommodates ships up to 1100 x 144 x 40 feet. And that's just in San Francisco.
- DEEP WATER BERTHS:** Triple A has seven deep and sturdy berths of 1000 feet.
- CRANE FACILITIES:** Our 16 gantry or numerous locomotive, barge-mounted, mobile, truck or boom cranes provide from 35 to 80 tons of versatile weight handling.
- SHOP CAPABILITIES:** We have extensive and highly skilled machine, valve, lofting, plate and welding, sheet metal, paint, electrical and electronic, pipe, joiner, staging and rigging shops.
- COMMITMENT:** Getting the job done right, on time, within budget, to all codes and specifications is our commitment to you. Check us out.

## Check us out.

In San Francisco call (415) 822-8222. In San Diego call (619) 236-1391. Telex—34-265 AAA RPR



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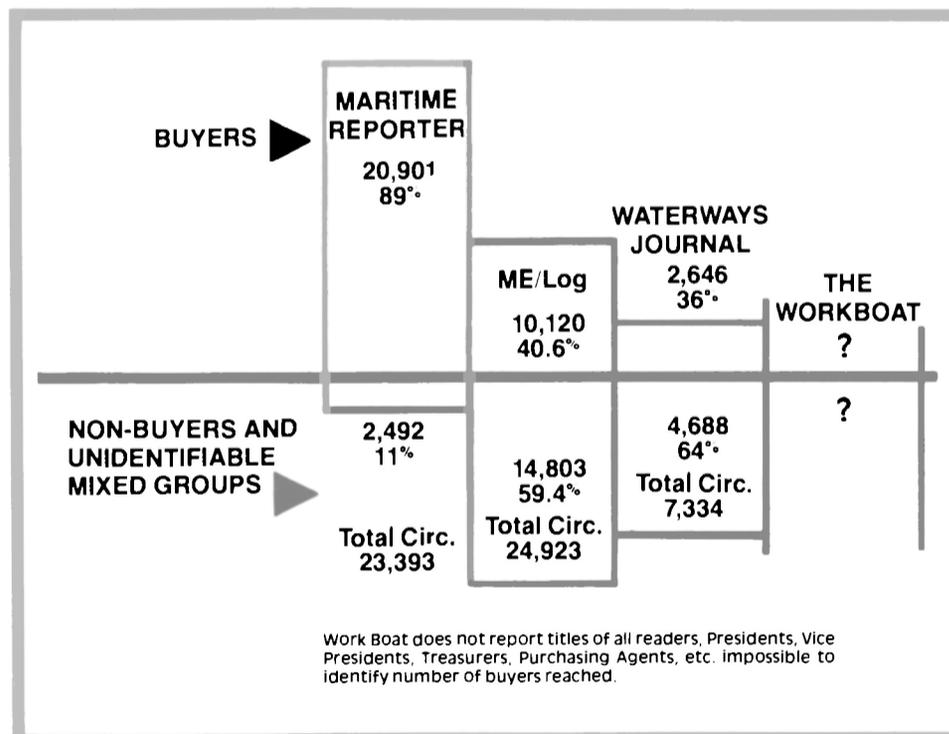
## MARITIME REPORTER THE LARGEST INCREASE IN IN MARINE PUBLI

In 1984, MARITIME REPORTER's total circulation increased by thousands to a record 23,323 copies every issue.

This entire increase consisted of only Buying Influence Readers. MARITIME REPORTER now delivers your advertising to an unequalled 20,901 buying influence readers...

### WORLD'S LARGEST CIRCULATION TO BUYERS

Now, MARITIME REPORTER delivers your advertising to 20,901 identifiable buyers...over twice the number 2 magazine.



### THE BEST ADVE

MARITIME REPORTER produces other Marine magazine... two t number 2 magazine. Each figur for an individual advertiser by l

<b>Paints/Corrosion Control</b>	756
	657
	655
<b>Shipbuilding/Repair</b>	2,147
	613
	547
<b>Deck Machinery/Cargo Handling</b>	523
	419
	395

## THOUSANDS MORE BUYERS . . . FOR B

# NO. ONE



# MARKET ANNOUNCES CIRCULATION TO BUYERS MATCHING HISTORY

thousands more than ever before...and thousands more than any other Marine magazine in the entire world.

Here is complete and unmatched coverage of your entire marine buying market...for maximum advertising results in 1984-1985.

## MARKETING RESULTS

and better sales leads than any and three times more than the ad represents inquiries produced by ME REPORTER in one year or less.

## THE ADVERTISING LEADER

in 1983, and for years, more media buyers placed more pages of advertising, for a larger number of advertisers, in MR than in No. 2, ME/Log.

### Diesel Engines

1,168  
1,153  
1,123

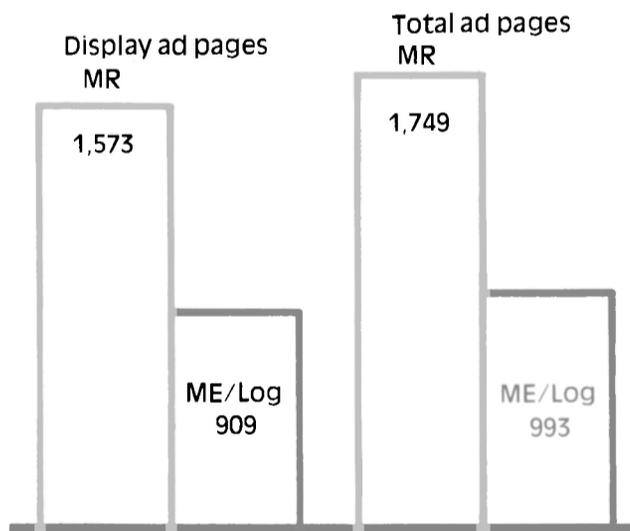
### Navigation & Communications

663  
621  
590

### Oily Water Separators

756  
459  
360

### COMPARE 1983 ADVERTISING



Note — shows only magazine advertising  
13 ME/Log issues —  
24 MR issues...  
no catalogs, buyers  
guides, etc.  
Ad pages reported  
in 7" x 10" units  
for comparison.

And in the first 6 months of 1984, MARITIME REPORTER carried more pages of advertising than No. 2, ME/Log.

**MR clearly leads by a wide margin in advertiser acceptance.**

## BEST ADVERTISING RESULTS

September 15, 1984

**MARITIME  
REPORTER**  
AND  
ENGINEERING NEWS

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



## Manson Construction Builds Pacific Northwest's Heftiest Floating Crane

Wotan, a 600-ton lift crane mounted on a 300-foot-long barge (shown above) went into service on Puget Sound in mid-June. The floating crane, largest in use in the Pacific Northwest and one of the largest on the West Coast, was christened in June at the headquarters of Manson Construction & Engineering Company in Seattle.

The christening ceremony started when a helicopter flew **Henry Simonson**, Seattle Port Commission president and Manson Corporate treasurer **Tamara Amundsen**, to

the Wotan's aft helicopter pad. **Mr. Simonson** was the principal speaker and **Ms. Amundsen** christened the vessel.

The ceremonies marked a golden anniversary for the 79-year-old company. It was in 1934 that the company acquired its first revolving, floating crane, according to **Peter S. Haug**, company president. The Wotan is the 14th floating crane in the company's modern fleet.

The Wotan is rivaled in size on the West Coast only by the Betty L,

a floating crane being operated by the Ocean Beach Outfall Constructors in San Francisco, a joint venture of which Manson is also a partner.

Manson purchased the 300 by 90 by 20-foot steel barge on which the crane is mounted in New Orleans. The stoutly built barge will withstand a deck loading of 2,050 pounds per square inch. Capable of being submerged, the barge was sunk in New Orleans to load a crane barge; then, when refloated, the barges were towed to Seattle via the Panama Canal. In Seattle, Manson extensively modified and rebuilt the Clyde Model 42 revolving crane for mounting on the Wotan.

This crane, which revolves on more than 100 wheels driven by a huge bull gear, will lift 500 tons in the full revolving mode, but will hoist 600 tons over the stern. The boom offers three lifting points—the boom is 140 feet to the heavy lift tackle; another 35 feet to the two 100-ton lift auxiliary hooks; and another 15 feet to the whip, a utility hook capable of lifting 25 tons.

The boom and hoist is handled by five winches driven by a diesel engine.

The crane is controlled by an operator from a booth on the revolving structure itself equipped with controls, lift gauges, and communications systems. The operator can talk to the deck crew, Manson headquarters over company radio, marine traffic through VHF, and the anchor winch operator atop another winch house on deck.

Unless tied to a pier or other fixed structure, the Wotan will set anchors off four corners of the barge when preparing for a lift. Two-inch wire is guided through fairleads on deck from two, Model MD-97-EL four drum anchor winches built by

Skagit in Sedro Woolley. Each of the four drum sets is powered by Detroit Diesel engines through torque converters. The drums have a cable capacity of 3,500 feet of 2-inch wire.

Electrical power is provided by two diesel driven interconnected generators. A 125-kw generator is located in the anchor winch house. Another set located in the crane winch space in the rotating crane's base tub structure, turns both a 170-kw dc generator and a 60-kw ac generator. DC power is used to propel the electrical motors that turn the full gear to revolve the crane.

Eight to 10 people can be accommodated in staterooms aboard. A full galley is equipped with an electric range, refrigerator-freezer, and laundry facilities. The pad structure is integrated with the aft wave break.

The barge is served by a pressurized water system. Water tanks will hold 67,000 gallons while fuel is contained in fuel tanks with a 134,000 gallon capacity.

Naval architect on the Wotan project was **Robert W. Long** of Seattle; the structural engineer was **James A. Crim** of Edmonds; and Manson Superintendent **Robert L. Stevens** was project coordinator.

## Edward Waryas Named Technical Sales Manager For American M.A.N.



Edward A. Waryas Jr.

**Edward A. Waryas** has been appointed technical sales manager for American M.A.N. Corporation, New York, N.Y., the U.S. subsidiary of M.A.N. of West Germany. The announcement was made by executive vice president **Claus Windelov**. Mr. **Waryas** will be responsible for marketing the full line of M.A.N.-B&W diesel generator engines for the deepsea domestic and international markets.

Before joining American M.A.N., he was area sales manager for Wartsila Power Inc., and vice president-commercial for Wesley D. Wheeler Associates. Prior to that he was employed for 11 years as a senior project engineer in the Marine Transportation Department of Mobil Oil Corporation. In that capacity he supervised the construction of a series of 30,000-dwt, diesel-powered products tankers and a 10,000-dwt, diesel-powered coastal products tanker.

Take Full Advantage of your Tube Fitting Specification...

**GAGEABILITY** and **SERVICE** come with the product when you specify **Genuine SWAGELOK Tube Fittings**.

You get more than a leak-free tubing connection when you specify SWAGELOK Tube Fittings. Gageability and Service are part of the package ... at no extra cost to you.

**GAGEABILITY** assures added safety and reliability. It's an exclusive SWAGELOK Tube Fitting feature which allows easy inspection for sufficient pull-up, before a system is pressurized.

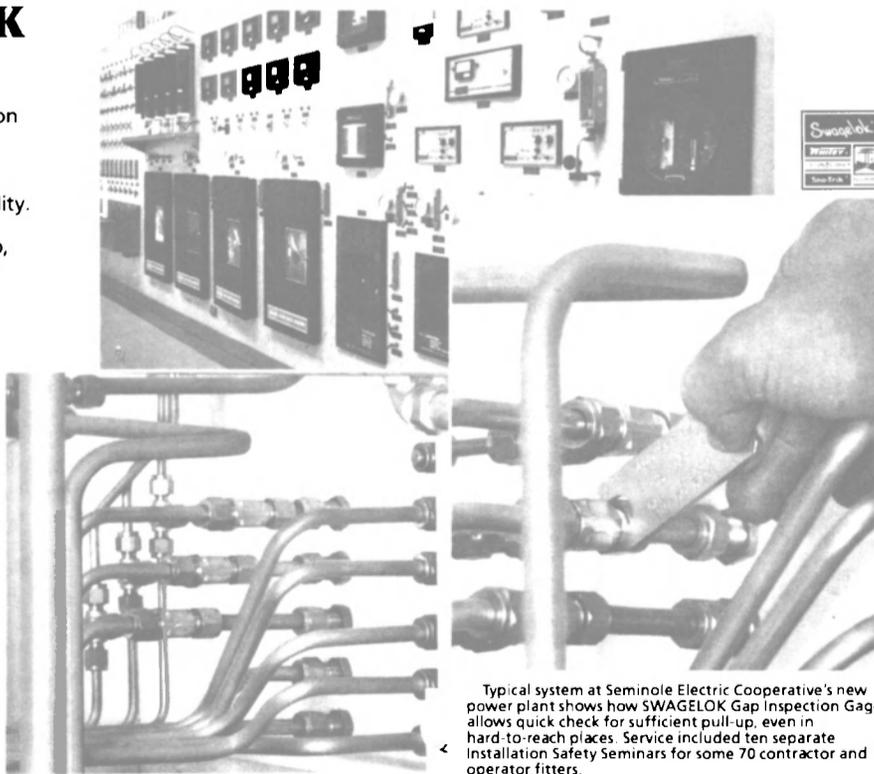
**SERVICE** includes technical support, on-time delivery and Installation Seminars for fitters and other staff/operating personnel. Safety seminars, conducted by the local Authorized SWAGELOK Tube Fitting Sales and Service Representative in accordance with your schedules and availability of fitters, assure proper installation techniques and help speed installation.

These benefits help you get the most out of your tube fitting specification... only when you specify Genuine SWAGELOK Tube Fittings.

**Swagelok** TUBE FITTINGS  
...a tradition of Excellence

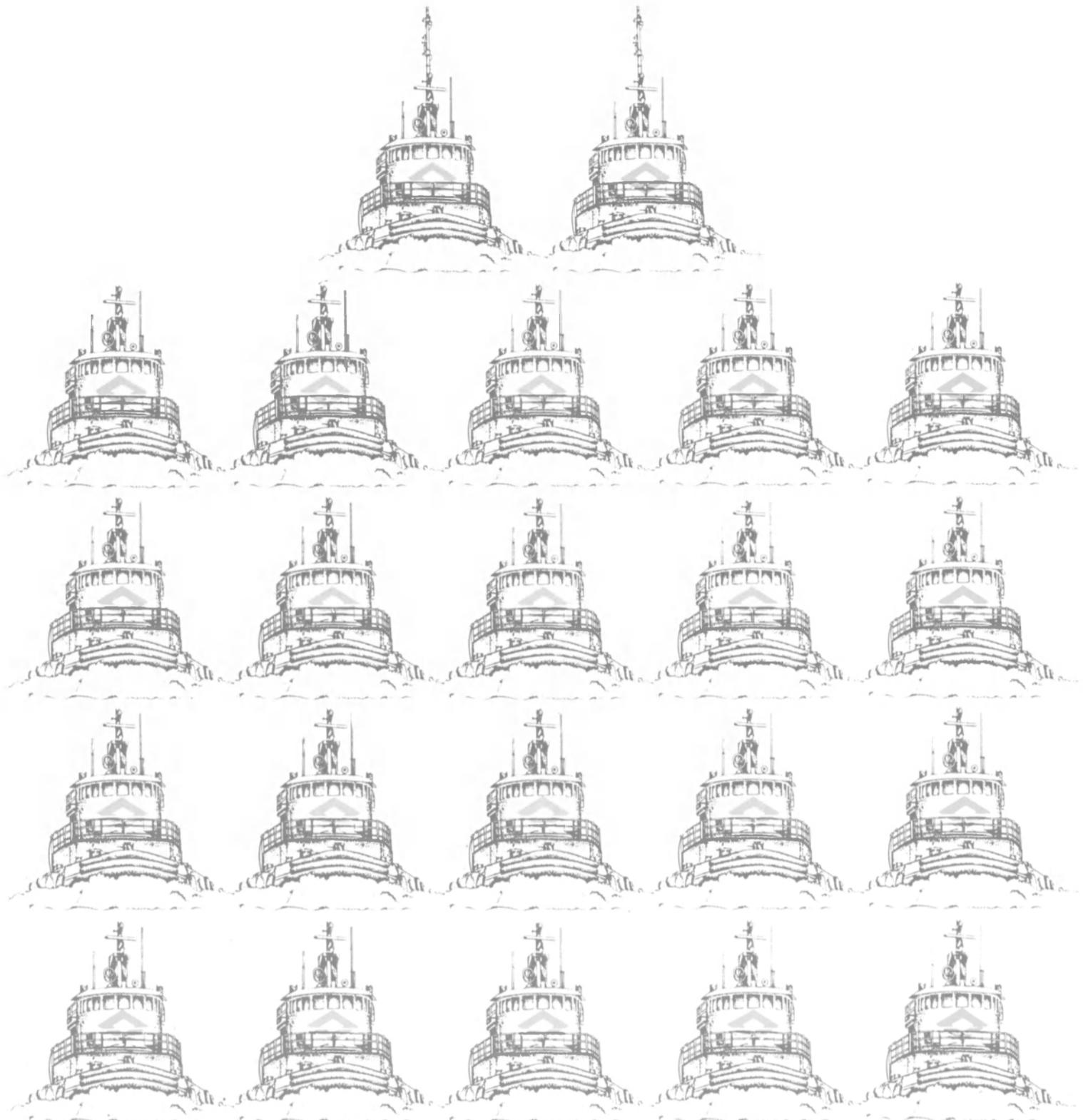
Crawford Fitting Company  
29500 Solon Road, Solon, Ohio 44139  
Crawford Fittings (Canada), Ltd., Ontario

© 1983 Markad Service Co., all rights reserved C-401



Typical system at Seminole Electric Cooperative's new power plant shows how SWAGELOK Gap Inspection Gage allows quick check for sufficient pull-up, even in hard-to-reach places. Service included ten separate Installation Safety Seminars for some 70 contractor and operator fitters.

Circle 201 on Reader Service Card



# Twenty-two reasons why Curtis Bay is the towing choice in three major East Coast ports.

Twenty-two tugs make a powerful difference. And with over 70 years of experience plus trained, expert crews, you can be sure of time-saving

(and cost-saving) efficiencies. Perhaps that's why more marine managers are saying, "When you go with Curtis Bay Towing, you have more on your side."

## **CURTIS BAY TOWING COMPANY**

Philadelphia □ Baltimore □ Hampton Roads  
Headquarters: The World Trade Center Baltimore, Suite 800, Baltimore, Maryland 21202, 301-962-6500.

**...More on your side.**

Since 1910

Circle 174 on Reader Service Card

## NKK To Build Floating Offshore Production Unit For Norwegian Consortium

A Norwegian shipowners' consortium, K/S Petrojarl I A/S, has awarded Nippon Kokan (NKK) of Japan a contract to build a deepwater, offshore oil production and testing system. "It will be the first floating production unit built to

serve a variety of offshore applications, in contrast with units commissioned directly by offshore operators for a specific field development," according to **Minoru Hashimoto**, president of NKK America Inc. of New York, the company's U.S. subsidiary. "The unit can operate in the early stages of a new field and provide immediate cash flow for the operator prior to the installation of a fixed facility," he added.

The contract stipulates completion of the 695-foot-long production

and testing system (PTS) at the beginning of 1986. Construction will take place at NKK's Tsurumi Shipyard.

Capable of first-stage processing of up to 20,000 barrels per day through a riser pipe linking the system and the oil field, the PTS will operate at water depths between 330 and 2,130 feet. It will have a storage capacity of 160,000 barrels of oil, which will be transferred to onshore terminals at regular intervals by shuttle tankers. The unit

will be operated by Golar-Nor Offshore, a subsidiary of Det Nordenfjeldske Dampskibsselskab (NFDS), a member of the consortium. The PTS is designed to be positioned above an oil field using a dynamic positioning system combined with a turret mooring system.

For further information on NKK's deepwater, offshore oil production and testing system,

Circle 41 on Reader Service Card

## Halter To Build Two Big Triple-Screw Offshore Tugs For Otto Candies, Inc.

Halter Marine president **Jack Edwards** recently announced the signing of a contract with Otto Candies, Inc. of Des Allemands, La., to construct two 140-foot, triple-screw offshore anchor-handling tugs. Of an unconventional design, the outboard main engines will drive Niigata Z-Pellers ZP-4 thrusters enclosed in nozzles, while the center-line engine will drive a conventional open propeller. Mr. **Edwards** said this new design utilizing azimuth-rotating outboard propellers and standard center wheel is a first in the Gulf of Mexico area. Each tug will have a total of 5,850 bhp.

## Van Houten To Head New Parsons Brickershoff Marine Facilities Unit



Leonard Van Houten

Parsons Brinckerhoff Quade & Douglas of New York, one of the nation's oldest and largest consulting engineering firms, will enter its second century of existence with the formation of a new marine facilities division, Parsons Brinckerhoff Van Houten, headed by **Leonard Van Houten**. The new division will spearhead the firm's expansion and growth throughout the world in the area of ports for gas, oil, and bulk materials, as well as related marine and industrial facilities.

Mr. **Van Houten's** career spans 37 years and includes more than 70 major marine terminal projects throughout the world. Before joining Parsons in 1982, he had been a principal of two other engineering firms, including one he founded, and was executive in a major international design and construction firm. Since joining Parsons, he has directed the firm's work on the development of the land level ship construction facility project at Newport News Shipbuilding, on Alaskan pipeline studies, on rehabilitation of the Port of Kismayo in Somalia, and other port and industrial projects.

Circle 13 on Reader Service Card

# PLASTIC HOLD LINERS THAT OUTPERFORM STEEL?

# OKAY HIMONT, PROVE IT!

If you're finding steel plate a drag in your loading and unloading operations, HIMONT has a suggestion:

Hold liners made of our 1900\* UHMW polymer.

The low coefficient of friction of this exceptional material can speed your cargo handling operations. You won't have to put up with the bridging that occurs with steel plate. And its tough, abrasion-resistant, textured surface eliminates the need for the expensive coatings that have to be applied to steel.

What's more, 1900 UHMW polymer liners can be applied quickly and economically. At sea or in dry dock.

If you'd like proof, send for free samples, a detailed report, and a list of suppliers. Write HIMONT U.S.A., Inc., 1313 N. Market Street, Wilmington, DE 19894. Attn: Lloyd Hudson.

\*Ultra High Molecular Weight Polyethylene, Trademark of HIMONT Incorporated.



**HIMONT** THE WORLD-CLASS POLYPROPYLENE COMPANY

QP 84-3

## Ginther Named President Of Michigan Wheel's Coolidge Division



Harry Ginther

**Herbert L. VanderMey**, president of Michigan Wheel Corporation of Grand Rapids, Mich., has announced a reorganization of the company, and the formation of a new division to be called Coolidge Propeller Commercial. The division president is **Harry Ginther**, who was formerly general manager of Coolidge Propeller. He will have added responsibilities of Michigan Wheel operations in Seattle and Pascagoula, Miss.

Coolidge Propellers, with 55 years of marine propeller and related equipment experience, will operate from its present location in Seattle. Coolidge manufactures propellers up to 14 feet diameter in stainless steel, and up to 40 feet diameter in manganese bronze and nibral alloys. Propeller shafts and other marine hardware will also be available from the Coolidge division.

Circle 44 on Reader Service Card

## USP&I Home Office To New York Area— Other Changes Announced

The United States P.&I. Agency, Inc. (USP&I), the marine liability claims adjusting affiliate of Underwriters Adjusting Company, has announced changes in office locations and management responsibilities. The home office, formerly located in New Orleans, has moved to Piscataway, N.J. A new branch office has been opened in Tampa, Fla., and the Boston branch office has been opened in Tampa, Fla., and the Boston branch has relocated to Portsmouth, N.H.

**James L. Lewis**, executive adjuster, is branch manager at Tampa, and **Robert Hefler** is branch manager at Portsmouth. **George Gojdics** has been named manager of the New York City branch office, and **Carter C. James** has been appointed manager of the Norfolk office. **Therese Carter** has been named senior adjuster, operating in St. Louis.

USP&I, specializing in marine liability claims for more than 50 years, provides claims services to domestic and international underwriters and their agents, as well as to shipowners and offshore vessel operators, commercial fishing vessels, and yachts.

For further information on USP&I's services,

Circle 34 on Reader Service Card

Circle 196 on Reader Service Card →

## American Marine Gets \$390,000 Contract For Two Cutterhead Dredges

American Marine and Machinery Company (AMMCO) of Nashville has been awarded a contract worth about \$390,000 to supply two cutterhead suction dredging machines to the South Dakota Department of Water and Natural Resources.

AMMCO management personnel were given the contract in Pierre, S.D., recently following a meeting with Governor **William Janklow**. In attendance on behalf of AMMCO were president **Don R. King** and vice presidents **David Binkley** and **Allen Cargile**.

The specially designed "canal" type dredges are to be delivered to the State agency in Aberdeen, S.D. They will be used for the dredging of the James River over a distance

of approximately 265 miles. The James River Channel Project is a combined flood control and irrigation project. It is estimated that some three million cubic yards of sediment will be removed from the river channel.

AMMCO, one of the pioneers of the portable hydraulic dredge, built its first canal type machine more than 20 years ago for the U.S. Army Corp of Engineers; that dredge is still in service.



### HARBOR ACCIDENTS SHOULDN'T HAPPEN

Deprived of visibility by fog, darkness or storm, ships are more apt to collide or run aground. Radar is a great help, but when man fights the perils of nature, he needs a strong edge just to break even. Countless lives and billions of dollars in damage are being lost due to such tragedies. Now, many can be avoided...

