

# MARITIME REPORTER

AND  
ENGINEERING NEWS



Special Report  
**92nd SNAME ANNUAL  
AND SNAME MARITIME EXPOSITION**  
DECEMBER 15, 1984 ISSUE

# The hottest name in pipe connecting technology just turned off the heat.

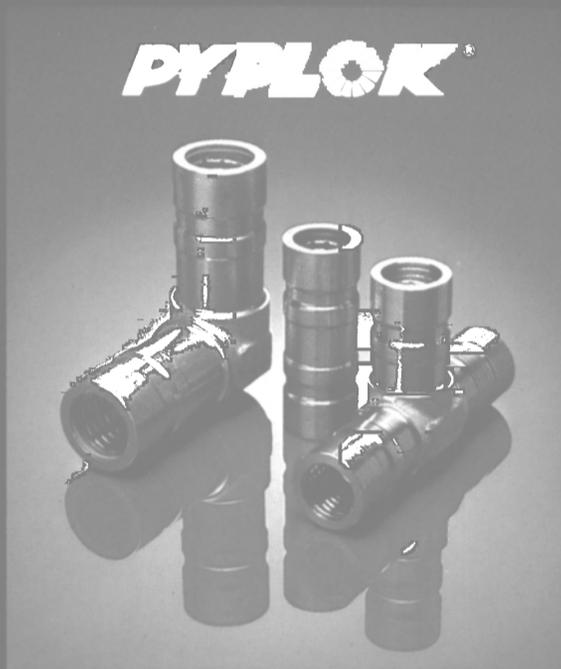
**No Welding. No Brazing. No Hot Work.** Deutsch Metal Components Division has just brought on-board pipe connecting technology up to speed, and down in cost. When it comes to the pipe joining process that performs under pressure, under time and under budget, you can't overestimate the advantages of PYPLOK.

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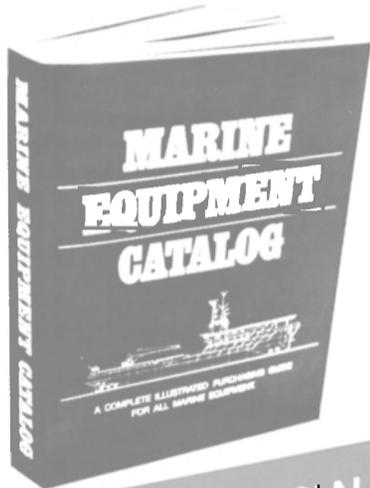
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# ON THE COVER

—Special Report—

## 92nd S.N.A.M.E. Annual Meeting/Third International Maritime Exposition

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### \$8.3-Million Contract Awarded Todd Pacific

Todd Pacific Shipyards, Los Angeles Division, San Pedro, Calif., is being awarded an \$8,314,444 firm-fixed-price contract for the dry-docking and underwater hull repair of USS Barbour County (LST-1195). Work will be performed in Los Angeles, Calif., and is expected to be completed April 30, 1985. Contract funds would not have expired at the end of the current fiscal year. Thirteen bids were solicited and four offers were received. The Supervisor of Shipbuilding, Conversion and Repair, San Diego, is the contracting activity.

### \$4.2 Million Modification Awarded GE For Naval Nuclear Propulsion R&D

General Electric Company, Knolls Atomic Power Laboratory, Schenectady, N.Y., is being awarded a \$4,192,288 cost-plus-fixed-fee modification to a previously awarded contract for naval nuclear propulsion research and development. Contract funds would not have expired at the end of the fiscal year. The Naval Sea Systems Command, Washington, D.C., is the contracting activity.

### Potosnak Announces Formation Of Advanced C.P. Systems Corporation

Charles S. Potosnak has announced the formation of Advanced C.P. Systems Corporation in West Caldwell, N.J., to provide engineering services as well as complete cathodic protection systems. He has more than 25 years of experience in this field, and has supervised major projects in the U.S., Europe, South America, and the Far East. A certified corrosion specialist, he has been a member of the National Association of Corrosion Engineers for 20 years.

## MARITIME REPORTER and Engineering News

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## Eastern Marine Awarded \$3 Million To Build Crane Barge For Army

Eastern Marine, Inc. of Panama City, Fla., recently won a \$3,027,562 contract to build a 270-foot crane barge for the U.S. Army Corps of Engineers, Rock Island District, Illinois.

The barge will be used to conduct major structural maintenance repair on 669 miles of the Upper Mississippi River. A Manitowoc crane on the 68-foot-wide vessel will be capable on lifting 315 tons. The barge will be suitable for year-round operation in ice-strewn waters in both working conditions and in towing situations.

Electric-powered spuds, towing winches, and capstans will be supplied by a 275-kw generator driven by a Detroit Diesel 8V92T engine. The crane barge will be constructed to American Bureau of Shipping classification.

## Webb Elects Officers To Governing Board— Bryan Named President

Webb Institute of Naval Architecture in Glen Cove, N.Y., the oldest four-year naval architecture undergraduate institution in the U.S. developed solely to the education of future naval architects and marine engineers, has announced the election of the following officers of the Institute's governing board:

Chairman—**C. Larry French Jr.**, chairman of the board and CEO of National Steel and Shipbuilding Company; vice chairman—**William N. Johnston**, president and chairman of the board, American Bureau of Shipping; vice chairman—**Charles G. Visconti**, president and chairman of the board, International Cargo Gear Bureau, Inc.; secretary—**Dr. James J. Coti**, vice president, Polytechnic Institute of New York; treasurer—**Ran Hettena**, president, Maritime Overseas Corporation; president—**Vice Adm. C. Russell Bryan**.

The board and elected officers reaffirmed the Institute's commitment to "making the best even better" and to continue Webb's mission of providing high-quality education, with a strong professional orientation, to prepare young men and women for rewarding careers in the maritime and associated industries.

## Sperry Awarded \$7-Million Contract

Sperry Corporation, Great Neck, N.Y., is being awarded a \$7,039,000 fixed-price man-day contract for contractor engineering services for FY-85 logistics technical assistance. Work will be performed in Great Neck, N.Y. and is expected to be completed September 30, 1985. Contract funds would not have expired at the end of the current fiscal year. The Naval Sea Systems Command, Washington, D.C., is the contracting activity.

## Brown Brothers Appoint New Marketing Director

**William Reid**, formerly manufacturing director of Brown Brothers and Company Limited, Edinburgh, has been appointed sales and marketing director of Brown Brothers

and Company Ltd. as an apprentice turner in 1958 and has subsequently held senior positions in the technical, sales, production engineering and works departments. In January 1983 he was appointed manufacturing director, responsible for the overall management of the company's manufacturing facility.

ers, responsible for marketing offshore and marine equipment worldwide. Brown Brothers and Company Limited is part of the Marine Engineering Division of Vickers P.L.C. and is a leading manufacturer of motion control equipment for the marine environment.

Mr. Reid joined Brown Brothers

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