### A LIFE-SAVER AND A MONEY-MAKER!

Although the VIEWNAV System warns of impending danger even in zero visibility, it pays big dividends during routine trips. You'll buy it for safety, but it earns its keep by improving operations every day. Not only because it helps protect your valuable property from collisions and groundings. It also increases productivity by allowing your ships to operate more days per year. Now, even the poorest visibility or missing buoys won't lower earnings by forcing you to drop anchor or take a longer route.

### ADVANCES NAVIGATION INTO THE SPACE AGE

The VIEWNAV System is not like any other navigational tool available today. It is a unique, easy-to-use interactive computer system which does far more than any previous navigational instrument could. Imagine having a precise Electronic Chart system at your disposal. It provides regularly updated NOS chart information for each harbor and uses differential Loran-C\* to obtain repeatable position accuracy of own

vessel to 15 feet. Radar is displayed on the full color Electronic Chart to furnish additional vital information. Analyzing the results in microseconds, the VIEWNAV System immediately shows in words, numbers and pictures what you need to know to help you stay safe and on course. The large, full color video display constantly updates the waterway and traffic conditions. It's a window to the world that provides greater detail than NOS Charts, radar or loran. The VIEWNAV System is so precise it helps the pilot guide your ship through the most grueling harbor conditions.

### EASIER, MORE ACCURATE NAVIGATION

A single glance at the screen clearly shows own ship location in relation to other vessels, hazards, land navigation points, water depth and the position of on and off-station buoys in their actual colors. Bearing, distance, speed, and arrival time to waypoints and cross-track deviation from channel center line are indicated alphanumerically on the display. A movable cursor

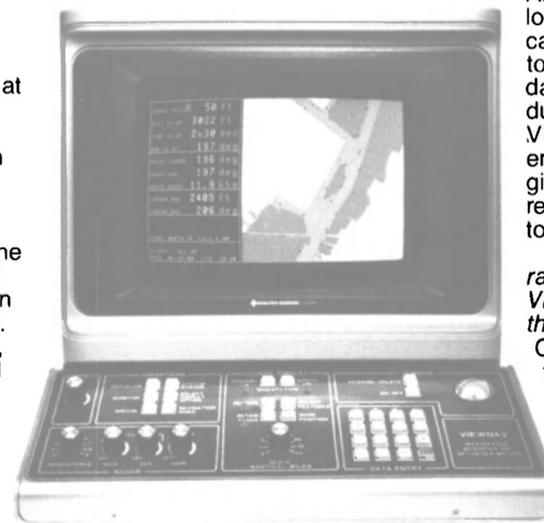
provides bearing and range to any other point. Depth contours, Mercator grids, location names and landmarks can be incorporated.

### RADAR AND LORAN ARE NOT ENOUGH

The VIEWNAV System integrates these vital tools into a more valuable and sophisticated system which has greater accuracy, is easier to read, and is less likely to be misinterpreted, even in a crisis situation. The VIEWNAV System superimposes radar images to verify position accuracy and shows own vessel location in the shape of a ship.

Although standard loran positioning can deviate by up to 30 yards in a day and 100 yards during a year, the VIEWNAV System's enhanced loran gives repeatable results accurate to 5 yards.

*Wouldn't you rather be VIEWNAV safe, than sorry?* Contact us today for more information and a demonstration.



**The operational and business edge.**

## NAVIGATION SCIENCES INC.

6900 Wisconsin Avenue, Bethesda, Maryland 20815 USA Call (301) 951-5225. Telex-705999.

# MARINE SALVAGE



## Third International Symposium—October 1-3, New York

The Third International Symposium on Marine Salvage will meet October 1-3 at the Waldorf-Astoria Hotel in New York City. Co-sponsored by the Marine Technology Society and the Maritime Association of the Port of New York, the meetings are expected to attract marine salvage experts from the world's principal maritime nations and, for the first time, will have a limited number of exhibits.

Opening with the keynote address by the Honorable C.P. Srivastava, Secretary General of the International Maritime Organization, the 2½-day symposium will consist of five sessions dealing with the following topics: challenges to the salvage industry, contingency planning in salvage, the specialist's role in salvage, topical issues in salvage, and salvage on the coast of China.

Luncheon speakers will be Adm. James S. Gracey, Commandant of the U.S. Coast Guard; Arthur Prince, The Salvage Association, London; and Sir Robert Jackson, Undersecretary General of the United Nations. Principal speaker at the dinner on October 2 will be Dr. Francesco Berlingieri, president of Comité Maritime Internationale.

Efficient, effective, and profitable marine salvage operations share one key element—state-of-the-art knowledge of the complex factors involved. There are five major areas of concern: safety—protecting and preserving human lives; technical and engineering—including rescue towing, and the special problems of hazardous cargoes and offshore structures; environmental—pollution prevention and abatement; legal and financial—salvage contracts, salvors' responsibilities and rights, hull and cargo insurance, settlement of salvors' claims; and organizational—the role of governments, and international and industry groups in making rules, regulations, and policies concerning salvage activities.

The forthcoming Marine Salvage Symposium will address these topics of critical concern to anyone who is, or may someday be, involved in any aspect of a marine salvage operation.

Presentations at the general sessions of the symposium have been carefully selected and organized by the Executive Steering Committee chaired by Capt. Hugh J. Spicer of Mobil Shipping to cover topic areas from the perspective of own-

ers, underwriters, salvors, offshore oil operators, government organizations, and a wide variety of salvage specialists.

### Symposium Program

#### Monday, October 1

Opening remarks—Capt. Hugh J. Spicer, symposium chairman.

Keynote address—Hon. C.P. Srivastava, secretary general, International Maritime Organization.

#### Morning Session

Title: Challenges to the Salvage Industry.

Moderator: Rear Adm. W.M. Benkert, USCG (Ret.).

"The Salvor's Views," by R.W. Scheffer, president, International Salvage Union.

"The Shipowner's Views," by Sir Adrian Swire, chairman, ICS.

"An Offshore View," by Gregon L. Gant, Matthews Daniel Company.

"The Insurer's Views," by George S. Zacharkow, chairman, Marine Office of America Corporation.

Luncheon: "Government's Views," by Adm. James S. Gracey, Commandant, U.S. Coast Guard.

#### Afternoon Session

Title: Contingency Planning for Salvage.

Moderator: Rear Adm. M.L. Stacey, RN (Ret.), director, Marine Pollution Control Unit, U.K. Department of Trade

"Contingency Planning in the Public Interest," by Dr. Jenifer Baker, research director, Field Studies Council, U.K.

"Technical Considerations in Contingency Planning," by Capt. W.F. Searle Jr. Searle Consortium, Ltd.

"Contingency Planning for Marine Pollution Response," by Capt. Mike Garnett, Technical Manager, International Tanker Owners Pollution Federation Ltd.

#### Tuesday, October 2

#### Morning Session

Title: The Specialist's Role in Salvage.

Moderator: Dr. Anthony Denton, chairman, Noble Denton and Associates Ltd.

"The Salvage Consultant," by Alex Rynecki, Alex Rynecki, Inc.

"The Safety Specialist," by Capt. Harry Long, Harry Long & Associates Ltd.

"The Firefighter," by Dwight Williams, Boots & Coots; and Capt. Leon Westdijk, Smit American Salvage Inc.

"The Average Adjustor," by Lloyd O. Haefner, past chairman, Asso-

ciation of Average Adjustors of the United States.

"The Admiralty Lawyer," by Donald O'May, Ince & Company.

Luncheon: "The Role of the Salvage Associations," by Arthur Prince, The Salvage Association, London.

#### Afternoon Session

Title: Topical Issues in Salvage.

Moderator: Gordon W. Paulsen, Haight, Gardner, Poor & Havens.

"USN Salvage Capabilities and the National Research Council Study on Marine Salvage in the U.S.," by Capt. C.S. Maclin, Navy Supervisor of Salvage.

"Consequences of Salvor Negligence and Misconduct," by E.C. Kalaidjian, Thacher, Proffitt, & Wood.

"Revisions to the Law of Salvage—Some Practical Problems from the Bulk Oil Cargo Side," by Capt. W.H.R. Lawrence, chairman, Oil Companies International Marine Forum; and P.H. Ghee, chairman, Legal Committee, OCIMF.

"Lloyds Form Arbitration—The Problems and the Way Ahead," by Gerald Darling, Lloyds Appeal Arbitrator.

Dinner: "Unification of the Law on Salvage—From the 1910 Brussels Convention to the Montreal Draft," by Dr. Francesco Berlingieri, president, Comité Maritime Internationale.

#### Wednesday, October 3

#### Morning Session I

Title: "Salvage on the Coast of China," by Yao Gen-fu, China Salvage Company, People's Republic of China.

#### Morning Session II

Panel discussion: State of the Salvage Industry.

Moderator: A.B. Wilbraham, United Towing Ltd.

Panelists: R.M. Loftus, Ocean Salvors Company; Capt. J. Hansen, Em. Z. Svitzers Salvage Company Limited; Capt. R. Martin, Smit International Southeast Asia.

Each of the three panelists, who have been selected by the International Salvage Union, will speak for about 10 minutes on a selected topic. Following the individual presentations, the moderator will direct questions to the Panel, addressing specific issues raised during the symposium, including such questions as:

- Are the shipowners' views realistic?
- Are salvors sufficiently aware of the salvage problems involving offshore rigs?

• To what degree are the salvors involved in contingency planning?

• How do salvors view the need for specialists?

Following the moderator's questions, the audience will be invited to question the Panel.

Closing luncheon: "The United Nations and Disaster Operations," by Sir Robert Jackson, Undersecretary General of the United Nations.

#### Symposium Sponsors

The Marine Technology Society, founded in 1963 and headquartered in Washington, D.C., is dedicated to achieving deeper understanding of the world's seas, the science and technologies attendant thereto, and the relevance of the marine environment to human affairs.

With 15 active local Sections in the U.S. and Canada, MTS membership includes outstanding educators, engineers, economists, attorneys, and the interested public. Through the Society they exchange information and coordinate their activities on important public and technical issues.

The Maritime Association of the Port of New York, although based in New York City, reaches worldwide in its marine services and membership. Among its members are shipping and marine supply and service organizations, in addition to hundreds of others engaged in operations of a maritime or maritime-related nature.

The Association consistently supports all programs that advance the cause of safety of vessels, cargo, and lives at sea, and any others concerning the efficiency and operation of the maritime industry.

Both sponsors are nonprofit organizations.

For further details and registration information on the International Symposium on Marine Salvage, telephone (212) 425-5704

#### SYMPOSIUM EXECUTIVE STEERING COMMITTEE

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## General Dynamics Quincy Yard Will Build Four Containerships For USL At Cost of \$341 Million

A contract between General Dynamics and United States Lines, Inc. calls for the construction of four big containerships at a total cost of \$341,236,000. General Dynamics will not only build the ships, at its Quincy yard, but will also own them and charter them to USL.

The vessels will be powered by fuel-efficient, slow-speed diesel engines. Each will have a capacity of 1,200 40-foot containers. They will operate in U.S. foreign trade.

Four General Dynamics subsidiaries—Concord I, II, III, and IV Maritime Corporations—have applied to the Maritime Administration for Title XI mortgage loan insurance to aid in financing the vessels. The application stated that delivery of the first ship would be in the fall of 1986, with the three others following at three-month intervals.

U.S. Lines has not announced the intended deployment of the vessels.

### Scripps Institution Acquires Another Research Vessel

The University of California at San Diego has purchased the 125-foot supply/geophysical survey vessel *Midnight Alaskan* from *Midnight Boat Company* of Berwick, La., for operation by the world-famous Scripps Institution of Oceanography in La Jolla, Calif. The research craft will be renamed the *Robert Gordon Sproul*, and will be one of four vessels and two research platforms operated by Scripps, which is the oceanographic branch of UC San Diego. Funds for the purchase were provided by the

University of California; brokerage was handled by *Marcon International, Inc.* of Seattle.

The *Midnight Alaskan* is a modified Gulf Coast workboat design, built by *Steiner Fabricators* of Bayou La Batre, Ala., in 1981. It has been working on rig site, geophysical, pipeline, and sonar surveys for the major oil companies.

The *Sproul* will undergo a number of modifications for scientific outfitting, including the addition of laboratories, winches and booms, and a variety of electronic and research instruments. Main propulsion is by twin GM Detroit Diesel 12V149 engines totaling 1,400 bhp, driving Coolidge propellers through Twin Disc 5.1:1 reduction gears.

The vessel is named in honor of the man who was president of the University of California from 1930 to 1958. It will be used primarily along the California Coast and in the Gulf of California. Home port of the Scripps fleet is the *Nimitz Marine Facility* on Point Loma in San Diego Bay.

### RDI's Satcom I Communications System Approved By INMARSAT

RDI's Satcom I Maritime Satellite Communications System has been awarded complete type approval following extensive testing by INMARSAT of London, the International Maritime Satellite Communications Organization. This type approval designation allows RDI to install its system on ships, fishing boats, and pleasure vessels worldwide.

RDI, San Leandro, Calif., is one of a handful of companies throughout the world that have been awarded this approval. They have been an innovative force in the maritime electronics business for over 10 years, creating advanced products incorporating patented technologies so valuable that they are now part of international maritime regulations. Their success is made possible by unique funding through tax-advantaged R&D general partnerships. The Satcom I system was developed with funds raised through the Maritime Research Group (MRG) III partnership.

The Satcom I provides full telex and telephone communications to ships at sea via a satellite system accessible almost anywhere on the globe. Other available services include data facsimile, computer-to-computer data transfer, and slow scan television. Unlike traditional maritime communications, the Satcom I allows instant telex and voice communications in complete privacy with quality equal to that of terrestrial-based telephone systems, and is unaffected by any adverse atmospheric conditions.

The Satcom I offers the most advanced features at an affordable price of \$29,995. Full screen CRT word processing, automatic dialing procedures and instantaneous transmission of memory telexes are some of the advantages offered by the Satcom I. It is the easiest to use satellite communicator on the market with a unique prompting soft key design that provides one-key operation for almost all functions and prevents invalid commands. All operating functions may be performed at a remote telephone, providing full system operation at remote locations, independent of the operator's console. The single cable between the electronics unit and the antenna contributes to Satcom I's one day installation, saving ship-owners valuable time.

In anticipation of INMARSAT type approval, Satcom I systems have been installed on two ships of the Dansk Esso fleet, the *Esso Elsinor* and *Esso Danica*. Future installations include a system at AWA Australasia. Shipments began in September of this year.

The INMARSAT system consists of three satellites in geostationary orbit 22,370 miles above the equator kept in fixed position relative to the earth's surface by special control and command facilities. Each of the three satellites has a fixed zone of coverage together forming three communications regions, the Atlantic Ocean Region (AOR), Indian Ocean Region (IOR) and the Pacific Ocean Region (POR).

One of the developments in the INMARSAT System is the Future Global Maritime Distress & Safety System (FGMDSS). This system coordinates the Distress Coordination Center of each ocean area and the ship polling (automatic information gathering) feature that collects and stores information from each ship such as its position, course, speed and local weather. When any distress call is made the ship's position is determined and the closest vessel to the ship in distress is automatically alerted and the two ships are connected.

RDI's **Larry Anderson** says, "We are committed to R&D, because we realize our customers rely on our equipment and systems for precise safe and economical ship handling. That concept is respected and reflected in every piece of equipment that carries the RDI name."

For further information on RDI's Communications System,

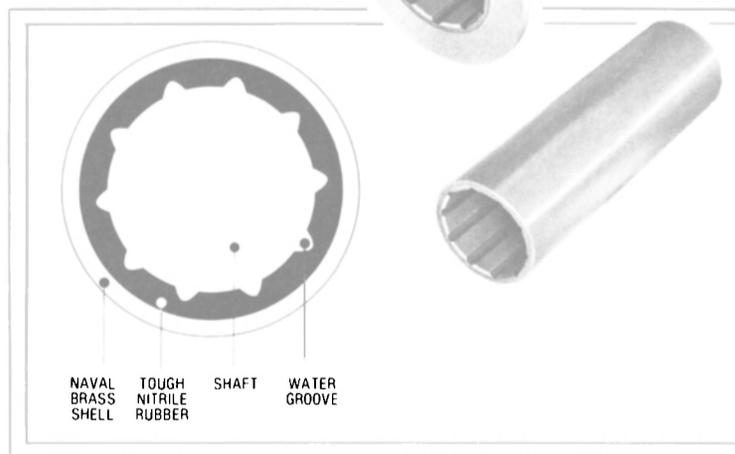
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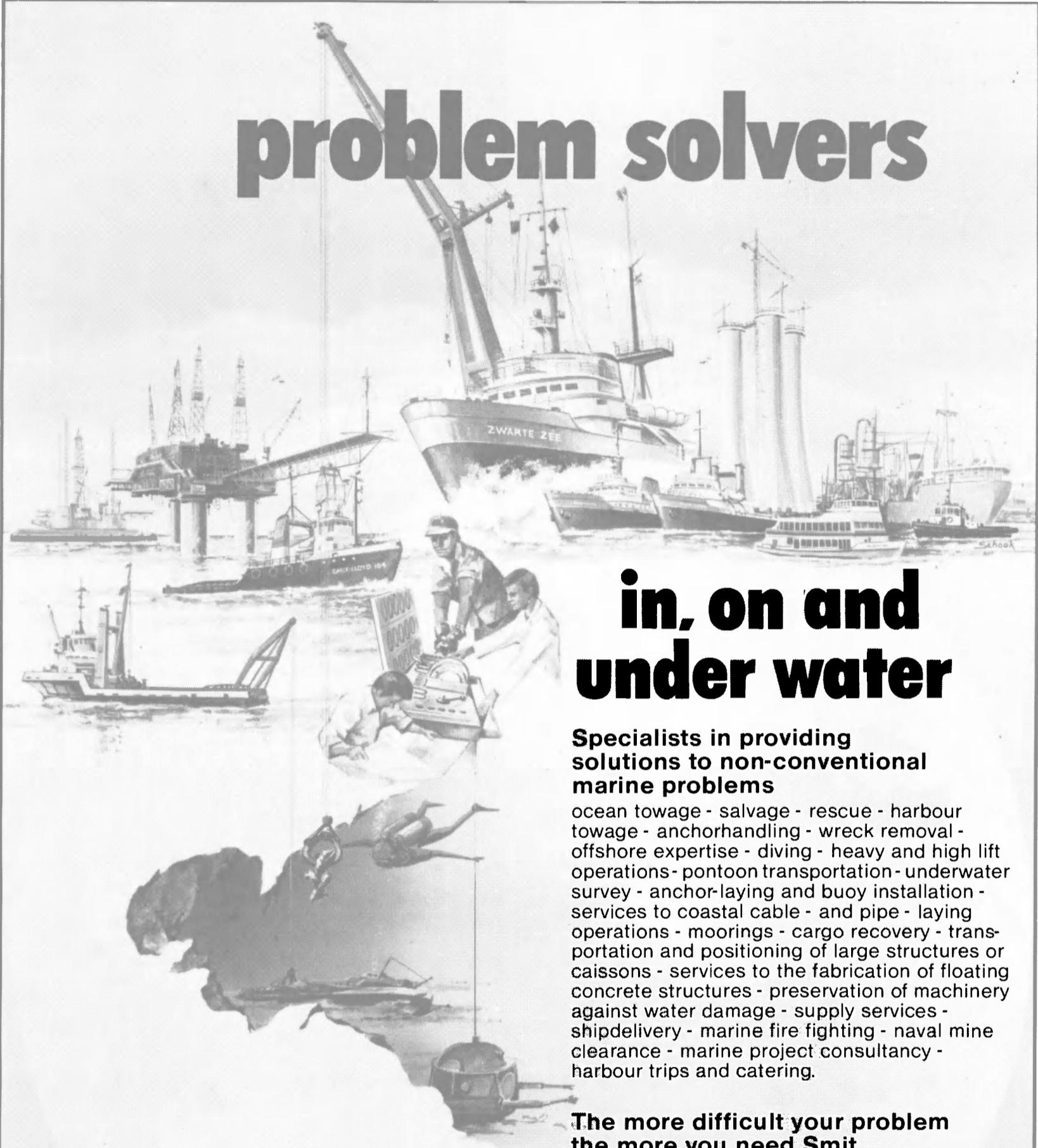


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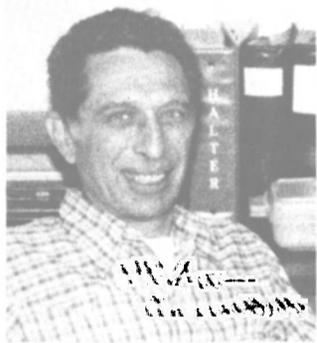
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## Fred Spence Joins Moss Point Marine



Fred Spence

Moss Point Marine, Inc. (MPM) of Escatawpa, Miss., has announced that **Fred Spence** has joined the company as assistant to the president. He will be working with customers as well as MPM management on a daily basis to insure smooth work flow. He will also assist in marketing efforts and various special projects.

Mr. **Spence** brings 25 years of shipyard and construction experience to MPM, having served with Halter Marine's New Orleans yard as western area production director, corporate production control manager, yard manager, and production control manager.

## Tenn-Tom Waterway Project Nearing Early Completion

Mid-America's newest passage-way to the Gulf of Mexico—the Tennessee-Tombigbee Waterway—is moving toward completion much faster than projections based on surveys and studies by the Army Corps of Engineers, say Tenn-Tom officials.

Dedication ceremonies for the 234-mile, \$2-billion barge canal are scheduled in Mobile, Ala., and Columbus, Miss., on June 1, 1985. However, administrator **Don Waldon** of the Waterway Authority says the route may actually be open to barge traffic as early as January next year. The waterway will provide primary corridor states like Indiana, Illinois, Ohio, Kentucky, and Tennessee with a new, direct water route to the Gulf.

Mr. **Waldon** says he cannot guarantee that the waterway will be carrying barges from end to end the first week in January, "but if everything keeps falling into place the way it has, it's entirely possible."

Studies and surveys have resulted in a Corps of Engineers' estimate of 28 to 30 million tons of cargo moving on the Tenn-Tom in its first full year of operation. Traffic on completed portions support the projections, says the Corps' public affairs officer, **Sam Green**. Columbus Lock & Dam reports 541 lockages this year, and the Gainesville Lock & Dam at the south end of the project has moved 130,000 tons of cargo. "These figures are impressive," Mr. **Green** said, "but they're only a drop in the bucket compared with what we are going to see."

## New Brochure Offered By Bull & Roberts On Marine Products

Bull & Roberts of Murray Hill, N.J., a major marine supplier since 1903, has announced a complete product line for the tugboat, workboat and offshore industries.

The line includes BR-700, the first new diesel engine cooling water

treatment in 40 years, fuel oil pour point depressants, bilge cleaners, lube oil analysis, degreasers, ultraviolet water purifiers, evaporator treatment plus many other products.

B & R products are sold and supervisory service is provided in 23 U.S. ports and 19 ports throughout the world.

To receive a free brochure describing the products and services,

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## MarAd Approves Title XI On \$5.5-Million Towboat For Mystic Marine Towing

Mystic Marine Towing Partners II of St. Louis (original applicant was ML Barge Operating Corporation) has received Maritime Administration approval for a Title XI guarantee to aid in financing the

# Ropes of Kevlar offer at 1/5 the weight topside



*At 430,000 lb. minimum break strength, this 2½-inch diameter rope of KEVLAR is comparable to steel in strength and elongation, and it won't rust.*

construction of the river towboat Anita M. St. Louis Ship Division of Pott Industries delivered the vessel in December 1983.

The vessel will operate under a management agreement either on the spot market or for the transportation of coal to a facility owned by Tampa Electric Company.

The Title XI approval covers \$4,110,000, or 75 percent of the actual cost of \$5,577,017.

### Wilkins Named Manager Of Dravo Mechling's River Forwarders

Dravo Mechling Corporation has announced the appointment of **Del Wilkins** as manager of its River Forwarders, Inc. (RFI) subsidiary. Organized in New Orleans more than 13 years ago, RFI specializes in consolidating less than full barge-

load consignments of regulated commodities, particularly steel, for shipment north from New Orleans on the inland river system.

Traffic manager at Dravo Mechling prior to his recent appointment, **Mr. Wilkins** is returning to the latter organization in his present position, having previously served as customer service representative and assistant manager during earlier service with RFI.

### BP And Harland And Wolff Forming Joint Venture For \$145-Million SWOPS Project

BP is to form a joint venture with Belfast shipbuilder Harland and Wolff for the construction of a special single well oil production system (SWOPS) vessel designed to extract oil directly from subsea wells. The agreement is subject to approval from the boards of both companies.

The cost of developing the SWOPS system, including production wells and subsea equipment, is expected to be some \$145 million, allowing for inflation. The vessel, the riser, and the process plant will represent the major portion of the total cost, with Harland and Wolff being reimbursed partly from the revenues of the vessel.

Construction of the vessel, with a cargo capacity of some 42,000 tons, length of 820 feet, and beam of 121 feet will begin at the end of this year, with completion expected in mid-87. The joint venture, which was proposed by H&W, will also involve Matthew Hall Engineering acting as consultant and as subcontractor for the process plant and subsea riser.

With a draft of 35 feet, the vessel will have a segregated ballast capacity of about 38,000 tons and a dynamic positioning system capable of keeping her on station in up to Force 9 conditions. Production capacity will be up to 15,000 barrels per day. Once fully loaded, the vessel will depart to discharge at a convenient port.

### Free 26-Page Brochure Features Aeroquip Marine Refueling Products



Refueling at Sea Products

Aeroquip Corporation's extensive line of products designed to increase ease and efficiency when refueling at sea are described in a comprehensive new brochure.

This 26-page Aeroquip Industrial Division publication contains information on a wide variety of bulk hose and hose assemblies; hose rig hardware; quick couplers and decouplers; adapters for liquid transfer systems; accessories such as flow-through saddle supports, hose fittings plugs and caps; and special marine hardware.

This is actually a product guide. It contains specification tables on each piece of equipment accompanied by keyed mechanical drawings for each unit with clearly marked dimensions.

For a free copy of "Refueling at Sea Products,"

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## KEVLAR\* aramid means lighter marine systems...less costly, easier to handle.

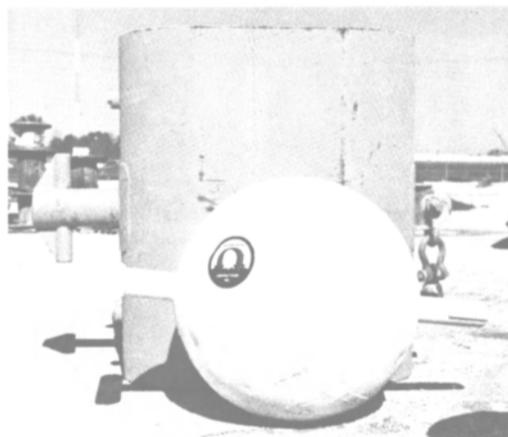
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The battleship USS New Jersey (BB-62) underway with ships assigned to her Central American task group. Photo—U.S. Navy.

# Naval Ship Maintenance & Modernization/Affordability

Technical Symposium—October 3-4, Norfolk, Va.

A technical symposium, Naval Ship Maintenance & Modernization/Affordability, sponsored by the Commander in Chief, U.S. Atlantic Fleet, and the American Society of Naval Engineers, Tidewater Section, will be held at the OMNI International Hotel in Norfolk Wednesday and Thursday, October 3-4. This is the second of these Naval Ship Maintenance symposia to be held in the Tidewater Virginia area.

The Norfolk Naval Base is the world's largest Naval installation, being home port for more than 130 ships of the Atlantic and Mediterranean Fleets, 45 aircraft squadrons, and 67 shore-based military activities. Besides the active ports in the area, there are some of the largest

shipyards in the world as well as the Norfolk-based ship operators. The Norfolk Metropolitan Area has more than 1.5 million residents—in Norfolk proper, Hampton, Newport News, Suffolk, Chesapeake, Portsmouth, and Virginia Beach—many of them active in the maritime industry.

This two-day symposium, which will be accompanied by exhibits of more than 50 companies and Government agencies, will provide a forum for a broad view of initiatives, and for an exchange of ideas for reducing the cost of maintaining and modernizing the growing U.S. Navy Fleet. The program this year will focus on initiatives aimed at achieving technical requirements in a more efficient manner.

VADM William F. McCauley, USN, Prospective COMNAVSURFLANT, will welcome attendees at the start of the symposium, followed by keynote speaker ADM Wesley L. Macdonald, USN, Commander in Chief, U.S. Atlantic Fleet. Speakers at the Working Luncheons will be ASNE president RADM James K. Nunneley, USN (Ret.), and COMO Stuart F. Platt, USN, Competition Advocate General of the Navy. The guest speaker at the final banquet on October 4 will be M. Lee Rice, president of the Shipbuilders Council of America.

**Technical Program  
Wednesday, October 3**  
Session #1—Diagnostics and Testing, Claremont Room.

Moderator: Paul Sacilotto  
1000-1050—"Survey of Special Tests Conducted by PERA (Crudes)" by R. MacGregor and D. Robison.

1100-1150—"Effective Computerized Vibration Data Analysis for Repair Recommendations of Naval Machinery," by S. Kutufaris and S. Straudt.

Session #2—Submarine Repair, Brandon Room.

Moderator: COMO M. MacKinnon III.

1000-1050—"Production Line Concept for Overhauling Submarines—An Update," by K.F. Lanzillo.

1100-1150—"Submarine Advanced

(continued on page 24)

## The "Ultimate" Compact SSB

Raytheon Marine Company's new RAY-1285 frequency synthesized, microprocessor controlled Single Side Band is the most technologically advanced compact long-distance radiotelephone for professional worldwide mariners. Although we tried, we could not find an SSB in its class with better performance or more advanced features.



RAY-1285 Single Sideband Radiotelephone

The 150-watt RAY-1285 is so easy to use that most people feel comfortable with it in minutes. Yet it has the power and versatility to provide complete worldwide coverage of all coastal and high seas marine SSB bands.

The 1285 is ready for use on power-up since its internal frequency reference needs no warm-up and its Electrically Altered Read Only Memory automatically resets to the last station used. It has automatic self test. Voice-sensing squelch makes reception silent until a message is received. Variable RF gain adjusts receiver sensitivity. All 192 ITU international channels plus another 44 user-programmable frequencies are easily selected from the keyboard. A large, custom, back-lit liquid crystal display, which is extremely easy to read in any light, indicates station, transmit, receive, and modulation.

Raytheon's "SeaWatch" scanning feature enables up to 10 user-selectable stations to be monitored continuously including the International Emergency Frequency, 2182 kHz.

The safety features of the RAY-1285 could save your life. Pressing the "Quick Select" instantaneously activates the emergency channel. A two-tone distress alarm is provided to get help fast. Raytheon's "Emergency Transmit Control" broadcasts even with a broken antenna.

Transmitting from 1.6 to 26 MHz and receiving from 100 kHz to 30 MHz in 100 Hz steps, the 1285 has variable-rate manual receiver tuning. The further you turn the knob, the faster the frequencies change. Modulation is selectable with A3J standard SSB, A3A modified SSB and A3H AM compatible. A remote antenna coupler provides continuous automatic fine-tuning during transmissions remembering each station's setup automatically.

Conclusion: Raytheon's feature-packed RAY-1285 combines outstanding features, performance and range with a moderate price. It is the logical choice for mariners looking for great value and the "ultimate" compact SSB.

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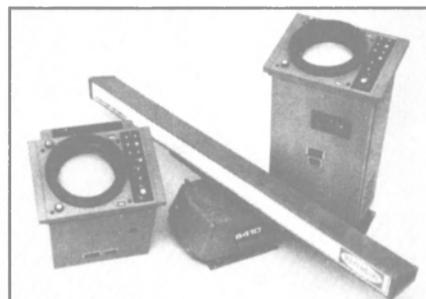
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Two of Raytheon's most popular 10" professional radars, the 6410 and the 6425 provide excellent features and performance.

Ideal for workboats, fishing vessels, riverboats and oceangoing ships, they are rugged workhorses which present an outstanding value.

The 6410 has 10 kW of power while

the 6425 has 25 kW. Otherwise, they share the same valuable features which include: • Choice of 4 or 6-foot, high-resolution antenna • Pedestal, table-top, bulkhead or overhead mounting • Professional controls with digital/variable range marker • Easy installation with antenna/transceiver aloft or optional below-deck transceiver • Two-year-warranty that includes one-year free on-board service.



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The RAY-78 gives you every U.S. and International (ITU) channel, plus 8 U.S. and Canadian weather channels and 4 special Canadian channels. Active channels and functions are indicated by unique multi-colored LCD readouts which are easier to read because they have twice the contrast and 50% more viewing angle than standard black/grey LCD readouts.

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Every bit a rugged workhorse, the RAY-78 is made from the finest materials, assembled to the most rigid specifications and tested to meet Raytheon's tough environmental standards. But with her 2-year limited warranty and good looks, she's also a very beautiful way to end your radiotelephone traffic jams.

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# RAY-78 VHF



RAYTHEON

## Ship Maintenance Symposium

(continued from page 22)

Equipment Repair Program," by **E.R. Eckstein**.  
**Session #3**—Working Luncheon.  
 Speaker: **RADM James K. Nun-**

**neley**, USN (Ret.), president of ASNE.

**Session #4**—Ship Overhaul Process, Claremont Room.  
 Moderator: **RADM Jamie Adair**, USN (Ret.).

1430-1520—"NAVSEA's Expanded Planning Yards," by **Larry R. Dutton**.

1530-1620—"How Modular Combat Systems Will Enhance Support of Surface Combatants," by **J. Birin-**

**delli and A.R. Boerum**.

**Session #5**—Process Improvement, Brandon Room.

Moderator: **Edward T. Kinney**.  
 1430-1520—"Production and Service Test of Thermal Spray Coatings for Naval Machinery," by **R. Helliwell, F. Rogers, and R. Sulitt**.

1530-1620—"Abrasives Reclamation in Shipyards," by **J. Peart**.

1630-1720—"Underwater Repair

and Ship Husbandry," by **LT. Karen Lynn**, CEC, USN.

**Session #6**—Acquisition Strategy, Poplar and Providence Halls.  
 Moderator: **VADM V. Lascara**, USN (Ret.).

1530-1645—"The Cost of Competition and its Consideration in the Acquisition Strategy," by **J.H. Augusta and J.S. Grosson**.

**Thursday, October 4**

**Session #7**—Cost Savings Through Component Design, Claremont Room.

Moderator: **Gary D. Schulenburg**.

0830-0920—"RACER—Affordability Through Maintainability," by **M. Donovan and W. Mattson**.

0930-1020—"The Significance of CAD in the Maintenance and Modernization of Ships," by **S. Tatum**.  
 1030-1120—"Water-Lubricated Rubber Bearings—History and New Developments," by **R. Orndorff and N. Tiedeman**.

**Session #8**—Combat Systems Overhaul and Maintenance I, Brandon Room.

Moderator: **COMO G.J. Flannery**, USN

0830-0920—"The Master Ordnance Repair Program," by **CAPT J. Chenard**, USN, and **W. Stimson**.

0930-1020—"Combat Systems Overhaul in a Naval Shipyard," by **CDR G.P. Nanos**, USN, and **CDR Huffman**, USN.

1030-1120—"Combat Systems Maintenance," by **CDR T.C. Seward**, USN.

**Session #9**—Quality Assurance, Poplar and Providence Halls.

Moderator: **RADM W. McGarrah**, USN (Ret.).

0830—"Shipyard Quality Assurance," by **V.W. Davis**.

"Ship Overhauls and Quality Assurance in Private Shipyards," by **CAPT J.A. Culver**, USN.

"Quality Assurance," by **A.C. Munson**.

**Session #10**—Working Luncheon.

Speaker: **COMO Stuart F. Platt**, USN, Competition Advocate General of the Navy.

**Session #11**—Combat Systems Overhaul and Maintenance II, Brandon Room.

Moderator: **RADM John D. Beecher**, USN.

1400-1715—"Remote Technical Assistance (RTA)," by **CDR A.L. Tucker**, USN, and **E.G. Newman**.

"Combat Systems Testing, Surface Combatants," by **J.S. Gallahue**.

"Integrated Diagnostics—A Challenge in Support Design," by **M. Battaglia and G. Neumann**.

**Session #12**—Maintenance Management, Claremont Room.

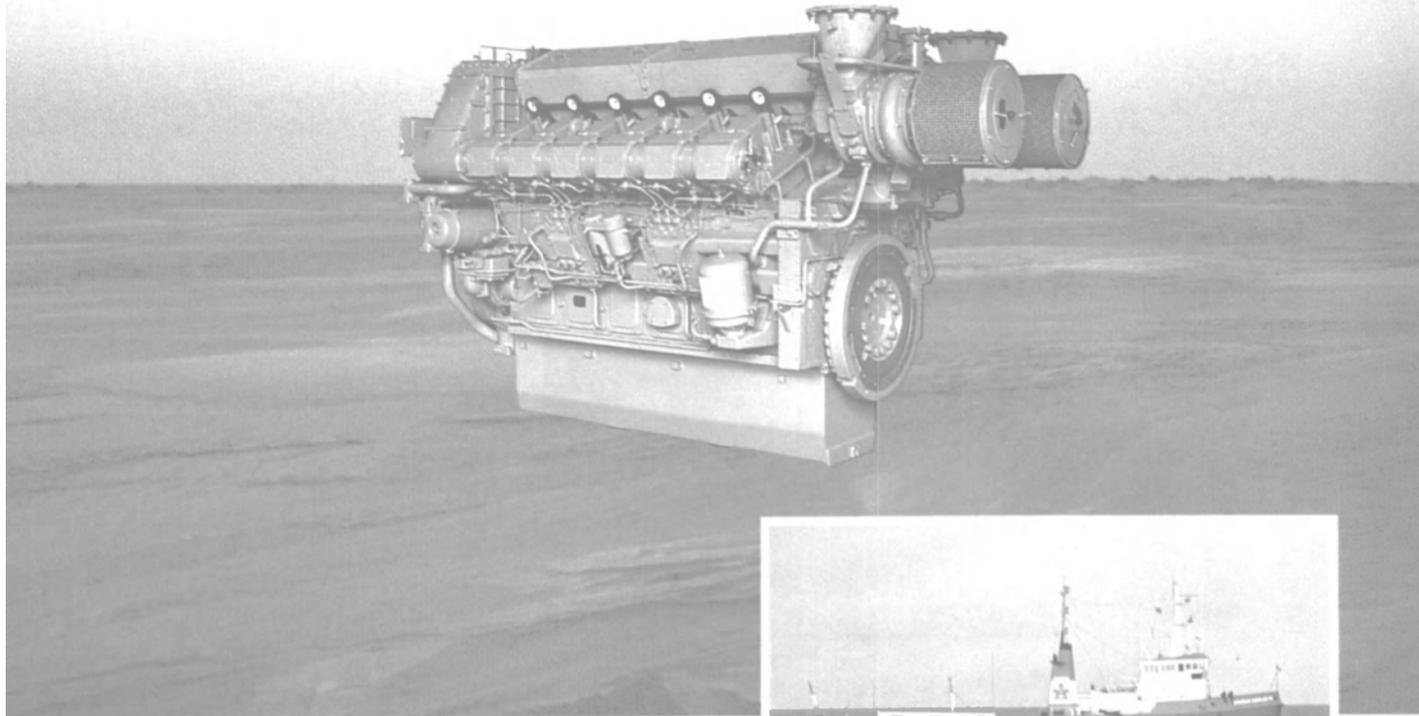
Moderator: **Gary M. Bowers**.

1400-1715—"Maintenance Management Strategy," by **LCDR C.P. Hedderich**, USN, and **CDR J.M. Todd**, USN.

"Phased Maintenance," by **CDR J.M. Todd**, USN.

"An Approach to Intra-Cycle Maintenance Material Management," by **F. Praissman**.

**Session #13**—Modernization, Poplar and Providence Halls.



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Moderator: **COMO David P. Donohue**, USN.

1430-1520—"Battleship Reactivation—A Perspective," by **CAPT J.G. Champlain**, USN.

1530-1620—"CG-47 Class Upgrade Approach," by **CAPT W.S. Szczy-pinski Jr.**, USN, and **CDR J.J. Nittle**, USN.

1830-1930—Cocktails in Exhibit Area.

1930—Banquet, Guest Speaker: **M. Lee Rice**, president, Shipbuilders Council of America.

For additional information and registration forms, contact **Mrs. Sally Skolnick**, American Society of Naval Engineers, 1452 Duke Street, Alexandria, Va. 22314; telephone (703) 836-6727.

#### LIST OF EXHIBITORS

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Newport News Shipbuilding	40-41
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M. Rosenblatt & Son, Inc.	29-30
Scientific Management Associates, Inc.	50
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SSS Clutch Co. of America, Inc.	23
The Stanwick Corp.	16
Systems Engineering Associates Corp.	22
Terry Corp.	48
Transamerica Delaval, Inc.	1-3
Unified Industries, Inc.	18
Worthington Division	8
Wright-Austin Co.	49

### RMI Awarded \$6-Million Navy Contract To Overhaul LST San Bernardino

RMI Incorporated of National City, Calif., has been awarded a \$6,145,000 firm-fixed-price contract for the overhaul of the tank landing ship USS San Bernardino (LST-1198). The Supervisor of Shipbuilding, Conversion and Repair, Portsmouth, Va., is the contracting activity.

September 15, 1984

### IBM Appoints Marine Management Systems As Authorized Dealer

Marine Management Systems, Inc. (MMS) of Stamford, Conn., has been named an authorized International Business Machines value added dealer in the maritime industry for the entire IBM personal computer product line and accessories, according to MMS president **Eugene D. Story**.

Mr. Story also announced the appointment of **Steve Rossow** to manage the VAD program. Before joining MMS, he was manager of micro-computer technology for Alexander and Alexander, Inc. in Washington, D.C., and is a former vice president and co-owner of The Logical Choice, Inc., a Washington/Baltimore area chain of personal computer retailers.

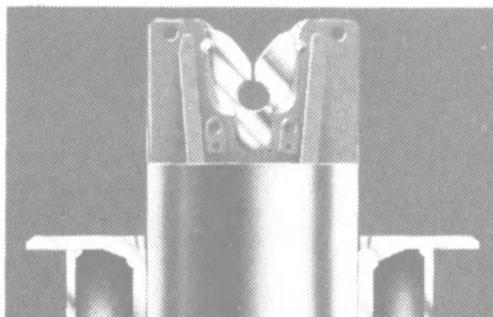
Marine Management Systems has been researching, developing, and implementing computer-based

management information systems for the shipping industry for more than 10 years. It also owns 60 percent of a subsidiary, Maritime Data Network, Ltd. (MARDATA) in a partnership with Lloyd's Register of Shipping and Lloyd's of London Press. Its clients include many of the major shipping companies in the world.

For further information on MMS's services,

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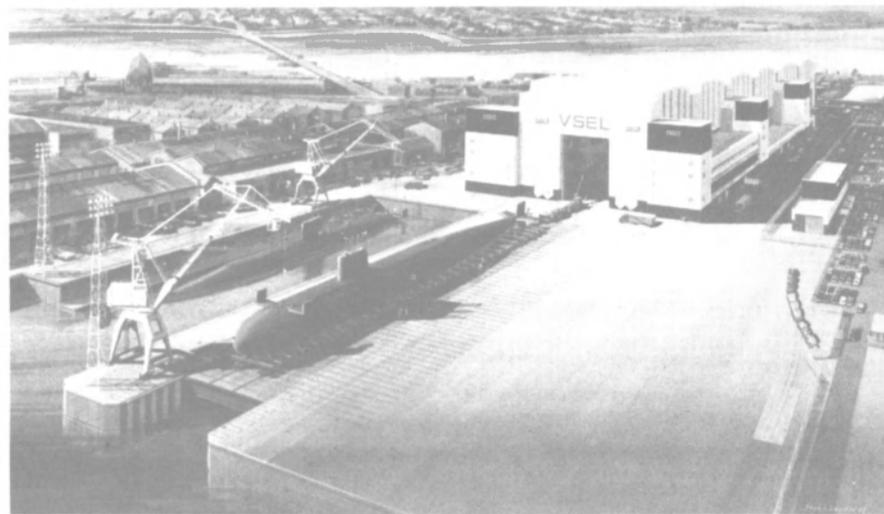
## Twin City Shipyard Lays Keel For Gulf Coast Trailing Dredge

Keel-laying ceremonies were held recently at Twin City Shipyard in St. Paul, Minn., for the 3,850-cubic-foot, suction hopper dredge Ouachita being constructed for Gulf Coast Trailing Company of New Orleans. The 300-foot vessel will incorporate many state-of-the-art features unique for U.S. dredges, such as her propulsion and pump drive systems. The two main diesel engines will drive controllable-pitch propellers off their aft ends and a dredge pump and jet pump off the front of each engine through split gearboxes. The deckhouse will be located for-

ward for crew comfort and is designed to accommodate a crew of 26 in single and double staterooms. Designed by Twin City, the dredge is scheduled for completion in the fourth quarter of 1985.

Twin City Shipyard has become one of the leading U.S. yards for dredge design and construction, along with its variety of split hopper dump dredges and aluminum dredge tenders.

Gulf Coast Trailing is a joint venture between T.L. James, Inc. of Ruston, La.; Dredging International N.V. of Belgium; and HAM B.V. of the Netherlands.



Artist's rendition of Syncrolift ship transfer system at Vickers yard in England.

## Pearlson Begins Construction Of World's Largest Ship Transfer System

Pearlson Engineering Company, Inc. of Miami has begun work on the world's largest ship transfer system that will be installed at Vickers Shipbuilding and Engineering Limited in Barrow-in-Furness, England, as part of the yard's Submarine Facilities Project.

Up to 90 self-propelled transfer cars will be used to move completed vessels on and off the Syncrolift® shiplift. The transfer system will also be used to move individual hull

sections inside the construction hall.

The Syncrolift at Vickers will be 530 feet long and 71.2 feet wide, and will have a maximum lifting capacity of 24,000 tons. Scheduled for completion in 1986, the shiplift will incorporate 108 hoists, each with a capacity of 270 tons. R.T. James and Partners, London, are the consulting engineers.

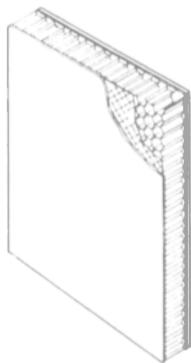
Pearlson Engineering is a member company of Northern Engineering Industries.



Present at keel-laying ceremony were (L to R): **G. Pieters**, senior superintendent, Dredging International; **H. Vermeulen**, construction inspector, Gulf Coast Trailing; **John Buursema**, president, Twin City Shipyard; **Ron George**, technical manager, Gulf Coast Trailing; **G.W. James III**, special projects for T.L. James, Inc.; **R. Rossway**, vice president, Twin City; **D. Johnson**, American Bureau of Shipping; **W. Jura**, quality control, and **Steve Lane**, coordinator, Twin City.

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Circle 131 on Reader Service Card  
Maritime Reporter/Engineering News



**ROWAN'S SECOND GORILLA**—The Rowan Gorilla II shortly after its recent launch at Marathon LeTourneau Offshore Company's construction facility in the Republic of Singapore. The massive jackup is scheduled for delivery to Houston-based Rowan Companies, Inc. this month. With the rig in the water, the rest of its three 504-foot-tall steel lattice-work legs will be added. The first Gorilla rig, the Rowan Gorilla I, has been drilling near Sable Island, offshore Halifax, Nova Scotia, since early in 1984. The Rowan Gorilla III, now under construction at Marathon LeTourneau's rig yard in Vicksburg, Miss., is scheduled for delivery near the end of this year.

### Halpern And Liou Promoted At M. Rosenblatt & Son



Stephen Halpern

Yong T. Liou

**Lester Rosenblatt**, chairman of M. Rosenblatt & Son, Inc., naval architects and marine engineers, recently announced the appointment of **Stephen Halpern** as vice president and manager, Western Division, and **Yong T. Liou** as assistant vice president and chief engineer of the San Francisco office. The Western Division is headquartered in San Francisco, with branch offices in San Diego, Honolulu, Oxnard, Calif., Bremerton, Wash., and Yokosuka, Japan.

Mr. Halpern joined the Rosenblatt firm in 1953 as a program manager in the New York office. He became chief engineer of the Western Division in 1963, and held that position until the retirement of **Ephraim (Fred) Kaufman** as manager of the Division. He is a civil engineering graduate of Lehigh University and has taken courses in naval architecture at MIT.

Mr. Liou joined Rosenblatt's San Francisco office in 1963 after receiving his master's degree in naval architecture from the University of California in Berkeley. He was later appointed head of the Hull Engineering Department, a position he held for 12 years.

### Screw Compressors Improve Air Conditioning Reliability —Free Literature Available

Increased operating reliability, less maintenance, and better adaptability to different climatic conditions—these are some of the experiences reported by Swedish shipowners Johnson Line and Brostroms, who have become the first to test a new air-conditioning technique by putting it into full-scale shipboard operation.

These two companies have replaced piston compressors previously installed on two ships—Johnson's Chemsan and Brostroms' Vikingland—with screw compressors. These compressors, called Miniscrew and manufactured by Stal Refrigeration AB of Sweden, are the result of a new concept based on more than 20 years of successful development in cooling techniques for marine applications. The new compressors operate in a low-capacity range, 160-700 kw cooling power, which was previously considered uneconomical for screw compressors.

The Miniscrew range consists of six screw compressors with economizer versions. The compressors are also designed to work with high-pressure flow up to 380 psi. The system uses all standard refrigerants, and operates at power frequencies of 50 or 60 Hz.

Independent surveys have shown that maintenance costs can be halved compared with piston compressors. In addition, the risk of breakdown is minimal. According to the Marine Research Institute in Flensburg, West Germany, the ratio is given as 1:10 in comparison with piston compressors.

The Miniscrew range is designed with either horizontal or vertical compressor mounting. This allows for compact installations and enables the units to be easily adapted to existing plant, foundations, etc.

Behind the newly launched Miniscrew concept, based on the operation of two asymmetrical rotors with four and six lobes, respectively, and in the smaller stroke volume ranges, is more than 20 years of experience in the development, manufacture, and installation of screw compressors and compressor units.

For further information and free literature on the Miniscrew compressors,

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### Bell Halter SES Chartered For Offshore Oil Rig Supply Work In Gulf Of Suez



Bell Halter Inc. of New Orleans has entered into an agreement whereby Offshore GAC Services, Ltd. will charter a 110-foot surface effect ship (SES) to transport supplies and personnel to oil rigs in the Gulf of Suez, offshore Egypt. The announcement was made by Bell Halter president **John J. Kelly**.

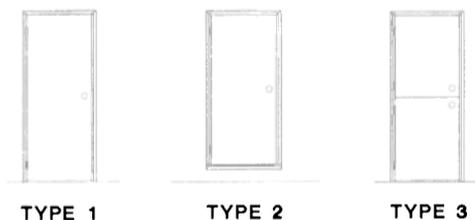
The vessel, Margaret Jill, is scheduled to depart New Orleans in time to begin operations in Egypt before the end of this year. This SES will be similar to those chartered to Command Marine, Inc. of Lafayette, La. That company was the first commercial operator of the Bell Halter SES, and has operated them in the Gulf of Mexico since 1981.

Offshore GAC Services, with primary operations in the Middle East, is well postured to take advantage of the unique capabilities of the SES in that area, according to spokesmen for the companies.

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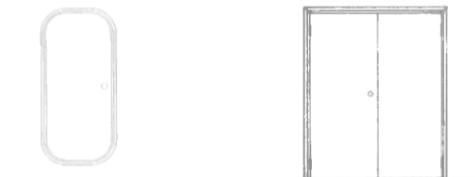


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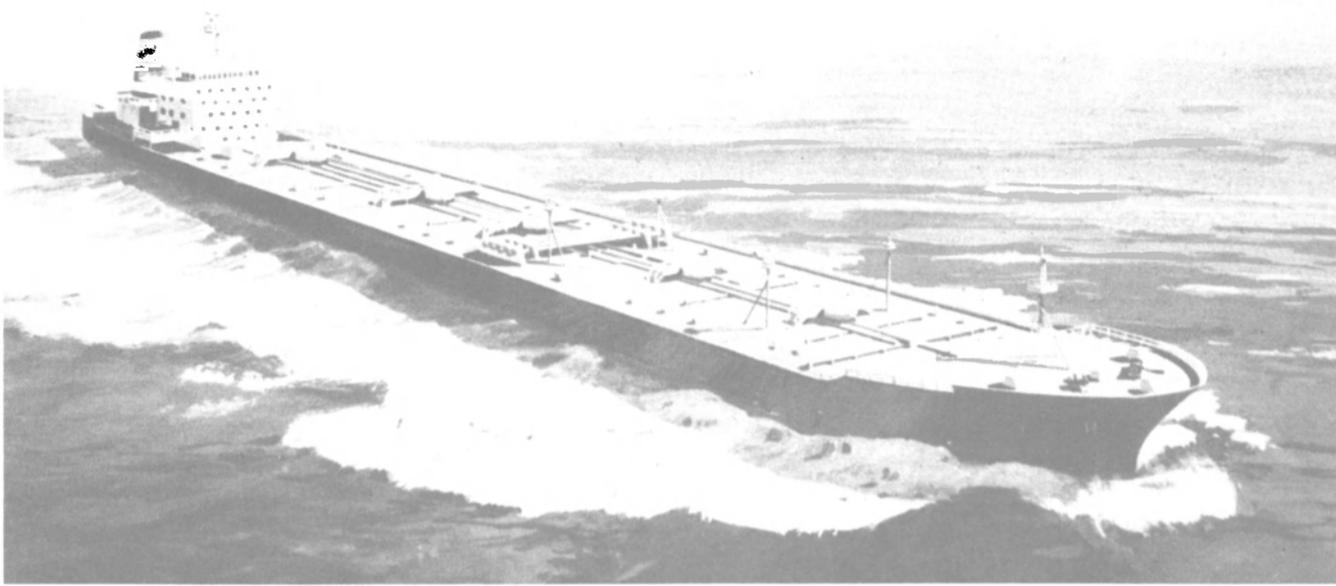
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Artist's conception of the 209,000-dwt Alaska-Class tanker.

## NASSCO Receives Exxon Contract For Two Alaska-Class Tankers

National Steel and Shipbuilding Company (NASSCO) of San Diego, Calif., announced it has received a contract for approximately \$250 million from Exxon Shipping Company for construction of two 209,000-deadweight-ton Alaska-Class Tankers.

The NASSCO-designed tankers will be the largest ships yet built on the West Coast. Each will be 987 feet in overall length, 166 feet in beam, 88 feet in depth, and will have a 64½-foot draft in loaded condition. Propulsion will be by slow-speed diesel, capable of maintaining an average speed of 16½ knots.

Keel-layings will take place during the third and fourth quarters of 1985, with deliveries scheduled for the fourth quarter of 1986 and the first quarter of 1987, respectively.

The contract is the first new construction contract received by the shipyard since 1980, according to **C.L. French**, chairman and chief executive officer of NASSCO, which is a wholly owned subsidiary of Morrison-Knudsen Company, Inc. of Boise, Idaho. Repair and conversion of existing ships have been the yard's principal activities in recent years.

"NASSCO is acutely aware of the fact that the current demand for new ships, both military and commercial, is far less than is needed to maintain the current shipbuilding base," he said.

**Mr. French** said the contract was awarded NASSCO after direct design and price competition with several East Coast yards, and that NASSCO has priced the ships using estimates of manhours based upon production techniques employed extensively in foreign yards, particularly Japanese shipbuilding yards.

"We are confident that the employees of NASSCO will accept the challenge of these more advanced methods of shipbuilding and therefore maintain jobs at NASSCO," **Mr. French** said. "NASSCO has bid very aggressively to obtain this contract because our employees deserve the opportunity to prove they can master the higher productivity methods currently pursued in successful foreign shipyards."

As transporters of Alaskan crude oil, the tankers will operate between Valdez, Alaska, and Panama where the crude will subsequently be transported to Gulf and East Coast ports. The ships will also be capable of delivering crude to West Coast ports. They are designed with the most modern equipment available and will meet the latest safety and environmental protection standards, including a protectively located clean segregated ballast system, inert gas system, safeguards to prevent the pumping of oily waste to the sea, sewage treatment system, collision avoidance radar, and a

back-up steering system. The ships will also meet the latest Safety-of-Life-At-Sea regulations.

Since 1971, NASSCO has established itself as the predominant tanker design and construction yard in the United States with its design, construction and delivery of a total of 33 tankers to date.

NASSCO's current work force totals approximately 4,900, although a decline is anticipated before the end of 1984, extending well into 1985, as converted maritime prepositioning ships and converted fast logistic support ships are delivered.

Production work on the Exxon Shipping Company contract is expected to start late in the second quarter of 1985, **Mr. French** said. On average, the new contract is expected to maintain employment at NASSCO during the construction cycle for about 1,100 people in addition to the yard's other work. On this basis, it is expected that employment will regain its present level in late 1985. **Mr. French** explained that for every job created at NASSCO, about three to four additional jobs will be generated throughout the economy. It is expected that many of these jobs will be created in California and in particular in San Diego.

NASSCO's current backlog, including the Exxon Shipping Company contract, is approximately \$820 million.

## Ingram Barge/Potashnick Form Fleeting Services Company In Cairo Area

**Morton B. Potashnick** and Ingram Barge Company of Nashville have announced the formation of Great Rivers Marine Services in the Cairo, Ill. area. The new firm will provide fleeting and all related support services at Mile 950 on the lower Mississippi River, three miles south of Cairo.

**Mr. Potashnick** said: "We will of course be competitive with other fleets in the area but more importantly, we will offer service and rate packages tailored to the specific needs of individual barge lines."

Ingram Barge president **Peter J. Kopsak** commented: "We have joined with **Mr. Potashnick** to establish this commercial fleet on 20,000 feet of riverfront because no barge line can operate efficiently in today's environment without cost-effective staging areas at locations like Cairo."

For full details on Great Rivers Marine Service,

Circle 64 on Reader Service Card

## Navy Awards Paul V. Wright \$4.7-Million Contract For Mare Island Yard Facility

Paul V. Wright Incorporated of Santa Rosa, Calif., has been awarded a \$4,681,000 fixed-price contract for the construction of a painting and blasting shop at the Mare Island Naval Shipyard in Vallejo, Calif. The Naval Facilities Engineering Command, Washington, D.C., is the contracting activity.

## Tacoma Boat Division Gets \$210,000 Contract To Build Propeller Hub Assembly

Tacoma Boatbuilding Company's Northern Line Division has been awarded a \$210,000 contract by the Naval Sea Systems Command for the manufacture and testing of a 9-foot-diameter propeller hub assembly, according to a recent announcement by **B. James Lowe**, president and chief executive officer.

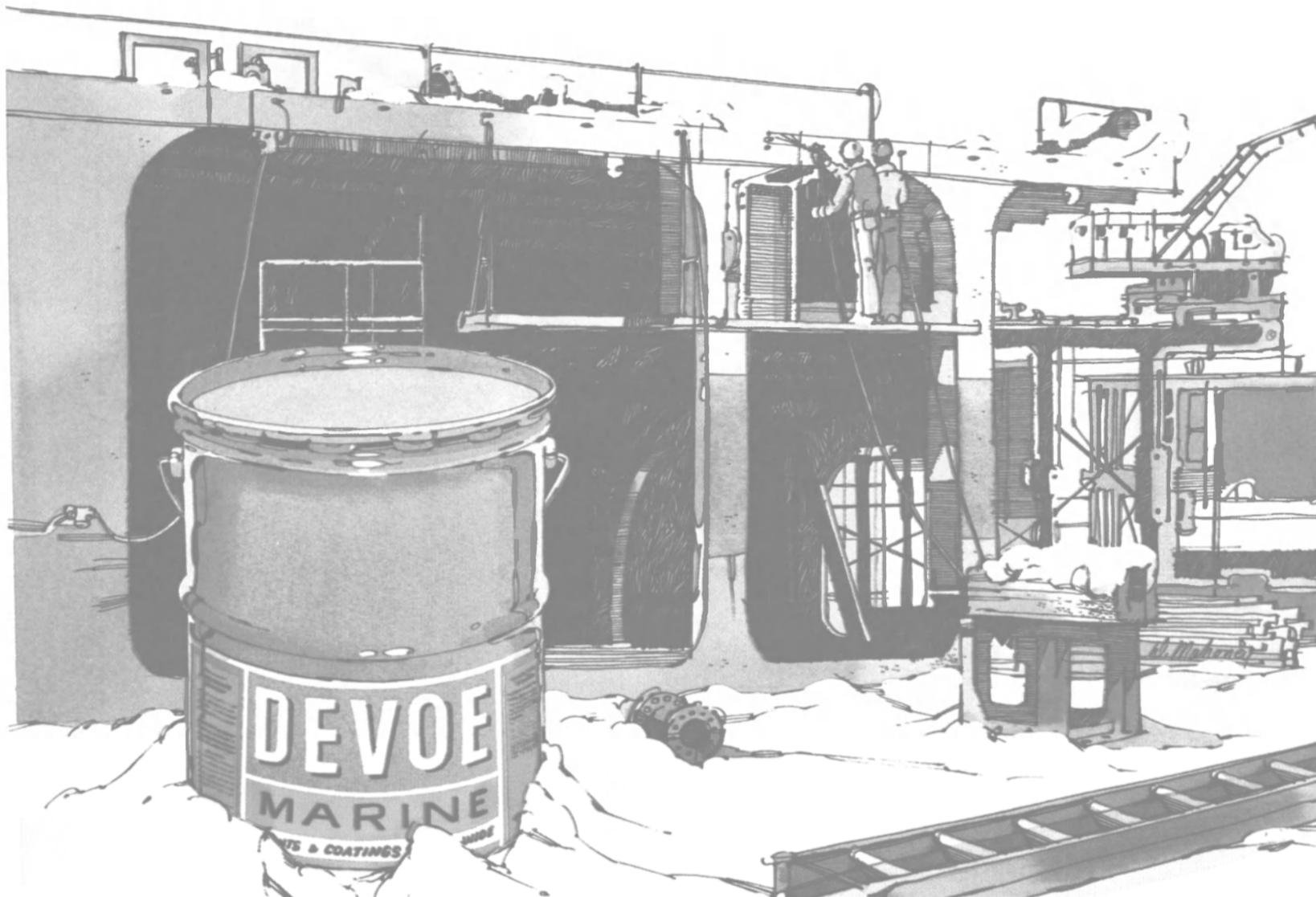
"Successful test results would represent a major step in Tacoma Boat's position in competition for a number of Navy programs," said **Mr. Lowe**. Among these is the contract for the manufacture of all controllable-pitch propellers for the Navy's DDG-51 Arleigh Burke Class guided missile destroyers.

The hub assembly will be of the Escher Wyss trunnion type design. Northern Line is the sole U.S. licensee for West Germany's Escher Wyss propulsion systems. A world leader in propeller systems for more than 50 years, Escher Wyss has in operation the world's highest-powered ship propeller, 46,000 shp, and has developed the world's largest, 36 feet in diameter.

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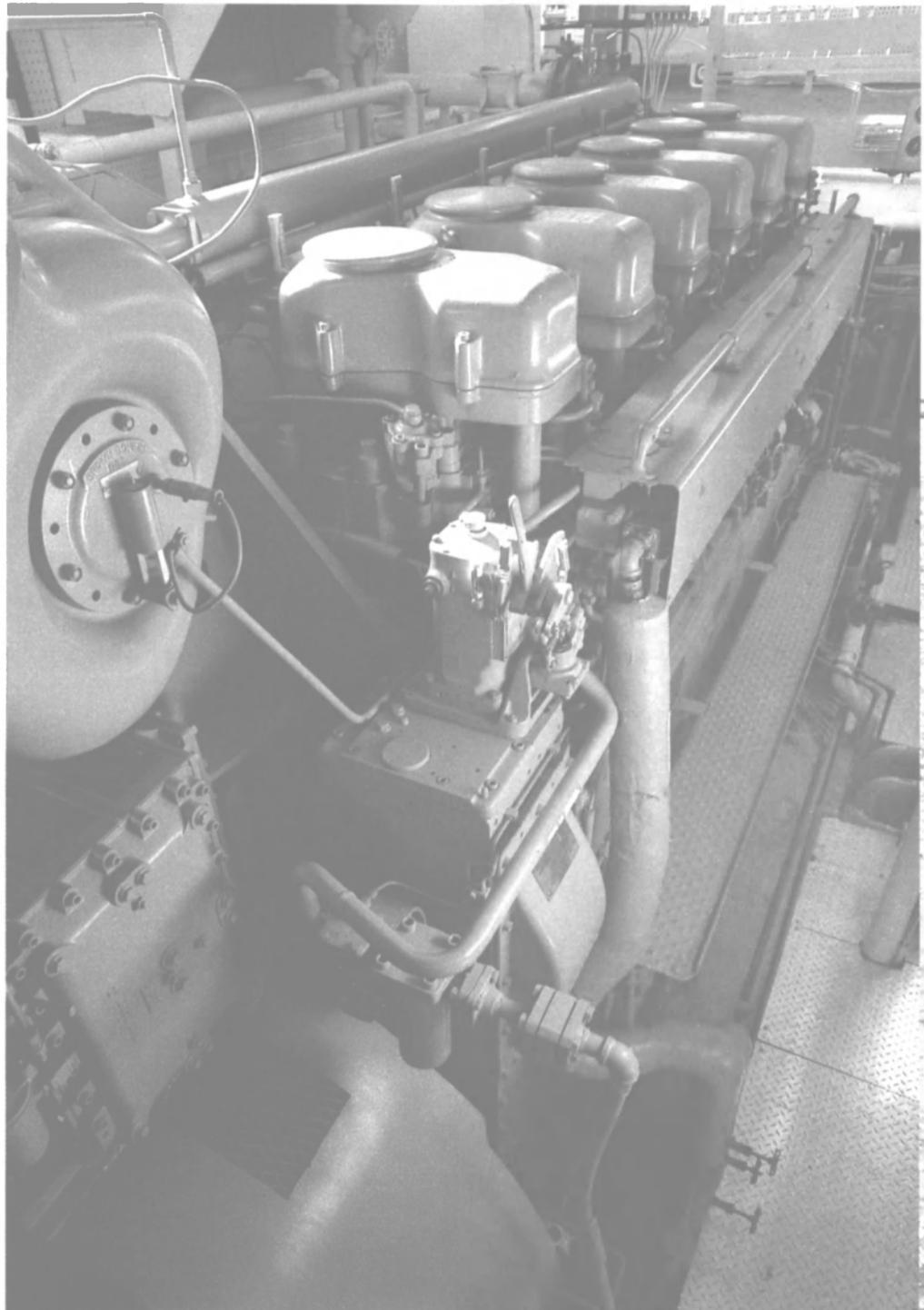


*The Bill Elmer visited New Orleans for the 1984 Work-Boat Show.*

"Repowering the M/V Bill Elmer with these Krupp heavy fuel engines didn't happen overnight," recalls Butch Barras of ACBL. "We studied this move for a long time; serious study for 2½ years, and dyno testing for close to a year before putting a heavy fuel engine in the boat.

"All through that, Gulf was a constant source of information and advice. Gulf helped determine power requirements and fuel mixtures, and provided a lot of information on the kind of lubricants we'd need to keep things running burning 1500 Redwood fuel with its high vanadium and carbon deposits."

*With 1320 hours on the engines, the rings remain clean and free, and piston skirts show minimal scuffing.*



*One of three Krupp MaK 453 inline 6 cylinder engines now powering the M/V Bill Elmer. ACBL repowered the vessel after studies showed the probability of significant fuel savings from heavy fuel engines.*

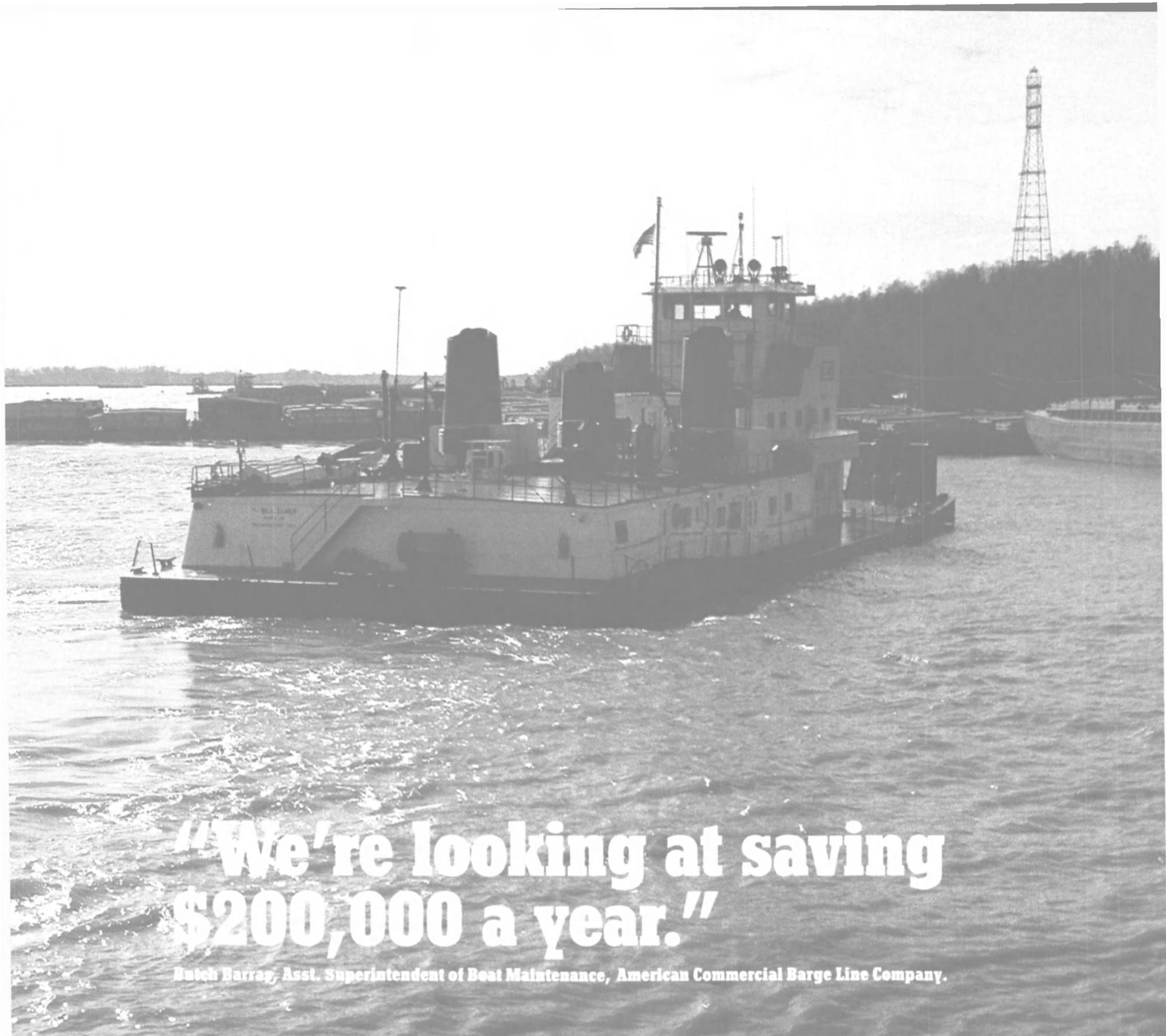
Barras continues, "It's no exaggeration to say we wouldn't be where we are on this without Gulf. They work hard to help, and their Harmarville lab is an excellent research facility.

"Along with the advice and information, Gulf provides excellent lubricants. Gulftow Select 40 is our main engine oil, and look at these engine parts. We were planning to pull the heads and check all the valves at 2,500 hours. After looking at one cylinder here

in New Orleans during the Work-Boat Show, with 1320 hours on the engines, we'll

*Gulf representatives Warren Eise and Sam Ross with Butch Barras, ACBL Assistant Superintendent of Boat Maintenance, in the Bill Elmer pilot house.*





**"We're looking at saving  
\$200,000 a year."**

**Butch Barrag, Asst. Superintendent of Boat Maintenance, American Commercial Barge Line Company.**

probably wait until 4,000 hours before we even have to check for wear."

Butch concludes, "We're projecting a savings of about

*Gulfpro R.O. Whelchel and ACBL Senior Vice President, W.N. Whitlock.*



\$200,000 a year in fuel cost alone due to repowering with the heavy fuel engines. Gulf helped make the transition a lot smoother."

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## AMMCO Licensed To Market O&K Dredging Bucket And Cutting Wheels

American Marine and Machinery Company, Inc. (AMMCO) of Nashville has announced the signing of an agreement with Orenstein & Koppel of West Germany for the exclusive right to market O&K's complete line of underwater bucket wheels and cutting wheels in the

U.S., Canada, and Mexico. In making the announcement, AMMCO president **Don King** said: "This agreement brings together the world's foremost manufacturer of bucket wheel excavators and the pioneer builder of standard model portable cutter-suction dredges, with the objective of manufacturing and marketing a state-of-the-art line of bucket wheel dredges."

"Until now, the extensive line of O&K underwater bucket wheels has

not been generally available in the North American market. Henceforth, these outstanding machines will be available as original equipment on all AMMCO dredges, or as conversions for existing dredges," **Mr. King** said.

The O&K series of underwater bucket wheels includes eight models—four in the UBW series and four in the newly developed underwater cutting wheel (UCW) series. The horsepower range is from 150 to

1,152 hp. They are designed for installation on cutter-suction dredges ranging from 12-inch through 44-inch suction diameter.

For more information on the O&K bucket wheel, or other equipment in the expanded AMMCO product line,

Circle 17 on Reader Service Card

## Central Gulf Lines Awarded \$35 Million Contract By Navy

Central Gulf Lines Incorporated, New York, N.Y., is being awarded a \$35,036,027 fixed-price-with-escalation contract for the four and one-half year chartering of the M/V *Woermann Mira*, an ice-strengthened, self-sustaining, multi-purpose breakbulk ship. The *Woermann Mira* is a German flag vessel which will be reflagged United States and renamed prior to delivery. The ship will deliver Department of Defense cargo worldwide. The Military Sealift Command, Washington, D.C., is the contracting activity.

## Central Gulf Awarded \$62-Million Navy Contract For Charter Of LASH Ship

Central Gulf Lines Incorporated of New York City has been awarded a \$62,047,267 fixed-price-with-escalation contract for the charter of the LASH (lighter aboard ship) vessel *Green Valley*. The U.S.-flag ship will transport Department of Defense cargo worldwide in support of the U.S. military Rapid Deployment Force. The charter period is a minimum of approximately two years to a maximum of approximately four years. The Military Sealift Command is the contracting activity.

## Westinghouse Electric Awarded \$2-Million Navy Contract For Frigate Study

The U.S. Navy has selected the Westinghouse Electric Corporation's Command and Control Divisions in Baltimore to participate in the NATO Frigate Replacement Program (NFR-90). Dr. **Robert S. Johnson** will be the NFR-90 program manager.

After competitive procurement, Westinghouse won the \$2-million 20-month contract to be the Navy's industrial representative to the program for the Ship Feasibility Study. This important penetration into the ship systems business could result in considerable future potential for the Command and Control Divisions.

In the NFR-90 Program, the NATO nations are working toward a jointly designed ship organization to collaborate and design one ship, as opposed to several ships. This is intended to bring about commonality in operations, training and support among the NATO countries. Upon completion of the feasibility phase, each of the NATO nations will have the opportunity to continue in the program.

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## John Cave Appointed Vice President For Boland & Cornelius



John F. Cave

John F. Cave has been promoted to vice president of Boland & Cornelius, Inc. (B&C). The announcement was made by American Steamship Company (ASC) vice president-marketing Ned A. Smith. B&C is a subsidiary operation of American Steamship.

As a vice president of B&C, Mr. Cave will continue to manage the firm's grain brokerage and agency operations. In recent years he has also assumed various marketing responsibilities for ASC's fleet of 20 self-unloading vessels. In this regard, he will continue as an assistant vice president for ASC.

Mr. Cave began his career with B&C in 1958. He received a BS degree in business from the State University of New York at Buffalo.

American Steamship is headquartered in Buffalo. In its 77th year of operation, ASC owns and operates the largest fleet of self-unloaders on the Great Lakes serving the steel, utility, chemical, cement, and construction industries. Commodities typically carried include coal, limestone, iron ore, salt, gypsum, and sand.

## Elektrisk Bureau Offers Brochure On Satellite Communications System

Elektrisk Bureau, Norway's largest electronics company, recently introduced its third generation ship's satellite communications system called "Saturn 3." An eight-page full-color brochure is being offered describing the system.

The Saturn 3, which is INMARSAT type approved, is the smallest unit on the market, about half the size of other systems. It extensively uses advanced microprocessor technology and specially designed customer-oriented software, and the number of components is reduced by 50 percent over previous versions.

The brochure contains color photographs of the components, a description of the system's capabilities and special features, photographs and descriptions of options offered, and dimensional drawings and tables of specifications.

For a free copy of the Saturn 3 brochure,

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## Norwegian Caribbean Acquires Royal Viking Line For \$240 Million

Norwegian Caribbean Lines, the Norwegian-owned cruise ship operation based in Miami, has acquired Royal Viking Line Inc. of San Francisco (also Norwegian-owned) in a deal valued at nearly \$240 million.

Under the agreement, Norwegian Caribbean will pay \$86.9 million in cash and will assume some \$150 million in Royal Viking outstanding debts.

The merged company, said to be the world's largest cruise ship operation with a fleet of eight ships having a total capacity of 7,200 passengers, is expected to have annual revenues of more than \$600 million.

NCL acquires three ships—the Royal Viking Star, Royal Viking

Sky, and Royal Viking Sea, as well as the RVL organizations in the U.S. and Norway, and a 60-percent interest in Bennett Travel, an agency that has operations in both countries.

Royal Viking was sold by two Norwegian shipping companies, Bergenske Dampskibsselskab and Nordenfjeldske Dampskibsselskab. Each of the former owners will receive a 7.5-percent interest in Norwegian Caribbean Lines.

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water discharge, oil break-over, failure to shoot, motor temperature, vibration, and excessive number of second-stage solids or water discharges. Control stations, with audible and visual alarms, can be located remotely and/or at the equipment site.

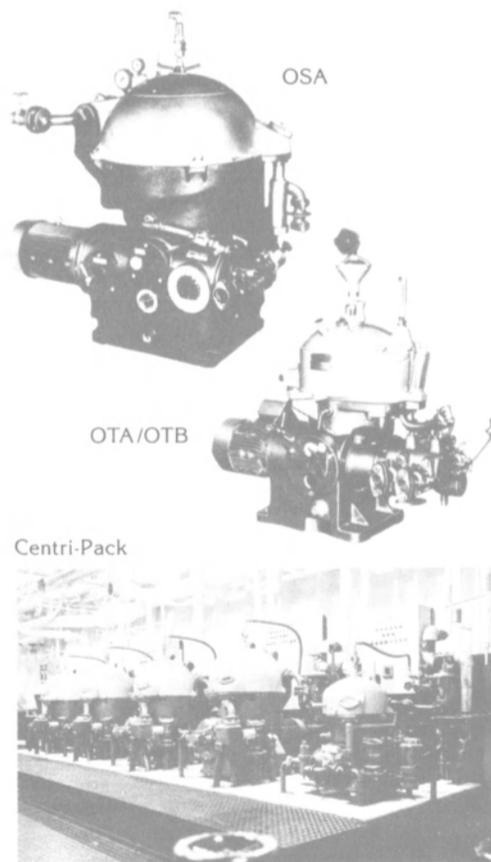
### Preassembled modules.

Westfalia Oil Purifiers are available as single machines or as preassembled "Centri-Pack" modules, with heaters, pumps, strainers, controls, wiring, etc. installed and ready to go.

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With every Westfalia Oil Purification System you get Centrico expertise, to help design, install, and service your equipment. At any port — Atlantic, Pacific, Gulf — skilled engineering advice and assistance, as well as parts, are usually available overnight — or sooner.

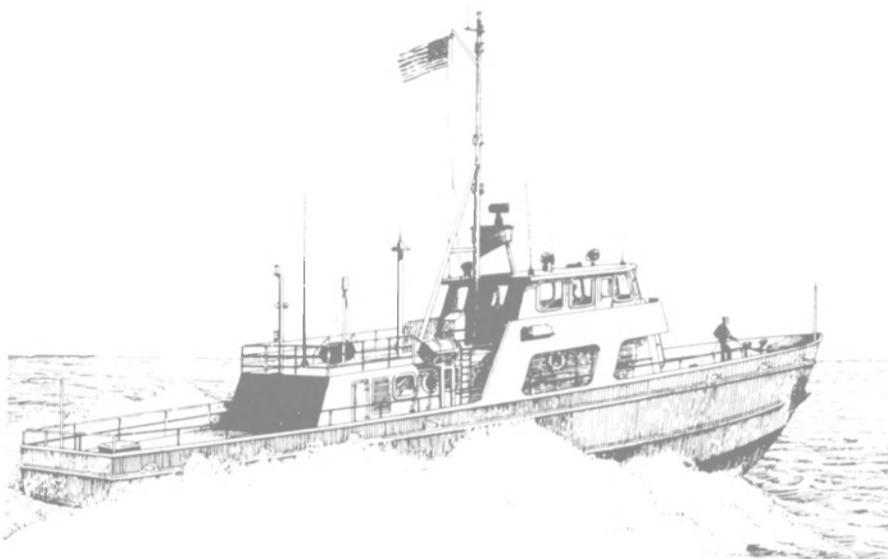
Westfalia systems and Centrico service... in any engine room, they're the best answer for your oil purification requirements.



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## Marinette Marine Corporation Gets \$24-Million Navy Contract To Build Six Yard Patrol Craft

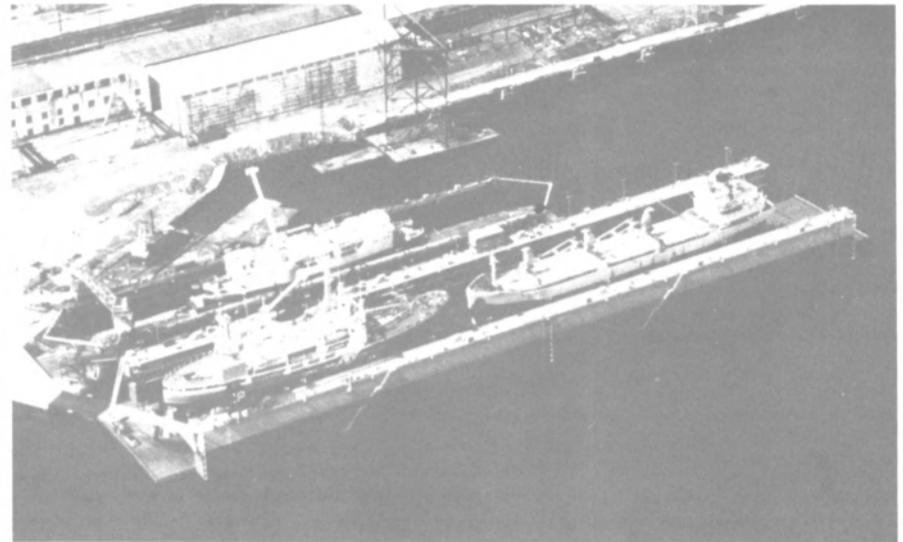
Marinette Marine Corporation in Wisconsin has been awarded a contract by the U.S. Naval Sea Systems Command for the construction of six Yard Patrol Craft (YP). These vessels will be used at the U.S. Naval Academy in Annapolis for instructing midshipmen in seamanship, navigation, and marine engineering. The initial six-boat contract is valued at more than \$24 million, but if all options are exercised, total contract value would grow to more than \$78 million.

The YPs are wood hull construction with an aluminum superstructure. They have an overall length of 108 feet, beam of 22 feet 9 inches,

and full-load draft of 5 feet 9 inches. The first vessel is scheduled for delivery in June 1986, with the remaining boats delivered one per month beginning August 1 that year.

The initial contract contains an option for the construction of up to 16 additional craft. The options can be exercised by the Navy, depending upon approval of funding, in FY85 and FY86, with eight vessels planned for each fiscal year.

The Marinette Marine shipyard specializes in the design and construction of defense-related vessels and high-technology commercial craft.



In recent double docking at Halifax Shipyards were the freighter *Canadia* owned by Vernia Shipping of Sweden, and the Canadian Government's icebreaker *John A. MacDonald*. The vessel in the other drydock is the 627-dwt *Confederation of Northumberland Ferries*.

## New Drydock At Halifax Shipyard Operating At Close To Capacity

Halifax Shipyard's new 36,000-ton-lifting-capacity floating drydock *Novadock* is now being used with increasing frequency. By mid-November this year, the yard will have been in continuous use for eight successive months.

The dock, which can accommodate up to Panamax size vessels, was commissioned in October last year and received its first ship, the 38,213-dwt tanker *Irving Eskimo*, on November 12. That vessel was followed by the Canadian Pacific's *Andes Voyageur*, a 16,970-dwt containership; Vernia Shipping's 7,869-dwt general cargo vessel *Canadia*

(Sweden); the Canadian Government's 3,058-dwt icebreaker *John A. MacDonald*; Dow Line's 11,301-dwt cargo vessel *Ho Ming 3* (Japan); and the Canadian Government's 4,714-dwt icebreaker *Louis S. St. Laurent*.

Halifax Industries' marketing manager **Mauritz Erhard** said: "There is increasing interest from owners in our new facility. Given its geographically favorable position, there is no doubt that the market for it will continue to grow."

The *Novadock*, which was built by Marine Industries Limited of Sorel, Quebec, has a length of 257 meters, a width of 38 meters, and a depth over the keel blocks of nine meters (about 843 by 125 by 29.5 feet).

Halifax Industries owns two shipyards—Halifax Shipyard and Dartmouth Marine Slips—both of which are now managed by AMCA International.

For free literature and details on Halifax Shipyard's facilities and capabilities,

Circle 10 on Reader Service Card

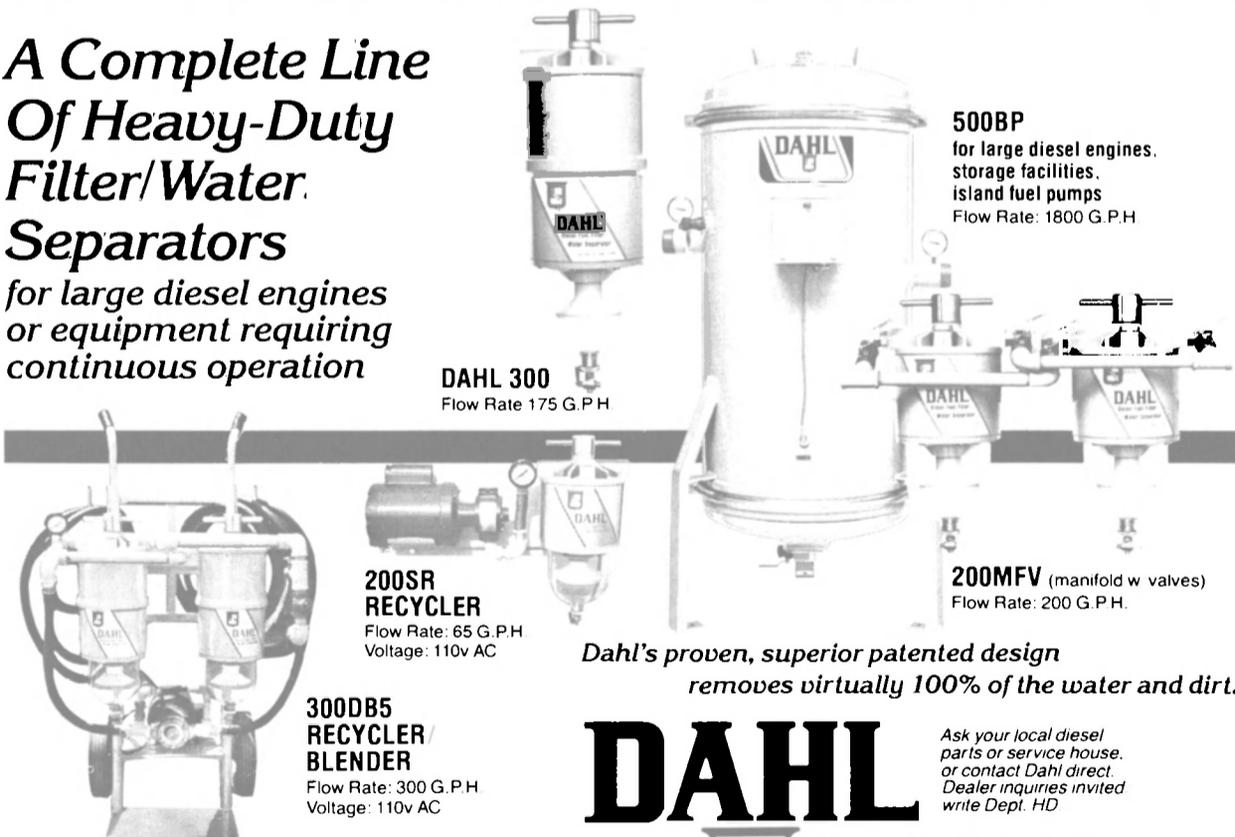
## Susan Everly Named Contract Administrator At M. Rosenblatt & Son

**Amos Baki**, vice president and manager of the Washington Area branch office of M. Rosenblatt & Son, Inc., has appointed **Ms. Susan Everly** to the position of contract administrator. In addition to continuing her duties as office manager, she will monitor all ongoing contracts and analyze expenditures.

Ms. Everly joined the Rosenblatt firm in 1978, and has progressed from technical edit section chief through program management to office manager. Her previous experience included technical writing, office administration, and supervising word processors in both private industry and Naval establishments.

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## Penn Ship Awarded Navy Contract For Overhaul And Maintenance Of Frigate

The U.S. Navy has awarded a \$21,116,087 contract to Pennsylvania Shipbuilding Company of Chester, Pa., for the "phased maintenance" of the USS Patterson (FF-1061), the first of four Naval Reserve Force frigates to be based in Philadelphia.

The contract calls for four overhauls during a five-year period, and for the provision of all other maintenance and repair requirements, whether routine or emergency in nature, during that period. It is a cost-plus-award-fee type contract; the shipyard will be paid all the costs it incurs plus a fee that will range between three and 10 percent, depending upon performance.

Penn Ship expects that this new contract will generate a year-round requirement for about 50 personnel, plus some 150 additional workers during each three-month overhaul period. The first overhaul is scheduled to run from September 24 through December 20 this year.

The 438-foot Patterson was built by Avondale Shipyards and commissioned in 1968.

## John Deere Developing Family Of Rotary Engines —Literature Available

This past February John Deere acquired the stratified charge rotary engine business formerly property of Curtiss-Wright Corporation. This purchase includes exclusive North American rights to the Wankel engine, patents, know-how and experimental engines and components.

After several years of study, Deere engineers have determined that the existing technology is basically sound. Deere plans to use their extensive research, design and manufacturing facilities to bring a reliable product to the marketplace.

John Deere's SCORE (Stratified Charge Omnivorous Rotary Engine) family of engines will offer many advantages to future designs including:

**Compactness**—producing rotary motion directly, these engines achieve high power density. Up to 50 percent of the bulk and weight needed by reciprocating diesels can be eliminated.

**Multi-fuel capacity**—the patented "stratified charge" design makes these engines omnivorous. This ability to burn many different fuels allows greater tactical flexibility. Consider the advantage of using diesel, jet fuel, gasoline, alcohol or mixtures of these fuels.

**Fuel economy**—the high power density of this design plus direct injection and stratified charge will provide competitive fuel economy.

**Improved Ram-D**—the design simplicity and parts commonality of the SCORE II family of engines (from 350 to 1,500 hp) help to make them more reliable, available, maintainable and durable than conventional engines.

In brief, SCORE rotary engines will provide turbine engine compactness and smoothness with diesel engine fuel economy and dependability. All at optimum manufacturing costs.

The Navy is an important market for this engine. Applications will include propulsion and engine generator sets. Tactical and fighting vehicles are also excellent candidates.

In addition, aircraft manufacturers and NASA view the engine as a

logical replacement for small piston engines in use in today's general aviation fleet. John Deere is working with a number of government and military agencies and vehicle manufacturers to ensure that these rotary engines meet their requirements.

John Deere offers a complete line of other products that include industrial equipment (graders, 4-wheel drive loaders, scrapers, dozers, and excavators).

Agricultural equipment—Deere is

the world's largest manufacturer of agricultural equipment producing over 200 products including tractors and combines.

Components—a full line of diesel engines, axles, transmissions, hydraulics and other components are used in military applications worldwide.

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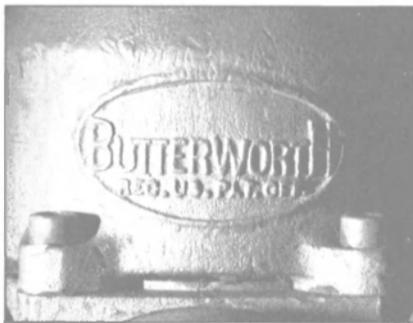
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## Specialized Support Vessel 'Anfitrite' Acquired By O.D.S. Italia S.P.A.

Because of the increased activity in oil exploration off the Italian coast, private Italian owners have established O.D.S. Italia s.p.a. with offices in Napoli, Genova, and Ravenna, for the purpose of supplying highly specialized vessels to the off-shore industry.

The first vessel to be owned by the company is a diving support vessel, the Anfitrite, (shown above), a 209-foot-long specialized support vessel suitable for any kind of underwater services as deep as 300 meters, assistance to drilling rigs, underwater welding, rescue work, etc.

Main propulsion on the Anfitrite is by two MaK 453AK engines coupled to two controllable-pitch propellers, and one bow and one stern thruster, both MTU diesel, all remote-controlled from the bridge. Auxiliary engines include two Mercedes OM 403, each 235 bhp, and one MTU-396 620 bhp, all direct-coupled to Siemens AC generators.

Other equipment includes Norwinch anchor windlass, Hydraulikk Brattvaag anchor winches, Nautilus Diesel Hydraulic crane, and Electro hydraulic "Hydrolift" crane.

The vessel features a diving bell operated through a moonpool, Kongsberg, Albatross 501 dynamic positioning system with three basic reference systems, and A-frame gantry crane of 40 tons lifting capacity.

The Italian-flag Anfitrite is classified by Det norske Veritas + 1A1 ICE C Tug/Supply Vessel, DSV, EO, and has accommodations, all forward, for 39 men in single and double cabins.

The vessel will be managed by two companies that are leaders in their fields of activity: Rana s.p.a. of Ravenna, operating in diving activity; and Rimorchiatori Riuniti s.p.a., prominent in the offshore industry and with a long tradition as owners of tugboats.



**NEWLY INSTALLED DIRECTORS** of the Maritime Association of the Port of New York include (L to R): **Charles T. O'Neill**, president, Jatun Environ, Inc.; **Frank Vanduyn**, executive vice president, Merit Steamship Agency, Inc.; **Stephen Kearns**, vice president, Daniel F. Young, Inc.; new MAPONY president **Bruce McAllister**, chairman, North Atlantic Conferences; **R.L. Rausch**, vice president, International Terminal Operating Company; and **Douglas T. Breckon**, president, South African Marine Corporation.

## Moss Point Awarded \$3.6-Million To Build 15 Barges For U.S. Navy

With the recent signing of a \$3.6-million contract with the U.S. Navy for the construction of 15 110-foot open lighter barges, Moss Point Marine (MPM) of Escatawpa, Miss., has begun to look to the future with renewed confidence and enthusiasm.

MPM president **John Dane III** summed up the feelings of the entire company in saying, "Through these tough times in the shipbuilding industry, we have been extremely fortunate to have loyal customers who have provided us with enough work to keep our facility active and our employees on the job. The tough

times are not yet over, however, so we are daily working to obtain new jobs. We have been able to diversify our talents and have become very flexible in meeting customers' needs, whether it be repair work, new construction, government contracts, or major conversion jobs. We will continue to exercise this versatility, and when our industry is experiencing prosperous times again we will be there to serve the marketplace."

In addition to the Navy barge project, MPM presently has under construction a 218-foot supply vessel and a 186-foot supply vessel, both for InterMarine of Houston; two 181-foot supply vessels for Argosy Offshore of New Orleans; and a 219-foot freezer stern trawler for an unannounced owner.

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## Perolin Marine Offers 87 Page Illustrated Tank Cleaning Guide

Perolin Marine has just re-issued its Tank Cleaning Guide to conform to the company's new corporate image.

This guide is a very comprehensive, easy to use manual, used for many years as a vital piece of reference material. The book contains 87 pages divided into five sections.

The Tank Cleaning Guide covers information on cleaning requirements, tank cleaning principles, washing systems and equipment, chemical cleaning methods and procedures, safety, inerting, and stainless steel tanks, etc.

All holders of the Guide are registered on a data bank which ensures new information and bulletins are issued direct to the holder, keeping him up to date and fully informed.

The Perolin Marine Tank Cleaning Guide is available to customers at \$40 including postage.

For further information,

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# CORE

## Canadian Offshore Resources Exposition

Halifax, Nova Scotia—October 16-18

The Fourth Annual Canadian Offshore Resources Exposition and Conference (CORE) will be held in Halifax, Nova Scotia, October 16-18, 1984 at Ocean Terminals 23, 24, 31, 32, 33, and 34, and in the Immigration Annex building, all facilities of the Port of Halifax. Since its beginning in 1981, CORE has become Canada's leading annual event devoted exclusively to the technical requirements of the offshore oil and gas exploration and development industry.

At last year's exposition, some 530 firms from 13 countries exhibited their products and services. More than 600 companies will be exhibiting at this year's CORE, and attendance at the three-day event is expected to top 9,000. A three-morning conference held at the Hal-

ifax World Trade Center in conjunction with the exhibition will feature the latest technologies of offshore exploration and production of oil and gas in an environment that is considered one of the most hostile in the world.

This year the CORE exhibition will be opened by the Premier of Nova Scotia, the Honorable **John Buchanan**. The Minister of Energy for the Government of Nova Scotia, the Honorable **Joel Matheson**, will officially open the conference.

CORE is sponsored by: Atlantic Provinces Economic Council; Canadian Ocean Industries Association; Cape Breton Offshore Trade Association; Newfoundland Ocean Industries Association; Offshore Trade Association of Nova Scotia;

and Oilweek magazine. It is managed and produced by Industrial Trade Shows Inc. of Toronto. The Governments of Alberta, New Brunswick, Newfoundland, Nova Scotia, Ontario, Prince Edward Island, and Quebec, as well as six Federal ministries, sponsor major exhibits at the show.

More than C\$2 billion has been committed for exploration activity off Nova Scotia since the signing of the Federal/Provincial agreement in March 1982. Venture development and the transmission pipeline will require C\$4 billion in capital investment. This activity in Nova Scotia's offshore sector has attracted worldwide attention—the reason that CORE has grown, in only three years, to be the third largest annual trade show of its kind in the world.

Employment in Nova Scotian offshore activity now numbers more than 2,000 people. This contributes significantly to the increased prosperity of the Province generally. According to Premier **Buchanan**, the Government of Nova Scotia is undertaking extensive changes in its training programs to insure that Nova Scotians are well trained to take advantage of this opportunity.

### CONFERENCE AGENDA Tuesday, October 16

**9:30 am**—Opening remarks by **Gerald Doucet**, chairman.

**9:45 am**—Official opening of the Conference by Hon. **Joel Matheson**, Minister of Mines and Energy, Province of Nova Scotia.

**10:00 am**—"Canada Lands Pros-

pects Overview," by **Dan Sherwin**, EMR.

**10:30 am**—Coffee break.

**10:45 am**—"Grand Banks Prospects," by **John Fitzgerald**, Newfoundland Petroleum Directorate; and "Beaufort Sea Development," by **Dan Motyka**, Gulf Canada Resources Inc.

**Wednesday, October 17**

**Salon A**

**8:30 am**—"Deep Drilling with Sedco 710," by **Rod McGrath**, Petro Canada.

**9:00 am**—"Positioning Drilling and Seismic Vessels," by **John Adams**, McElhanney Surveying & Engineering Ltd.

**9:30 am**—"Drilling Fluids," by **Dr. John Garnett**, Nova Scotia Ministry of Mines & Energy, and **Rick Smith**, Technifluids.

**10:30 am**—Coffee break.

**10:45 am**—"Offshore Production Testing Techniques," by **Barry Dueck**, Schlumberger, and **Kam Rathie**, Otis Engineering Company Ltd.

**11:15 am**—"Advances in Diving Techniques," by **Phil Nuytten**, Can-Dive Services Ltd.

**11:45 am**—"Subsea Production Systems," by **John Van Barnevelo**, Vetco Subsea Production Systems.

**Salon B**

**8:30 am**—"Design and Construction of the Topside," by **Michael Cote**, Dominion Bridge-Sulzer Inc.

**9:00 am**—"Production Platforms," by **L.P. Lartigue** and **H. Sauer-ton**, C.F.E.M.

**9:30 am**—"Welding Standards for the Arctic and Offshore," by **R.A. Dunn** and **Dr. N. Eaton**, Welding Institute of Canada.

**10:30 am**—Coffee break.

**10:45 am**—"Ice-Detecting Radar," by **Dr. G. Austin**, McGill University.

**11:15 am**—"Ice-Handling Techniques," by **C.P. Benedict**, Ice Engineering Ltd.

**11:45 am**—"Deepwater Tethering Systems," by **Larry Green**, McDermott, Incorporated.

**Thursday, October 18**

**Salon A**

**8:30 am**—"Safety and the Hostile Environment" (Speaker to be announced).

**9:00 am**—"The Role of the Rescue Ship," by **R.A. Spellacy**, Crosbie Offshore Ltd.

**9:30 am**—"Capping an Offshore Blowout," by **George Harper**, Safety Boss.

**10:00 am**—Coffee break.

**10:15 am**—"Marketing Sable Gas" (Speaker to be announced).

**10:45 am**—"Hibernia and Venture Development Plans" (Speaker to be announced).

Registration fee for the Conference is \$40 per day or \$100 for all three days, and includes admission to the CORE Show. For further information contact: **James E. Myles**, show manager, or **Sandra Chamberlain**, show & conference coordinator, Canadian Offshore Resources Exposition, 20 Butterick Road, Toronto, Ontario, Canada M8W 3Z8; telephone (416) 252-7791.

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AMHERST INDUSTRIAL COMMISSION	1086	ATLANTIC CONTROLS	A1
THE ANALYSTS OF CANADA	G1	ATLANTIC ENERGY NEWS	369
ANCHOR PACKING	17	ATL FOUNDATION FOR OCCUPATION & ENVIRONMENTAL HEALTH	331
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(continued on page 42)

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The November 1st issue of MARITIME REPORTER will contain details of the full technical program as well as all activities associated with the exhibition during this most important annual event.

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November 1st is traditionally one of MR's largest and best-read issues. It provides all marine advertisers with an unequalled opportunity to deliver their sales message to the world's largest audience of marine management readers . . . both in their offices . . . and at this third S.N.A.M.E. annual . . . which has already established itself as the premier maritime industry exposition.

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**CORE—Exhibitors**

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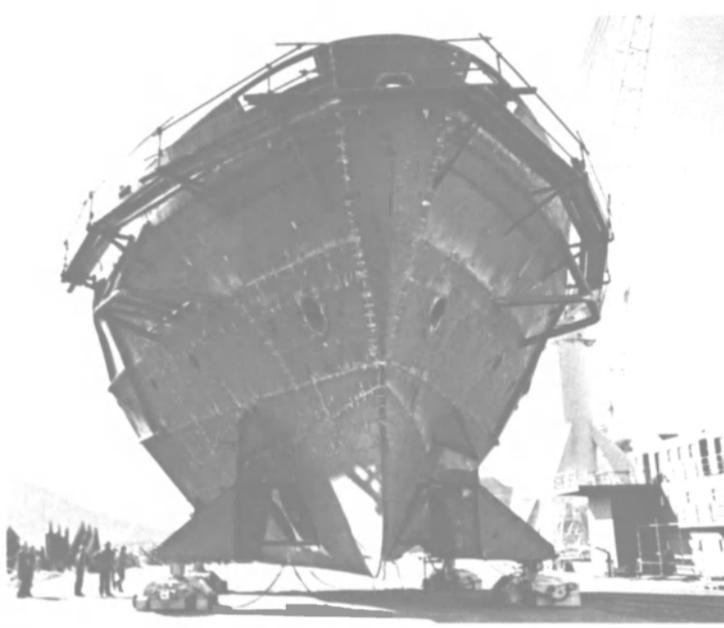
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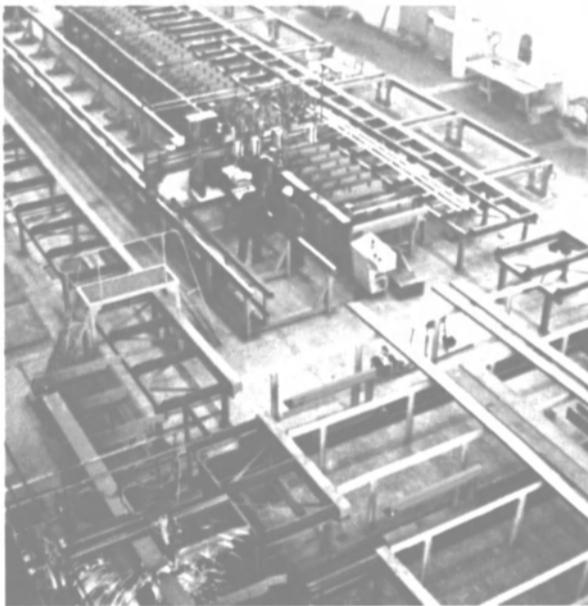
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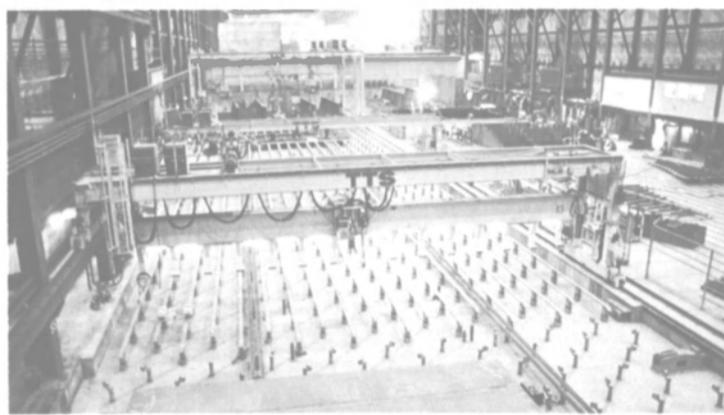
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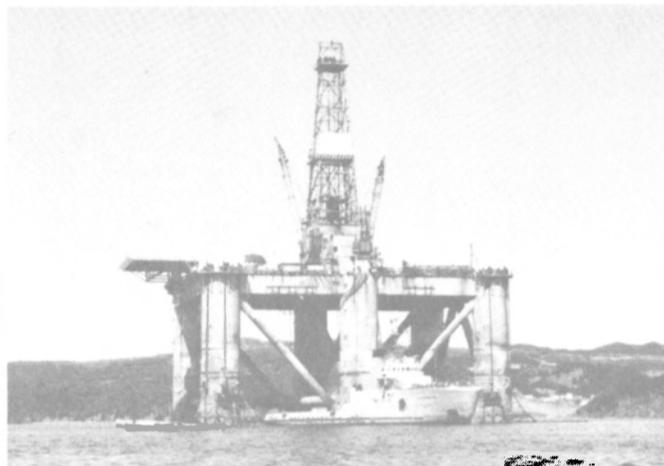
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(continued on page 44)



**"Mortier"**  
An Anchor-Handling Supply Vessel  
Designed by Ulstein Trading Ltd A/S Norway



**"Zapata Umland"**  
An Offshore-Drilling Rig in Marystown for Repairs

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established in Reno, Nevada. In addition, our existing parts and service centers in Seattle, New Orleans, Norfolk and Beloit are being expanded and better equipped to meet your parts and service needs. Plus, a new computerized order processing and inventory control network, in all facilities, will put genuine replacement parts where you need them—when you want them.

For parts and service program details, contact Colt Industries, Fairbanks Morse Engine Division, 701 Lawton Avenue, Beloit, WI 53511. 800/356-6955.

\* S.F.M.T. — Pielstick is a registered trademark of Societe d'Etudes de Machines Thermiques Paris, France

**Colt Industries**



**Fairbanks Morse**  
Engine Division

September 15, 1984

Circle 160 on Reader Service Card

45

## \$79-Million Coast Guard Contract Awarded to Bollinger Shipyard

The U.S. Coast Guard recently announced the award of a contract worth \$79,664,877 to Bollinger Machine Shop and Shipyard, Inc. of Lockport, La., for construction of 15 high-speed, diesel-powered patrol boats. The contract was awarded

following the decision of the U.S. District Court in Washington, D.C., that voided an earlier contract that had been awarded to Marine Power and Equipment of Seattle. The court ruled that the 12-cylinder engines proposed by the Seattle yard were not allowable under terms of the solicitation.

Powered by 6,000-bhp diesels, the 110-foot boats will be used on drug patrols in the Southeastern U.S. They will operate on independent

offshore patrols for law enforcement surveillance and boardings, and on search and rescue missions. The new boats will be faster than the Coast Guard's present 82- and 95-foot patrol craft, will carry larger (16-man) crews, and will be able to stay on patrol for longer periods of time.

Delivery of the first boat is scheduled for July 1985, with subsequent deliveries due every 45 days. Initial spare parts, support equipment, and documentation are included in the

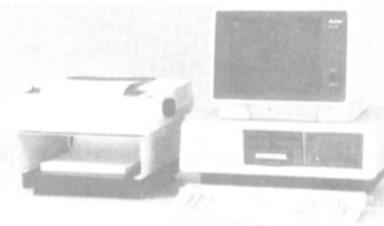
contract.

**Donald T. Bollinger**, chairman of the Lockport yard, said he expects to hire about 300 additional people to work on the patrol boat project. The contract was the largest single award ever won by the Bollinger yard.

## Coastal Dry Dock Gets \$8-Million Navy Contract For Overhaul of Frigate

Coastal Dry Dock and Repair Corporation of Brooklyn, N.Y., has been awarded a \$7,994,000 firm-fixed-price Navy contract for preparation and accomplishment of the regular overhaul of the frigate USS W.S. Sims (FF-1059). The Naval Sea Systems Command is the contracting activity.

## New Busiship™ System Brochure Available From Nav-Com



A new computerized ship management information system has been developed by Nav-Com, Inc., of Deer Park, N.Y. This system, Busiship™, is the first integrated package that combines fully marinized computer hardware with a wide variety of software packages designed specifically for marine applications.

The Busiship™ ship management information system is designed to improve ship/office coordination, help implement effective decision making, reduce time spent on routine paperwork and record keeping, and provide the flexibility to grow with business needs.

The basic workstation is a specially marinized IBM-PC/XT micro-computer, complete with necessary storage media, video monitor, communications modem and printer. The proprietary software is easy to use, with simple menu-driven commands so that even non-technical personnel can rapidly become familiar with system operation.

Basic Busiship™ system software includes an extremely broad range of programs, all of which are instantly selectable right on screen from the master menu. Available software packages include electronic mail, text preparation, forms and report preparation, database access, telephone directory, strength and stability program, cargo loading, inventory control, personnel management, payroll, and others.

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## CASDE Gets \$3.25-Million Navy Contract For R&D And Naval Architecture Support

CASDE Corporation of Torrance, Calif., has been awarded a \$3,248,008 cost-plus-fixed-fee Navy contract for support in naval architecture, research, and development efforts. Work will be performed in Torrance (15 percent) and in Alexandria, Va. (85 percent). The Naval Sea Systems Command is the contracting activity.

## Independent Tests Show Drew Ameroid's Amergize® Cuts Fuel Consumption —Results Available

Independent laboratory tests of Amergize™ deposit modifier/com-bustion improver have proven a significant reduction in specific fuel consumption, carbon deposits, exhaust smoke levels, and metallic deposits in a test engine operated on a residual oil blend containing high levels of carbon residue, vanadium, sodium and sulfur. Drew Ameroid® Marine, producer of chemical products and technical services through its worldwide network, introduced Amergize earlier this year.

For the purposes of the fuel additive tests, an instrumented test engine was selected to be used with a poor burning fuel having high contaminant levels. These conditions allowed short-term testing with maximum deposit and corrosion development. The engine was operated at conditions that would produce exhaust temperatures above vanadium-compound deposit melting points (in excess of 537 degrees C).

Three tests were completed: 1) Baseline test using neat fuel (no additive), 2) Amergize test used at concentrations of 1:250 or one liter additive to 250 liters of fuel, an overly rich ratio and 3) Amergize test used at concentrations of 1:2000 or one liter additive to 2,000 liters of fuel, within the recommended dosage range.

The engine was fully instrumented to monitor engine speed, power output and pressure and temperatures throughout the lubricating, cooling, intake and exhaust systems. Fuel consumption rate was determined using an automated weight system which measured the amount of time required for the engine to consume three pounds of fuel. Smoke density was measured by the Bosch method every two hours, and all other data was recorded every hour.

Heat exchangers, utilizing the engine cooling water as a heat source, were used to heat the fuel. A fresh charge of oil was used for each test.

For the tests, a petroleum product containing asphaltene extracted from residual fuels was used. The asphaltene were diluted with diesel fuel to meet properties required for use in the diesel test engine. Tests on a sample obtained prior to purchase indicated a cetane number between 45 and 50, which indicated that the fuel probably did not con-

tain any cracked stocks.

In the Brake Mean Effective Pressure (BMEP) measurement, showing how much engine power is produced, the engine operated most stably during the 1:250 dosage test indicated by the relatively constant, highest level carrot symbols. In the Brake Specific Fuel Consumption (BSFC) measurement, the lowest and most desirable rate is shown by the additive test symbols, and the highest, by the baseline. Smoke levels, using the BOSCH Method, giv-

ing capacity of exhaust emissions, were likewise lowest when using 1:250 additive and highest during the baseline test.

These are significant savings in fuel cost, since a specific fuel consumption decrease of only one percent covers the treatment cost. Added benefit of reduced metallic deposits and lower carbon residue increase the cost savings.

Carbon deposits, fuel consumption and smoke decreased as the quantity of Amergize increased. The

results prove that combustion was more complete when using Amergize. Metallic deposits were at a minimum when using the additive at a ratio of 1:2000. An optimum dosage, therefore, for increased combustion with reduced metallic deposits can be determined to meet specific operator needs.

For further test data and information on the Amergize deposit modifier/com-bustion improver,

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# THE S.S. UNITED STATES ...AT AUCTION

**Once in a great while**, a masterpiece is created of unprecedented quality. So it was when in 1952 the S.S. United States was built. Never before had the elements of size, speed and design been combined with such extraordinary results. Now, after years of successful liner service, she is about to be completely refurbished to the very highest standards in preparation for becoming the finest cruise ship in the world today.

**An auction unequalled.** To disburse the fabulous contents of the ship, a unique series of events have been planned culminating in a most important auction. Virtually every one of the approximately one million items on board will be sold. Designed and constructed exclusively for the United States—and so marked—the range of articles is extensive. From streamlined art moderne furniture to Belgian linens. Precision navigational equipment to maiden voyage menus. Handsome table service to the finest of commercial kitchen ware. Sculpture by distinguished artists to pianos by Steinway. From deck chairs and blankets to the entire bridge. Everything. Far too great to list here.

**The agenda.** To accommodate potential bidders nationwide, a series of exhibitions is planned whereby the public is invited to preview representative samples. Lectures and films will be just part of these events that will also include the offering for sale of smaller items of nostalgic interest. Knowl-

edgeable members of the auction staff will be on hand to assist those wishing to place order bids (executed by the gallery during the actual auction). Following this series of exhibitions, the auction will commence in Norfolk, Virginia at the site of the ship. The schedule follows. Check local media for times and the location within each city (or contact Guernsey's).

#### **Exhibitions:**

September 14, 15, 16: Los Angeles  
September 21, 22, 23: Chicago  
September 28, 29, 30: New York

#### **Auction:**

Norfolk, Virginia  
October 8, 9, 10, 11, 12, 13, 14

**Details:** Cash, travelers checks and certified checks will be accepted. Those wishing to pay by personal check should bring a bank credit reference letter. Merchandise paid for by personal check without bank letter will be held until check clears. 10% buyer's premium. A thorough and historically informative catalogue will be available at the exhibitions and auction for twelve dollars fifty cents or fifteen dollars through the mail from: Guernsey's, Box 475, Tuxedo Park, New York 10987. Tours of the ship will be given by appointment. For appointment and other information, call Guernsey's at 212-794-2280. Take part in the magnificence of this wonderful ship. Take part in the auction of the century!

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**Wakefield And Taylor Promoted At Parker Towing Company**



George Wakefield

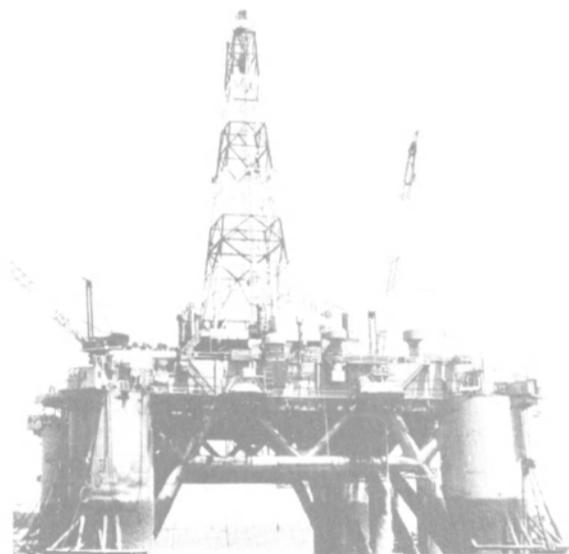
Colin Taylor

**Tim Parker Jr.**, executive vice president of Parker Towing company, recently announced the promotion of **George Wakefield** to assistant vice president of sales. He has been with Parker for the past seven years, and has served as sales manager for the past two. He will continue to be based in the company's main offices in Tuscaloosa, Ala.

**Mr. Parker** also announced the promotion of **Colin Taylor** to regional sales manager. He has been with the firm for 10 months as sales representative, following 15 years with Lykes Bros. Steamship Company. Prior to that, he was with Alcoa Steamship Company for 20 years, serving in New Orleans and San Juan. He is based in Parker's Mobile office.

Parker Towing is a family-owned company that has served the Warrior-Tombigbee System for more than 40 years. It now owns and operates 15 towboats, 130 hopper barges, and four tank barges, not only on the Warrior-Tombigbee, but on the Coosa-Alabama, Tennessee-Tombigbee, Mississippi, and Appalachian Rivers, and on the Gulf Intracoastal Waterway.

**Ingalls Completes Repairs To Semi-Submersible Drilling Rig**



The semi-submersible offshore drilling rig Ocean Scout (photo), owned by Ocean Drilling and Exploration Company (ODECO) of New Orleans, departed Pascagoula, Miss., recently following routine repairs. The giant rig had been at Ingalls Shipbuilding division of Litton, where it underwent repairs to column areas, voids, chain lockers, and other areas.

Ocean Scout was the third ODECO rig to take advantage of Ingalls' rig overhaul capabilities during 1984. The shipyard has unobstructed deepwater access to the open waters of the Gulf of Mexico.

Ingalls has completed repair projects on more than 30 rigs and barges since 1980, and delivered 17 new rigs in the 1981-83 period. Ocean Scout is now drilling in South Marsh Island Block 190.

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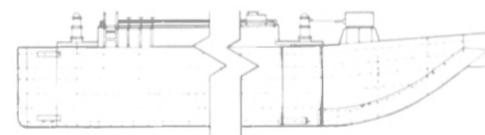
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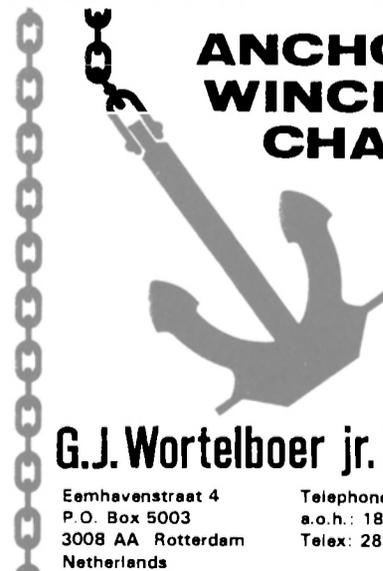
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## Third USN Rescue/Salvage Ship Launched At Peterson Builders

Peterson Builders, Inc. (PBI) of Sturgeon Bay, Wisc., recently launched the third ARS Class rescue/salvage vessel in a series it is building for the U.S. Navy. A perfect side launch (photo) was executed as sponsor **Mrs. Diana M. Walters** christened the ship *Salvor* (ARS-52). Assisting as matron of honor was **Mrs. Marion F. Maclin**, wife of Capt. **Charles Maclin**, director of ocean engineering, Naval Sea Systems Command.

Dignitaries assembled for the launching were introduced by PBI president **Ellsworth Peterson** and Capt. **Paul M. Robinson**, USN, Sturgeon Bay Supervisor of Shipbuilding. Keynote guest speaker was Vice Adm. **Robert L. Walters**, husband of the sponsor. He is Deputy Chief of Naval Operations (Surface Warfare).

Launching ceremony speakers highlighted the unique mission demands that the rescue/salvage ships are called upon to perform. With their rough and ready ability, the ARS ships are known for their "can do" in getting things done with great strength as well as with great precision. Mission duties include open ocean rescue, raising sunken ships, towing, and firefighting services at advanced bases and in U.S. ports.

Retrieval of space capsules is an additional task within the vessels' capabilities. These ships can support extensive diving operations, possessing the finest diver life support air systems in the Navy. They are fitted with a 500-hp bow thruster, 40-ton boom aft, and 7½-ton

boom forward. Each ship can accommodate a complement of 87, with habitability spaces, medical facilities, and storeroom areas all designed to satisfy new updated standards.

The *Salvor* has an overall length of 255 feet, beam of 51 feet, and draft of 16 feet 10 inches. Four main propulsion diesel engines furnish a total of 4,200 bhp; electrical requirements are provided by three 750-kw diesel-driven generators.

One former U.S. Navy ship has borne the name *Salvor*, a vessel that performed salvage duties in Boston and New London, Conn., during World War I. ARS-52 joins her sister ships that are under construction at PBI—Safeguard (ARS-50) and Grasp (ARS-51). The fourth ship of the series is scheduled for launching in December this year. The four ARS auxiliary rescue/salvage ships are a new Safeguard Class designed to replace the Navy's aged and diminished vessels of this type; they will join forces with three Edenton Class salvage ships.

In addition to the ARS construction program under way at PBI, Navy contracts are also held for three 224-foot Mine Countermeasure (MCM) ships and seven 108-foot Yard Patrol (YP) craft. These two contracts are for wood construction, an area in which the yard has special expertise.

The contracts won for these 14 vessels are testimony to PBI's experience and competitive edge. Keels have been laid for 10 of these ships, and since November 1983 five have been launched.



Rescue/salvage vessel *Salvor* slides down the ways at Peterson Builders shipyard



Principals at *Salvor* launching ceremony included (L to R): Capt. **Paul M. Robinson**, Sturgeon Bay SupShip; **Joseph Shrader**, executive director-surface ships, NavSea; Vice Adm. **Robert L. Walters**, Deputy Chief of Naval Operations (Surface Warfare); PBI president **Ellsworth Peterson**; **Mrs. Diana M. Walters**, sponsor; Capt. **Charles Maclin**, director of ocean engineering, NavSea; **Mrs. Marion F. Maclin**, matron of honor; **Robert Peterson**, PBI executive vice president; Cmdr. **Harry K. Fiske**, Assistant Deputy Commander, surface ship logistic management; NavSea; and Cmdr. **Thomas R. Emery**, Commander, Great Lakes Naval Training Center.

# BUYERS DIRECTORY

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

## AIR COMPRESSORS

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

## AIR CONDITIONING AND REFRIGERATION—REPAIR & INSTALLATION

Bailey Refrigeration Co., Inc., 74 Sullivan St., Brooklyn, NY 11231  
Flakt AB, Box 8862, S-40272, Gothenburg, Sweden  
Marlo Coil/Nuclear Cooling, Inc., P.O. Box 171, High Ridge, MO 64049  
Stal Refrigeration AB, Butangatan 16, S 601 87 Norrkoping, Sweden  
United Technologies Carrier Transicold, P.O. Box 4805, Syracuse, NY 13221

## ANCHORS AND CHAIN

G.J. Wortelboer Jr. B.V., Eemhavenstraat 4, P.O. Box 5003, 3008 AA Rotterdam, Netherlands

## ANODES—Cathodic Protection

American United Marine Corp., 5 Broadway, Rte. 1, Saugus, MA 01906  
Engelhard Industries Division, 2655 U.S. Route 22, Union, NJ 07083  
Federal Harco, P.O. Box 40310, Houston, TX 77240  
The Platt Bros. & Co., Box 1030, Waterbury, CT 06721

## BASKET STRAINERS

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

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

## BEARINGS—Rubber, Metallic, Non-Metallic

Grant Manufacturing & Alloying, Inc., 600 Schoolhouse Rd., Souderton, PA 18964

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

Lucian O. Moffitt, Inc., P.O. Box 1415, Akron, OH 44309

Norton Chemplast, 309-150 Dey Rd., Wayne, NJ 07470  
Thomson-Gordon Limited, 3225 Mainway, Burlington, Ontario, Canada L7M 1A6

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

## BLASTING—Cleaning—Equipment

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

Aqua-Dyne Inc., 2208 Karbach St., Houston, TX 77092

Atlantic Sandblasting & Coatings, Inc., 2700 Guy Verger Blvd., Tampa, FL 33605

Aurand, 1270 Ellis St., Cincinnati, OH 45223

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

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

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

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

## BOILERS

B&D Marine and Industrial Boilers, Inc., P.O. Box 5702, North Charleston, SC 29406

Combustion Engineering, Inc., Windsor, CT 06095

Forney Engineering Co., P.O. Box 189, Addison, TX 75001

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

## BOILER CLEANING

Asea Stal, 525 Executive Blvd., Elmsford, NY 10523-1296

## BROKERS

S. Danoff U.S.A. Ltd., 2050 Coral Way, Miami, FL 33145

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

ECO Inc., 1036 Cape St. Claire Center, Annapolis, MD 21401

## BRONZES—COMMEMORATIVE

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

## BUNKERING SERVICE

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

Gulf Oil Trading Co., 535 Madison Ave., New York, NY 10022

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

## CARGO HANDLING EQUIPMENT

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

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

## CHOCKING SYSTEMS

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

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

## CLOSURES—Marine

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

Mock Manufacturing Inc., 777 Rutland Rd., Brooklyn, NY 11203

## COMPUTERIZED INFORMATION SYSTEMS

Marine Management Systems, Inc., 102 Hamilton Ave., Stamford, CT 06902

Maritime Data Network, Ltd., 102 Hamilton Ave., Stamford, CT 06902

## CONDENSERS

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

## CONTROL SYSTEMS—Monitoring

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

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

ASEA, Inc., 4 New King St., White Plains, NY 10604

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

Barringer Research, 304 Carlingview Dr., Rexdale, Ontario, Canada M9W 5G2

Biospherics Inc., 4928 Wyaconda Rd., Rockville, MD 20852

Bowmar/All, Inc., 531 Main St., Acton, MA 01720

Cooper Energy Services, Mount Vernon, OH 43050

Louis C. Eitzen Co., P.O. Box 1210, Glenwood Springs, CO 81602

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

Failsafe Motor/Generator Protector, Marine Safe Electronics Ltd., 101 Jardin Dr., Unit 24/25, Concord, Ontario, Canada L4K 1B6

Grumman Aerospace, 111 Stewart Ave., Bethpage, NY 11714

ITT Mackay, 441 U.S. Highway #1, Elizabeth, NJ 07202

Indikon Corp., 26 New St., Cambridge, MA 02138

Kongsberg North America Inc., 400 Oser Ave., Hauppauge, NY 11738

Leslie Co., 401 Jefferson Rd., Parsippany, NJ 07054

Marine Moisture Control Co., 60 Inip Dr., Inwood, NY 11696

Maritime Protection A/S, Box 100, N-4620 Vagsbygd, Norway

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

Nav-Vue, Inc., P.O. Box 1175, Huntsville, TX 77340

Offshore Technology Corp., 578 Enterprise St., Escondido, CA 92025

Pandel Instruments Inc., 2100 N. Hwy. 360, Grand Prairie, TX 75050

Propulsion Systems, Inc., 21213 76 Ave., Kent, WA 98032

Seaworthy Systems Inc., 36 Main Street, Essex, CT 06426

Teleflex Inc., 771 First Ave., King of Prussia, PA 19406

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

Valmet Automation A.S., P.O. Box 130, N-3430, Spikkestad, Norway

## COUPLINGS

SKF Steel, 201 Tower Lane, P.O. Box 745, Avon, CT 06001

## CRANES—HOISTS—DERRICKS—WHIRLEYS

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

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

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

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

Machinexport, 35 Mosfilmovskaya Ul., 117330 Moscow, U.S.S.R.

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

J.D. Neuhaus, Hebezeuge, D5810, Witten Heven, West Germany

## DECK MACHINERY—Cargo Handling Equipment

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

Murdock Engineering Company, P.O. Box 2278, Irving, TX 75061

Schoellhorn Albrecht, Div. of St. Louis Ship, 3460 So. Broadway, St. Louis, MO 63118

## DECKING—GRATING

Selby, Battersby & Company, 5220 Whiby Ave., Philadelphia, PA 19143

## DIESEL ACCESSORIES—CYLINDER LINERS

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

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

Illman Jones, 1111 Green Island Rd., American Canyon, CA 94589

## DIESEL ENGINE—Spare Parts & Repair

Granges Repair Service GMBH, U.S. Rep: Field, Wigham and Co., Inc., 200 Middleneck Road South, P.O. Box 2123, Great Neck, NY 11021

## ELECTRICAL EQUIPMENT

Jergens Inc., 19520 Nottingham Rd., Cleveland, OH 44110

Valad Electric Heating Corporation, 162 Wildey St., Tarrytown, NY 10591

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

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

## EMULSIFICATION SYSTEMS

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

Fire-Brite, Hofert Manufacturing Co., Inc., 3749 Progress Rd., Norfolk, VA 23502

S/S Research & Development Inc., 1050 State St., Perth Amboy, NJ 08862

## EQUIPMENT—Marine

American General/Levin Corp., 445 Littlefield Ave., So. San Francisco, CA 94080

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

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

Thomas Coudon Associates, 6655 Amberton Dr., Baltimore, MD 21227

Fitz-Wright Suits Ltd., 17919 Roan Pl., Surrey, B.C., Canada V3S 5K1

Genstar Stone Products Company, Executive Plaza IV, Hunt Valley, MD 21031

Harvey's Commercial Marine Div., 2505 S. 252nd St., Kent, WA 98032

Imperial Manufacturing Co., P.O. Box 4119, Bremerton, WA 98312

Kearfott Marine Products, 550 South Fulton Ave., Mount Vernon, NY 10550

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

## EVAPORATORS

Alfa-Laval, Inc., Dept. MR-2, 2115 Linwood Ave., Fort Lee, NJ 07024

Aqua-Chem Inc., P.O. Box 421, Milwaukee, WI 53201

MECO (Mechanical Equipment Company, Inc.), 861 Carondelet St., New Orleans, LA 70130

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

## FANS—VENTILATORS—BLOWERS

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

Gaylord Industries, Inc., P.O. Box 558, Wilsonville, OR 97070

Joy Manufacturing Company, 338 So. Broadway, New Philadelphia, OH 44663

Zidell Explorations, 3121 S.W. Moody St., Portland, OR 97201

## FASTENERS

Sales Systems Limited, 7006, 700 Florida Ave., Portsmouth, VA 23707

## FENDERING SYSTEMS—Dock & Vessel

InterTrade Industries, 15301 Transistor Lane, Huntington Beach, CA 92649

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

Samson Ocean Systems, Inc., 99 High St., Boston, MA 02110

Seaward International, Inc., 6269 Leesburg Pike, Falls Church, VA 22044

## FILTERS

Dahl Manufacturing, Inc., 2521 Railroad Ave., Ceres, CA 95307

Mueller Steam Specialty, P.O. Box 1569, Lumberton, NC 28359

## FINANCING—Leasing

A.G. Becker Paribus Inc., 2 First National Plaza, Chicago, IL 60670

Gulf Western Leasing Corp., 1500 City West Blvd., Suite 300, Houston, TX 77047

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

## FIRE PROTECTION, DETECTION & ALARM SYSTEMS

Gulf Publishing Company Video (Firefighting Videotape), P.O. Box 2608, Houston, TX 77001

Walter Kidde, Walter Kidde Dr., Wake Forest, NC 27586

## FUEL OIL/ADDITIVES—Analysis & Combustion Testing

Ferruss Corporation, 910-108th N.E., P.O. Box 1764, Bellevue, WA 98009

McTigue Industries Inc., 1615 9th Ave., Bohemia, NY 11716

U.S. Borax, 3075 Wilshire Blvd., Los Angeles, CA 90010

## FURNITURE

Bailey Carpenter & Insulation Co., 74 Sullivan Street, Brooklyn, NY 11231

Comfort-Mate, Inc., 7988 NW 56th Street, Miami, FL 33166

## GALLEY EQUIPMENT

Insinger Machine Co., 6245 State Rd., Philadelphia, PA 19135

## GANGWAYS

Rampmaster Inc., 9825 Osceola Blvd., Vero Beach, FL 32960

## HATCH & DECK COVERS—Chain Pipe

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

Marine Moisture Control Co., 60 Inip Dr., Inwood, NY 11696

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

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

Mack Manufacturing Inc., 777 Rutland Rd., Brooklyn, NY 11203

## HEAT EXCHANGERS

Alfa-Laval, Inc., Dept. MR-2, 2115 Linwood Ave., Fort Lee, NJ 07024

American Standard Inc., Heat Transfer Div., Buffalo, NY 14240

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

## HOLD LINERS

Himant U.S.A., Inc., 1313 N. Market St., Wilmington, DE 19894

## HULL CLEANING

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

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

Gulf International Divers, P.O. Box 1342, Gretna (New Orleans), LA 70052  
Pacific Maine Services, TLX: 664540 seaserv, Long Beach, CA 90802  
Petrochemical Services, Inc., 3820 Dauphine St., New Orleans, LA 70117  
Phosmarine Equipment, 21 Bd. de Paris, 13002, Marseille, France  
Seaward Marine Services, Inc., 6269 Leesburg Pike, Falls Church, VA 22044  
Taylor Diving & Salvage Co. Inc., 701 Engineers Rd., Belle Chasse, LA 70037

## HYDRAULICS

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

Cunningham Marine Hydraulics Co., Inc., 201 Harrison St., Hoboken, NJ 07030; 2030 E. Adams St., Jacksonville, FL 32204, TX: 710-730-5224

Del Gavio Marine Hydraulics Inc., 207 W. Central Ave., Maywood, NJ 07607

Washington Chain & Supply, Inc., P.O. Box 3646, Seattle, WA 98124

## INERT GAS—Generators—Systems

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

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

## INSULATION—Cloth, Fiberglass

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

Superior Energies, Inc. P.O. Drawer 386, Groves, TX 72619

Waco Inc., 5450 Lewis Rd., P.O. Box 836, Sandston, VA 23150-0836

## INSURANCE

Adams & Porter, 510 Bering Dr., Houston, TX 77057-1408

Adams & Porter, 1 World Trade Center, Suite 8433, New York, NY 10048

MGA International, 419 Park Avenue South, New York, NY 10016

United States P&I Agency, Inc., 80 Maiden Lane, New York, NY 10038

## JOINER—Watertight Doors—Paneling

Advanced Structures Corp., 235 W. Industry Ct., Deer Park, NY 11729

Bailey Distributors, Inc., 74 Sullivan St., Brooklyn, NY 11231

Masonite Commercial Division, Dover, OH 44622

Megador Inc., 441 Lexington Ave., Suite 903, New York, NY 10017

Simpson Timber Company, Third & Franklin, Sheton, WA 98584

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

## KEEL COOKERS

R.W. Fernstrum & Co., 1716 Eleventh Ave., Menominee, MI 49858

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

## LIGHTING EQUIPMENT—Lamps, Fixtures, Searchlights

ACR Electronics, Inc., P.O. Box 2148, Hollywood, FL 33022

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

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

Marine Consultants & Designers, Inc., 308 Investment Insurance Bldg., Corner E. 6th St. & Rockwell Ave., Cleveland, OH 44114  
Marine Design Inc., 401 Broad Hollow Road, Rte. 110, Melville, NY 11746  
Marine Power Associates, 4475 Mission Blvd., Suite 235, San Diego, CA 92109

Marine Technical Associates, Inc., 95 River Rd., Hoboken, NJ 07030  
George E. Meese, 194 Acton Rd., Annapolis, MD 21403  
R. Carter Morrell, 715 S. Cherokee, Bartlesville, OK 74003  
NKF Engineering Assoc., Inc., 8150 Leesburg Pk., Vienna, VA 22202  
Nelson & Associates, Inc., 610 Northwest 183rd St., Miami, FL 33169  
New England Engineering & Marine Services, Rt. 2, Box 50, York, ME 03909

Nickum & Spaulding Associates, Inc., 2701 First Ave., Seattle, WA 98121  
Northern Marine, P.O. Box 1169, Traverse City, MI 49685  
Ocean-Oil International Engineering Corporation, 3019 Mercedes Blvd., New Orleans, LA 70114

PRC Guralnick, 5252 Balboa Ave., San Diego, CA 92117  
Pearlson Engineering Co., Inc., 8970 S.W. 87th Ct., Miami, FL 33156  
S.L. Petchul, Inc., 1380 S.W. 57th Avenue, Fort Lauderdale, FL 33317  
Precision Systems Engineering, 8248 Eastgate Dr., Mt. Laurel, NJ 08054  
M. Rosenblatt & Son, Inc., 350 Broadway, New York, NY 10013 and 667 Mission St., San Francisco, CA 94105  
Schmahl and Schmahl, Inc., 1209 S.E. Third Ave., Fort Lauderdale, FL 33316

SEACOR Systems Engineering Associates Corp., 19 Perina Blvd., Cherry Hill, NJ 08003 (Publications Division at Cherry Hill location)  
STV/Sanders & Thomass, Inc., 1745 Jefferson Davis Hwy., Arlington, VA 22202

Seaworthy Engine Systems, 36 Main Street, Essex, CT 06426  
Seaworthy Engine Systems, 17 Battery Place, New York, NY 10004  
George G. Sharp, Inc., 100 Church St., New York, NY 10007  
Simmons Associates, P.O. Box 760, Sarasota, FL 33578  
R.A. Stearn, Inc., 253 N. 1st Ave., Sturgeon Bay, WI 54235  
J.F. Stroschein Associates, 666 Old Country Rd., Garden City, NY 11530  
Richard R. Taubler, Inc., 610 Carriage La., Dover, DE 19901  
Timsco, 622 Azalea Road, Mobile, AL 36609  
Tracor Hydro-nautics, Inc., 7210 Pindell School Rd., Laurel, MD 20707  
Thomas B. Wilson, Associates, 1258 North Avalon Blvd., Wilmington, CA 90744

#### NAVIGATION & COMMUNICATIONS EQUIPMENT

American Hydromath Co., Buckwheat Bridge Rd., Germantown, NY 12526  
Anschutz & Co., GmbH, Postfach 6040, D-2300 Kiel 14, West Germany  
Atkinson Dynamics, Section 6, 10 West Orange Ave., South San Francisco, CA 94080

CMC Communications Inc., 5479 Jetport Industrial Blvd., Tampa, FL 33614  
COMSAT World Systems, 950 L'Enfant Plaza, S.W., Suite 6151 Washington, DC 20024

Cybernet International, Inc., 7 Powder Horn Dr., Warren, NJ 07060  
A/S Elektrisk Bureau, P.O. Box 98, N-1360 Nesbru, Norway  
Electro-Nav Inc., 840 Bond Street, Elizabeth, NJ 07201  
Furuno U.S.A., 271 Harbor Way, S. San Francisco, CA 94080  
Harris Communications (RF Communications), 1680 University Avenue, Rochester, NY 14610  
Henschel Corp., 9 Hoyt Drive, Newburyport, MA 01950  
Hose McCann Telephone Company, Inc., 9 Smith Street, Englewood, NJ 07631

King Radio Corporation, 400 North Rodgers Rd., Olathe, KS 66062  
Kongsberg North America Inc., 400 Oser Ave., Hauppauge, NY 11738  
Kongsberg Vopentfabrikk, Norcontrol Division, P.O. Box 145, Horten 3191, Norway  
Krupp Atlas-Elektronik, 1453 Pinewood St., Rahway, NJ 07065  
Lorain Electronics Corp., 2307 Leavitt Rd., Lorain, OH 44052  
Magnum Distributors Inc., 1000 S. Dixie Hwy. #3, Pompano Beach, FL 33060

Nav-Com, Inc., 9 Brandywine Drive, Deer Park, NY 11729  
Navigation Sciences Inc., 6900 Wisconsin Ave., Bethesda, MD 20815 TX: 705999

Perko Inc. (Lights), P.O. Box 64000, Miami, FL 33164  
Radio-Holland USA, Inc., 6033 South Loop East, Houston, TX 77033  
Raytheon Marine Co., 676 Island Pond Road, Manchester, NH 03103  
Raytheon Ocean Systems Company, Westminster Park, Risho Avenue, East Providence, RI 02914  
Raytheon Service Co., 103 Roesler Rd., Glen Burnie, MD 21061  
Servo Corporation of America, 111 New South Road, Hicksville, NY 11802  
Simrad, Inc., 2208 N.W. Market St., Suite 600, Seattle, WA 98107  
Sperry Corporation, Great Neck, NY 11020  
Standard Communications, P.O. Box 92151, Los Angeles, CA 90009  
Texas Instruments, Inc., P.O. Box 405, 3438, Lewisville, TX 75067

#### OILS—Marine—Additives

Exxon Company, U.S.A., Room 2323 AH, P.O. Box 2180, Houston, TX 77001  
Gulf Oil Company—U.S. (Domestic Oils), 909 Fannin Street, Houston, TX 77001  
Gulf Oil, New York District Sales Office (Domestic), 433 Hackensack Avenue, Hackensack, NJ 07601  
Gulf Oil Trading Co., 535 Madison Ave., New York, NY 10022  
Mobil Oil Corp., 150 East 42 Street, New York, NY 10017  
Texaco, Inc. (International Marine), 135 East 42nd St., New York, NY 10017

#### OIL/WATER SEPARATORS

Alfa Laval, Inc., Dept. MR-2, 2115 Linwood Ave., Fort Lee, NJ 07024  
Biospherics Incorporated, 5001 Forbes Blvd., Lanham, MD 20801  
Butterworth Inc. (USA), 3721 Lapas Dr., P.O. Box 18312, Houston, TX 77223-9989  
Butterworth Systems (UK), 123 Beddington Lane, Croydon CR9 4NX, England  
Centrico, Inc. (Westfalia Separators), 100 Fairway Court, Northvale, NJ 07647  
Dahl Manufacturing, Inc., 2521 Railroad Ave., Ceres, CA 95307  
Hyde Products, Inc., 810 Sharon Dr., Westlake, OH 44148  
Microphor, Inc., P.O. Box 490, Willis, CA 95490  
Marine Moisture Control Co., 60 Inip Dr., Inwood, NY 11696

#### PAINTS—COATINGS—CORROSION CONTROL

American Abrasive Metals, 460 Coit Street, Irvington, NJ 07111  
Ameron, 4700 Ramona Blvd., Monterey Park, CA 91754  
A.W. Chesterton Co., Middlesex Industrial Park, Rt. 93, Stoneham, MA 02180  
Chugoku Marine Paints (U.S.A.) Inc., 1290 Ave. of Americas, New York, NY 10104  
CLEMCO, P.O. Box 7680, San Francisco, CA 94120  
"CONSOL" manufactured by Contact Paint & Chemical Co. Inc., 200 S. Franklinton Rd., Baltimore, MD 21223  
Dampney Company, Inc., 85 Paris St., Everett, MA 02149  
Devoe Marine Coatings Co., P.O. Box 7600, Louisville, KY 40207  
Drew Ameroid Marine, One Drew Commercial Plaza, Boonton, NJ 07005  
E.I. DuPont de Nemours & Co., Inc. Nemours Bldg., Rm. N-2504-2, Wilmington, DE 19898  
Eureka Chemical Company, 234 Lawrence Avenue, So. San Francisco, CA 94080  
Glidden Coatings & Resins, Architectural & Maintenance, 925 Euclid Ave., Cleveland, OH 44115  
Hempel Marine Paints, Inc., Foot of Currie Ave., Wallington, NJ 07057; 2425 Fountainview, Suite 340, Houston, TX 77057; P.O. Box 10265, New Orleans, LA 70181  
International Paint Company, Inc., 2270 Morris Avenue, Union, NJ 07083

Jaegle Paint Co., Inc., 1912 Darby Rd., Havertown, PA 19083  
Jotun Marine Coatings Inc., 840 Key Hwy., Baltimore, MD 21230  
Magnus Maritec International Inc., 150 Roosevelt Pl., P.O. Box 150, Palisades Park, NJ 07650

Norton Chemplast, 309-150 Dey Rd., Wayne, NJ 07470  
Palmer Products Inc., P.O. Box 8, Worcester, PA 19490  
Products Research & Chemical Corp., 5454 San Fernando Rd., Glendale, CA 91203

Selby, Battersby & Company, 5220 Whiby Avenue, Philadelphia, PA 19143  
Sermatech International, 4401 SermeTel Dr., Moss Point, MS 39563

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

Amermarine International, P.O. Box 9205, Dundalk, MD 21222  
Crowford Fitting Company, 29500 Solon Rd., Solon, OH 44139  
Hydro-Craft Inc., 1821 Rochester Industrial Dr., Rochester, MI 48063  
Knights Piping Inc., 5309 Industrial Rd., Pascagoula, MS 39567  
Selkirk Metalbestos, Box 19000, Greensboro, NC 27419  
Tioga Pipe Supply Co. Inc., 2450 Wheatheaf La., P.O. Box 5997, Philadelphia, PA 19137

#### PLASTICS—Marine Applications

Hubeva Marine Plastic, Inc., 390 Hamilton Ave., Brooklyn, NY 11231

#### PROPULSION EQUIPMENT—Bowthrusters, Diesel Engines, Gears, Propellers, Shafts, Turbines

Armco Steel/Advanced Materials Div., 703 Curtis St., Middletown, OH 45043  
Avondale Shipyards, Inc., P.O. Box 52080, New Orleans, LA 70150

Bergen Diesel Inc., 2110-10 Service Rd., Kenner, LA 70062  
Bird-Johnson Company, 110 Norfolk St., Walpole, MA 02081  
Bombardier, 1051 Dickson, Montreal, Quebec, Canada H1N 2H7  
Burmeister & Wain Alpha Diesel AS, DK-1400 Copenhagen K, Denmark  
Capitol Gears, 349 N. Hamline Ave., St. Paul, MN 55104  
Caterpillar Engine Division, 100 N.E. Adams, Peoria, IL 61629  
Cincinnati Gear Co., 5657 Wooster Pike, Cincinnati, OH 45227  
Colt Industries Inc. (Fairbanks Morse Engine Div.), 701 Lawton Avenue, Beloit, WI 53511

Columbian Bronze Corporation, 216 No. Main Street, Freeport, NY 11520  
Combustion Engineering, Inc., Windsor, CT 06095  
Daihatsu Diesel (USA) Inc., 180 Adams Ave., Hauppauge, NY 11788  
Deutz Corp., 7585 Ponce de Leon Circle, Atlanta, GA 30340  
Elliott Company, 1809 Sheridan Ave., Springfield, OH 45505  
General Motors, Electro-Motive Division, LaGrange, IL 60525  
George Engine Company, Inc., Lafayette, LA

Golden Marine Co., Inc., 160 Van Brunt St., Brooklyn, NY 11231  
Isotta Fraschini S.p.A., c/o Italian Aerospace Industries (U.S.A.), Inc., 1235 Jefferson Davis Hwy., Suite 500, Arlington, VA 22202  
KHD Canada Inc., 180 Rue de Normandie, Boucherville, Quebec J4B 5S7, Canada

KaMeWa, P.O. Box 1010, S-68101, Kristinehamn, Sweden  
KaMeWa, 1800 West Loop So., Suite 1620, Houston, TX 77027  
Krupp Mak Diesels, Inc., 4329-33 Di Paolo Center, Glenview, IL 60025  
Lips Propellers, 3617 Koppens Way, Chesapeake, VA 23323  
M.A.N.-B&W Diesel, 2 Ostervej, DK-4960 Holeby, Denmark  
MTU of North America, One E. Putnam Ave., Greenwich, CT 06830; 10450 Corporate Dr., Sugarland, TX 77478; 2945 Railroad Ave., Morgan City, LA 70203; 180 Nickerson St., Seattle, WA 98109; 1730 Lynn St., Arlington, VA 22209

MWM-Murphy Diesel, 12 Greenway Plaza, Suite 1100, Houston, TX 77046  
Mapeco Products, Inc., 20 Vesey St., New York, NY 10007  
Maritime Industries Ltd., 6307 Laurel St., Burnaby, B.C., Canada V5B 3B3  
Michigan Wheel, 1501 Buchanan Ave., S.W., Grand Rapids, MI 49507  
National Marine Service Louisiana, Inc., 222 Bayou Rd., Belle Chasse, LA 70037  
Omnitruster Inc., 9515 Sorensen Ave., Santa Fe Springs, CA 90670  
Penske GM Power, Inc., 600 Parsippany Road, Parsippany, NJ 07054  
Inland Water Propulsion Systems, Inc., 580 Walnut St., Cincinnati, OH 45201

Propulsion Systems, Inc., 21213 76 Ave. So., Kent, WA 98032  
SACM (Societe Alsacienne De Constructions Mechaniques De Mulhouse) 1, Rue De La Fonderie, Boite Postale 1210, 68054 Mulhouse Cedex, France  
Schottel of America, Inc., 8375 N.W. 56 St., Miami, FL 33166  
Karl Senner, Inc., P.O. Box 10055, New Orleans, LA 70181  
Skinner Engine Company, P.O. Box 1149, Erie, PA 16512  
Stewart & Stevenson Services, Inc., P.O. Box 1637, Houston, TX 77251-1637  
Sulzer Brothers, Dept. Diesel Engines, CH-8401 Winterthur, Switzerland  
Tech Development Inc., 6800 Poe Ave., P.O. Box 14557, Dayton, OH 45414  
Transamerica DeLaval Inc., Engine & Compressor Div., 550 85th Ave., Oakland, CA 94621

Transamerica DeLaval, Inc., Turbine & Compressor Div., P.O. Box 8788, Trenton, NJ 08650  
Turbine Specialties, Inc., P.O. Box 207, West State Street Road, Salina, KS 67401  
Turbine Specialties/Gulf Coast, Inc., 1900 Industrial Blvd., Harvey, LA 70058  
Ulstein Trading Ltd. A/S, N-6-65, Ulsteinvik, Norway  
Voith Schneider America, 159 Great Neck Rd., Ste. 200, Great Neck, NY 11021

Volvo Penta of America, P.O. Box 927, Rockleigh, NJ 07647  
WABCO Fluid Power, an American-Standard Company, 1953 Mercer Rd., Lexington, KY 40505  
Wartsila Power Inc., 5132 Tarovella Rd., P.O. Box 868, Marrero, LA 70072  
Waukesha Engine Division, Waukesha, WI 53187

#### PUMPS—Repairs—Drives

Cunningham Marine Hydraulics Co., Inc., 201 Harrison St., Hoboken, NJ 07030; 2030 E. Adams St., Jacksonville, FL 32204, TX: 710-730-5224  
Jim's Pump Repair, 48-55 36th St., Long Island City, NY 11101  
Megator Corporation, 562 Alpha Drive, Pittsburgh, PA 15238  
Sims Pump Valve Co., Inc., 1314 Park Ave., Hoboken, NJ 07030  
Transamerica DeLaval, Pyramid Pump Div., P.O. Box 447, Monroe, NC 28110  
Vita Motivator Company, 200 West 20th St., New York, NY 10011  
Warren Pumps Division, Bridges Avenue, Warren, MA 01083  
Wilden Pump & Engineering Co., 22060 Van Buren St., P.O. Box 845, Colton, CA 92324

#### REFRIGERATION—Refrigerant Valves

Bailey Refrigeration Co., Inc., 74 Sullivan St., Brooklyn, NY 11231

#### ROPE—Manila—Nylon—Hawsers—Fibers

American Mfg. Co., Inc., Willow Avenue, Honesdale, PA 18431  
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Norton Chemplast, 309-150 Dey Rd., Wayne, NJ 07470  
Samson Ocean Systems, Inc., 99 High Street, Boston, MA 02110  
Wall Industries, Inc., P.O. Box 560, Elkin, NC 28621

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Envirovac Inc., 1260 Turret Dr., Rockford, IL 61111  
FAST Sewage Systems, Div. of St. Louis Ship, 611 East Marceau St., St. Louis, MO 63111  
Golar Metal A/S, P.O. Box 70, 4901 Tvedestrand, Norway  
Marine Moisture Control Co., Inc., 60 Inip Dr., Inwood, L.I., NY 11696  
National Sanitation Foundation, P.O. Box 1468, Ann Arbor, MI 48105

#### SCAFFOLDING EQUIPMENT—Work Platforms

McCaushey Lumber Co., 7751 Lyndon, Detroit, MI 48238  
Trus-Joist Corp., P.O. Box 60, Boise, ID 83704

#### SCUTTLES/MANHOLES

Mack Manufacturing Inc., 777 Rutland Rd., Brooklyn, NY 11203

#### SHAFT SEALS, REVOLUTION INDICATOR EQUIPMENT

Bird-Johnson Co., 100 Norfolk St., Walpole, MA 02081  
Norton Chemplast, 309-150 Dey Rd., Wayne, NJ 07470

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

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Pearlson Engineering Co., P.O. Box 8, Kendall Branch, Miami, FL 33156  
Total Transportation System Inc., 813 Forest Dr., Newport News, VA 23606  
Total Transportation Systems (International) A/S, Bjornegarden, P.O. Box 248, N 5201, Os, Norway

#### SHIPBUILDING STEEL

Armco Steel Corp., 703 Curtis St., Middletown, OH 45042  
Bethlehem Steel Corp., Martin Tower, Bethlehem, PA 18018  
United States Steel Corp., Christy Park Plant, 2214 Walnut St., McKeesport, PA 15132  
Welded Beam Company, P.O. Box 280, Perry, OH 44081

#### SHIPBUILDING—Repairs, Maintenance, Drydocking

Advanced Technology, Dept. PZ-01, 7926 Jones Branch Dr., McLean, VA 22102  
Amsterdam Drydock Company, Post Box 3006, 1003 AA, Amsterdam, Holland

Arsenale Triestino-San Marco Shipyard, Trieste, Italy, U.S. Rep: Marine Technologies & Brokerage, 33 Rector St., New York, NY 10066  
Asmar Shipyards Co., Astilleros y Maestranzas de la Armada, Prat 856, Piso 14, Casilla 150-V, Valparaiso, Chile, S.A.

Astilleros Balboa, S.a., c/o Jackson Marine Corp., 17 Battery Place, New York, NY 10004  
Avondale Shipyards, Inc., P.O. Box 52080, New Orleans, LA 70150  
Bath Iron Works Corp., 700 Washington St., Bath, ME 04530

Bay Shipbuilding Corp., 605 North 3rd Ave., Sturgeon Bay, WI 52435  
Bender Shipbuilding & Repair Co., Inc., P.O. Box 42, Mobile, AL 36601  
Bethlehem Steel Corp., Martin Tower, Bethlehem, PA 18018  
Burmeister & Wain Skibsvaerft A/S, P.O. Box 2122, Refshaleoen-1015 Copenhagen K-Denmark  
Burrard Yarrows Corporation, P.O. Box 86099, North Vancouver, B.C., Canada

Cantieri Navali Riuniti, Via Cipro, 11, 16100 Geneva, Italy  
Carrington Slipways Pty. Ltd., Old Punt Rd., Tomago NSW Australia 2322  
Conrad Industries, P.O. Box 790, Morgan City, LA 70380  
Curacao Drydock Company Inc., 26 Broadway, Suite 741, New York, NY 10040

Daewoo International (America) Corp., 437 Madison Ave., New York, NY 10022

Daewoo Shipbuilding & Heavy Machinery Ltd., Ayangri, Changsung-PO Koje Kun, Kyungnam, Korea  
Davie Shipbuilding Ltd., P.O. Box 130, Levis, Quebec, Canada G6V6N7  
Dorbyl Ltd., Military Road, 1 Industrial Sites, West Bank, 5201 East London, Republic of South Africa

Dravo Marine Equipment Company, Neville Island, Pittsburgh, PA 15225  
Dubai Drydocks, P.O. Box 8988, Dubai, United Arab Emirates—U.S.A. Agents: Keppel Marine Agencies, Inc., 26 Broadway, New York, NY 10040, 6240 Richmond Ave., Houston, TX 77057

Eastern Marine, Inc., P.O. Box 1009, Panama City, FL 32401  
FMC Corp., Marine & Rail Equipment Div., 4700 N.W. Front Ave., Portland, OR 97208  
Far East Livingston Shipbuilding Ltd., 31 Shipyard Rd., Jurong Town, Singapore 2262

Genstar Marine, 10 Pemberton Ave., No. Vancouver, B.C., Canada V7P 2R1  
Gladding-Hearn Shipbuilding Corp., 1 Riverside Ave., Somerset, MA 02725  
Golden Marine Co., Inc., 60 Van Brunt St., Brooklyn, NY 11231

HBC Barge, Inc., Grant Building, Pittsburgh, PA 15219  
Halter Marine, Inc., P.O. Box 29266, New Orleans, LA 70189  
Hitachi Zosen Corp., 1-1-1 Hitotsubashi, Chiyoda-ku, Tokyo 100, Japan  
Hong Kong United Dockyards Ltd., P.O. Box 534, Kowloon Central Post Office, Kowloon, Hong Kong

Hyundai Mipo Dockyard Ltd., 456 Cheonha-Dong, Ulsan, Korea  
Jakobson Shipyard Inc., P.O. Box 329, Oyster Bay, NY 11771  
Jeffboat Inc., Jeffersonville, Ind. 47130  
Keppel Shipyard Limited, 325 Telok Blangah Road, P.O. Box 2169, Singapore 0409

Koch Ellis Barge & Ship Service, P.O. Box 9130, Westwego, LA 70094  
Paul Lindenau GmbH & Co., Schiffswerft u. Maschinenfabrik, D-2300 Kiel Friedrichsort, West Germany  
Lockheed Shipbuilding and Construction Co., 2929 16th Avenue, S.W., Seattle, WA 98134

M.A.N. GHH Sterkrade, P.O.B. 110240, D-4200 Oberhausen 11, West Germany  
Main Iron Works, Inc., P.O. Box 1918, Houma, LA 70361  
Marinette Maine Corporation, Marinette, WI 54143

Mitsubishi Heavy Industries, Ltd., 5-1, Marunochi 2-chome, Chiyoda-ku, Tokyo, 100 Japan  
MonArk Boat Co., P.O. Box 210, Monticello, AR 71655  
Moran Shipping Agencies, 602 Sawyer, Suite 200, Houston, TX 77077

Moss Point Marine Inc., P.O. Box 1310, Escatawpa, MS 39552  
Nashville Bridge Company, P.O. Box 239, Nashville, TN 37202  
National Marine Service (Shipyard Division), P.O. Box 38, Hartford, IL 62048

National Steel & Shipbuilding Corp., San Diego, CA 92112  
Nautilus Surveys Inc., 10822 Sageleaf Lane, Houston, TX 77089  
Neorion Shipyards Syros Ltd., Syros, Greece—U.S.A. Agents: Keppel Marine Agencies Inc., 26 Broadway, New York, NY 10004, 6420 Richmond Ave., Houston, TX 77057

Newport News Shipbuilding, 4101 Washington Ave., Newport News, VA 23607  
North Florida Shipyards, P.O. Box 3863, Jacksonville, FL 32206  
Pennsylvania Shipbuilding, P.O. Box 442, Chester, PA 19016

Promet (PTE) Ltd., 27 Pandam Rd., Jurong Industrial Estate, Singapore 22  
Promet Marine Services Corp., 242 Allens Ave., Providence, RI 02905  
Rauma-Repola, 26100 Rauma 10, Finland  
Samsung Shipbuilding & Heavy Industries Co., Ltd., Samsung Main Bldg. 250, 2Ka, Taepyeong-ro, Chung-ku, Seoul, Korea

St. Louis Ship, 611 East Marceau St., St. Louis, MO 63111  
Savannah Shipyard Co., P.O. Box 787, Savannah, GA 31402  
Southwest Marine, Inc., P.O. Box 13308, San Diego, CA 92113  
Tampa Shipyards Inc., P.O. Box 1277, Tampa, FL 33601

Thomas Marine, 37 Bransford St., Patchogue, NY 11772  
Todd Shipyards Corp., 1 State St. Plaza, New York, NY 10004  
Tracor Marine, P.O. Box 13107, Port Everglades, FL 33316  
Vanguard Services, P.O. Drawer A, New Johnsonville, TN 37134

Verolme Estaleiros Reunidos Do Brasil S.A., Rua Buenos Aires, 68, Rio de Janeiro—RJ—Brazil  
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Metal Goods Manufacturing Company, 309 W. Hensley Blvd., Bartlesville, OK 74003

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

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

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

Marine Moisture Control Co., 60 Inip Dr., Inwood, NY 11696

Pittsburgh Brass Manufacturing, Sandy Hill Rd., R.D. 6 Box 387-A, Irwin, PA 15642

Stockham Valves & Fittings, box 10326, Birmingham, AL 35202

Tate Temco, Inc. 1941 Lansdowne Road, Baltimore, MD 21227

Union Flonetics, P.O. Box 459, Clinton, PA 15026

Robert H. Wager Co., Inc., Passaic Avenue, Chatham, NH 07928

Waukesha Bearings Corp., 405 Commerce St., P.O. Box 798, Waukesha, WI 53186

S.S. White Industrial Products, 151 Old New Brunswick Rd., Piscataway, NJ 08854

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McElroy Machine & Mfg. Co., Inc., P.O. Box 4454, W. Biloxi, MS 39531

Schoellhorn Albrecht, Div. of St. Louis Ship, 3460 So. Broadway, St. Louis, MO 63118

Stanspec Corp., 13600 Diese Ave., Cleveland, OH 44110

**WINDOWS**

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

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Seacoast Electric Supply Corp., 225 Passaic St., Passaic, NJ 07055

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

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Atlantis Services, Inc., 1057 Kings Ave., Jacksonville, FL 32207

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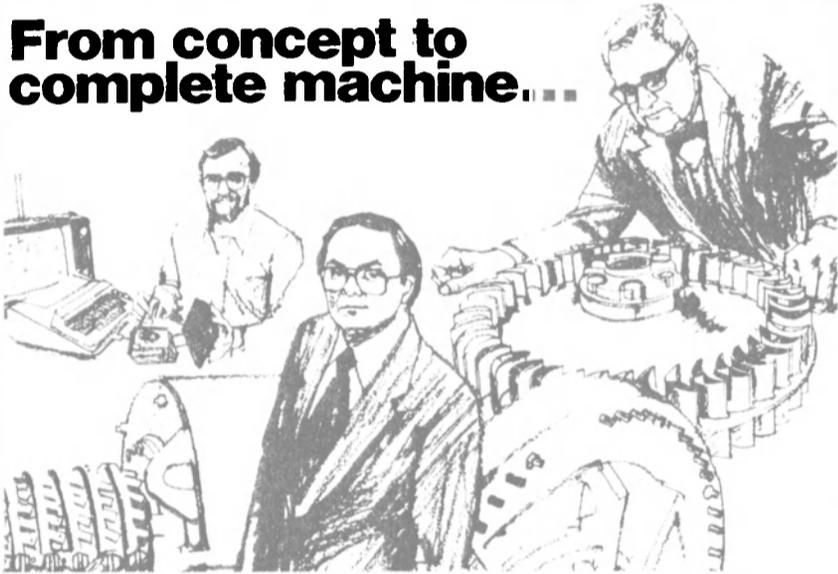
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# GASTECH 84

The 10th International LNG/LPG Conference & Exhibition  
RAI Congress & Exhibition Centre Amsterdam November 6-9, 1984

## CONFERENCE PROGRAMME

### Session 1 WORLD GAS SUPPLIES

*Chairman:* G.H.B. Verberg, Director-General for Energy, Ministry of Economic Affairs, The Hague

**Natural gas supplies in the world energy market**  
A. Groten, President, NV Nederlandse Gasunie, Groningen, The Netherlands

**World gas reserves and availability**  
J.T. Jensen, Jensen Associates Inc., Boston, Mass., USA

**The West European gas bargaining gamble**  
Ø. Noreng, Institute of Energy Policy, Bekkestua, Norway

**Availability and utilisation of natural gas in India**  
A.C. Kapadia and R. Nangia, Oil Industry Development Board, New Delhi, India

**Pricing for LNG**  
G.D. Carameros, Jr., International Gas Development Corporation (IGDC), Houston, Texas, USA

**Offshore gas utilisation in Norway, Argentina and Malaysia**  
W. Prewé, Deutsche Anlagen Leasing Service GmbH, Hamburg, Germany and F.W. Heierhoff, Wirtschaftsvereinigung Industrielle Meerestechnik e.V., Düsseldorf, Germany

**Gastech Welcome Party for all delegates and exhibitors**

### Session 2 LPG PRODUCTION AND TRADE

*Chairman:* To be announced  
*Moderator:* MD Tusiani, Poten & Partners Inc., New York, USA

As at previous Gastech meetings, the all-day LPG Session will bring together the world's leading LPG producers, marketers and traders. Fuller details will be published nearer the date of the meeting.

### Session 3 SAFETY AND TRAINING

*Chairman:* DR Tucker, Consultant, Merseyside, UK

**Legislation - is there a further need?**  
Speaker to be announced, Lloyd's Register of Shipping, London

**A review of the developments in LNG storage safety as reflected by risk assessment**  
D.A. Jones, Health & Safety Executive, London

**The filling limitations of cargo tanks - a review of the IMO Gas Carrier Code requirements**  
M. Bockenbauer, Germanischer Lloyd, Hamburg, Germany

**On-board operations and safety training for LGT personnel**  
G.B. Angus, College of Technical Studies, Warsash, Southampton, UK

**Safety in the design of gas terminals**  
A. Valk, Comprimis BV, Amsterdam and R. Sylvester-Evans, Cremer & Warner Ltd., London

**Operation and maintenance safety audit for an existing liquefied natural gas export facility**  
S.E. Dale and P.A. Croce, Arthur D. Little Inc., Cambridge, Mass., USA

**An independent hazard and operability audit during the design and construction of a major natural gas liquids facility**  
I.G. Sellers and C.F. Luck, Arthur D. Little Ltd., London

**Rapid assessment of the consequences arising from LPG release**  
M. Considine and G.C. Crint, UKAEA, Safety & Reliability Directorate, Culcheth, Warrington, UK

**Cocktail/Buffer Reception for all registered Delegates and Spouses. Sponsored by Poten & Partners, New York and London**

### Session 4 TRANSPORTATION, TECHNOLOGY & OPERATIONS

*Chairmen:* R.J. Lakey, Robert J. Lakey & Associates Inc., Houston, Texas, USA and R.C. Fooks, Consultant, London

**Report on the year's activities of the Society of International Gas Tanker & Terminal Operators**  
M.P. Holdsworth, SIGTTO, Bermuda

**The interdependence of plant, port, shipping and customers' facilities in an LNG scheme**  
D.B. Jenkin, Shell International Gas Ltd., & P. Singleton, Shell International Petroleum Co. Ltd., London

**Gas transportation from Northern Norway: a presentation of possible options**  
J. Bakke, Moss Rosenberg Verft A.S., Stavanger and R.F. Schrader & G.A. Amundsen, Kvaerner Engineering A.S., Lysaker, Norway

**SPB LNG Carrier (fatigue strength, quality control and recent design development)**  
T. Fujitani, Ishitawajima Harimi H.I., Tokyo, Japan

**A 30 000m<sup>3</sup> semi-pressurised ethylene carrier**  
H. Backhaus and R. Olschager, LGA Gastechnik GmbH, Remagen-Rolandseck, Germany

**Optimisation of LPG carrier design and its influence on long-term operating costs**  
V. Fuklayec, Liquid Gas Ingenieurgesellschaft mbH, Bonn, Germany

**The prediction of sloshing pressure in prismatic tanks of LNG carriers**  
T. Tanaka, et al, Nippon Kokan KK, Tsu Research Laboratory, Tsu Mie, Japan

**Trends in NGL recovery from natural and associated gases**  
R.I.J. Chen and D.G. Elliott, Davy McKee International, Inc., Houston, Texas, USA and C. Collins, Davy McKee (London) Ltd., London

**Fuel cost optimisation in LNG transport**  
J. Buret and J. Tessier, Chantiers du Nord et de la Méditerranée and M. Godin and J.L. Cottin, Chantiers de l'Atlantique, France

**Cryogenic performance of the new generation of LNG carriers**  
P. Jean, Gaz-Transport, Paris

**Refrigerated LPG loading/unloading system using a CALM buoy**  
J.M. Chauvin & J.M. Simon, Entreprise d'Equipments Mécaniques et Hydrauliques, Saint-Cloud, France and E. Bonjour, Compagnie Française des Pétroles - TOTAL, Paris

**LPG carriers at Nord Méditerranée - experience and new trends**  
J. Buret, Y. Hervé and J. Tessier, Chantiers du Nord et de la Méditerranée, France

**Structural integrity monitoring of LNG tankers**  
J.L. Armand, IRCN, Paris

**On the structural details of gas tankers**  
P.J. Latreille, Bureau Veritas, Paris

### Session 5 COMMERCIAL DOCUMENTATION & CONTRACTS

*Chairman:* J.M. Soesan, Consultant, Coventry, UK

**LPG spot price assessment - bulk market NWE & Mediterranean**  
K. Potter, Consultant, West Horsley, Surrey, UK

**LNG contracts in a period of energy surplus**  
G.B. Greenwald, Arent, Fox, Kintner, Plotkin & Kahn, Washington DC, USA

**A general outline of shipping and trading documents needed for the international LPG market**  
H. Vallery-Masson, Nattomar Shipping & Trading Co., Paris

**The broker's growing role and function in a changing energy market**  
F. Baudu, Petromar-Barry Roghiano Salles, Paris

### Session 6 LIQUEFIED GAS TERMINALS AND STORAGE

*Chairman (morning session):* A. Pastuhov, AVPC Corporation, Newbury Port, Mass., USA

**Dynamic load attenuation for double-wall tanks**  
R.E. Hills, Pittsburgh-Des-Moines, Neville Island, PA, USA

**A new method of protective insulation for the outer reservoir of a double-walled cryogenic storage tank**  
R. Krause, G. + H. Montage GmbH, Ludwigshafen am Rhein, Germany

**Experimental dynamic compaction of Perlite insulation**  
T. Kaups, CBI Industries Inc., Oak Brook, Ill., USA

**A large LNG self-supporting tank; ultrasonic control of the joint between the 9% nickel steel wall and the bottom**  
J.P. Capdevielle and A. Goy, Gaz de France, Paris

**An experimental study on the behaviour of the outer concrete wall of a double-wall LNG storage facility under extreme thermal loads**  
S.R. Speidel, Bilfinger + Berger Bau., Mannheim, Germany

**Planning and building of the Antwerp Gas Terminal**  
M.S. McKinney, UER International Ltd., London and J. Oerlemans, Transol Holding B.V., Ridderkerk, Netherlands

**Design and construction of the Port Botany, Australia LPG/Butane import terminal**  
C.M. Howell, PDM-John Perry Pty Ltd., South Perth, Australia

*Chairman (afternoon session):* W. Brumshagen, LGA Gastechnik GmbH, Remagen-Rolandseck, Germany

**Design of an in-ground storage tank for refrigerated propane**  
Y. Sugawara, Tokyo Gas Company, Tokyo, Japan

**Internal pressure equalising system to reduce boil-off**  
T.J. Marchaj, Preload Technology Inc., Garden City, New York, USA

**A concrete storage barge - results of a large-scale offshore model test**  
E. Fluggen, LGA Gastechnik GmbH, Remagen-Rolandseck, and M. Nussbaumer, Ed. Zublin AG, Stuttgart, W. Germany

**Calibrating accurate level gauges in partly filled LNG/LPG tanks. The transfer calibrator**  
R.L. Blanchard, Foxboro Trans-Sonics Inc., Burlington, MA, USA

**Verification of plastic foam insulation reliability**  
M. Huther, M. Zehri and P. Anslot, Bureau Veritas, Paris

**Vapour recovery from liquid hydrocarbon storage tanks**  
C.A. Durr, M.W. Kellogg Inc., Houston, Texas, USA

**A new concept for large concrete LPG storage tanks**  
Speakers to be announced, Compagnie Française des Pétroles - TOTAL, Paris and Technigaz, Maurepas, France

### Session 7 GASES AS TRANSPORTATION FUELS

*Chairman:* T.J. Joyce, T. Joyce Associates, Fairfax, VA, USA

**European automotive LPG - prospects for growth**  
W.C.F. Arnold, UER International Ltd., London

**LPG as a transportation fuel and how it will affect LPG demand in the United States through the 1980's**  
S.A. Vogel, Synergy Gas Corporation, Farmingdale, NY, USA

**Portability: the key to new gas markets**  
H.I. Mellin, Future Fuels, Inc., Detroit, Mich., USA

**Canadian prospects for natural gas-fuelled vehicles**  
J.S. Heenan, Transportation Energy Division, Ministry of Mines, Energy and Resources, Ottawa, Canada

**The marketing of natural gas as an alternative automotive fuel in New Zealand**  
A. Veart, Auckland Gas Co., Ltd., Auckland, New Zealand

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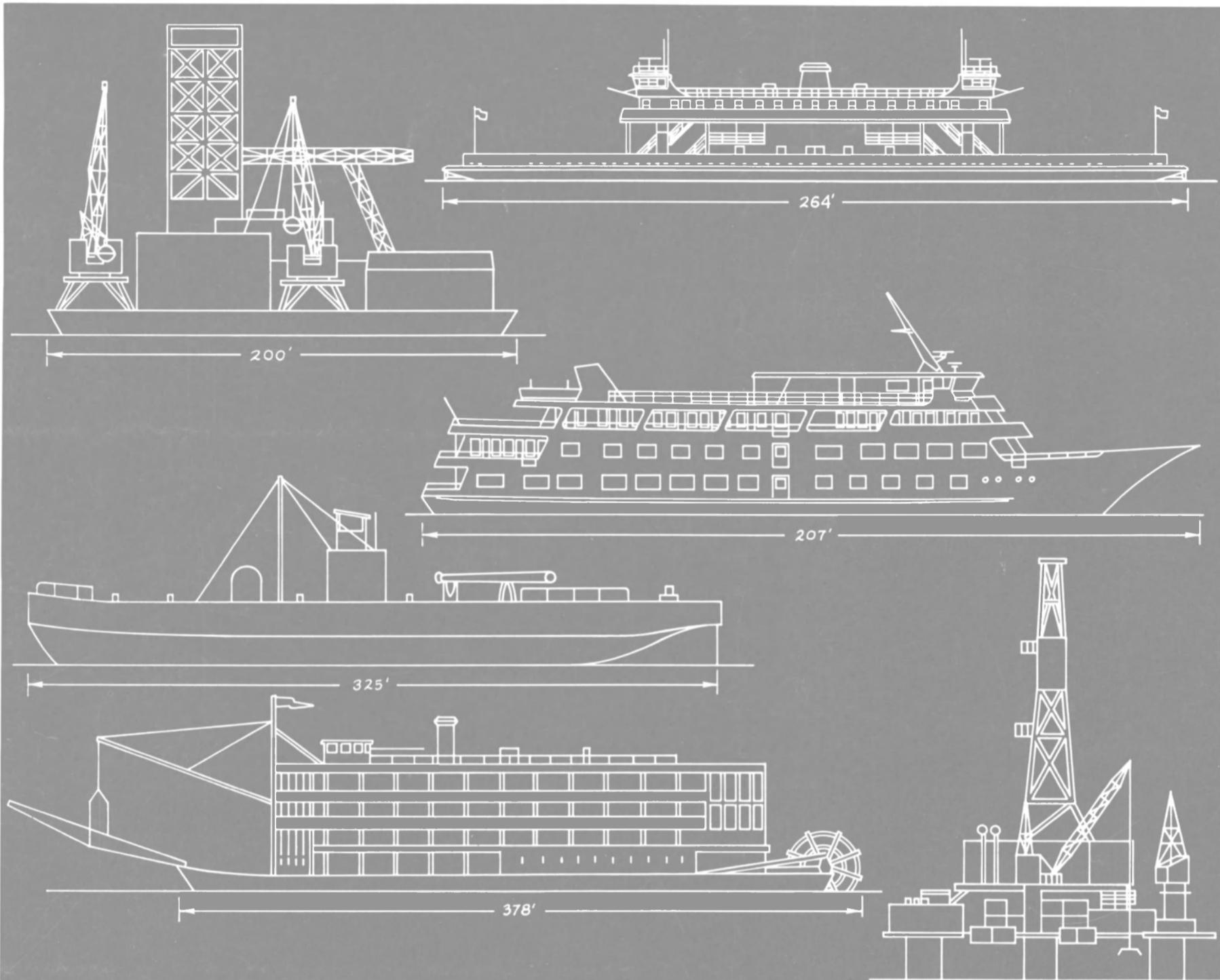
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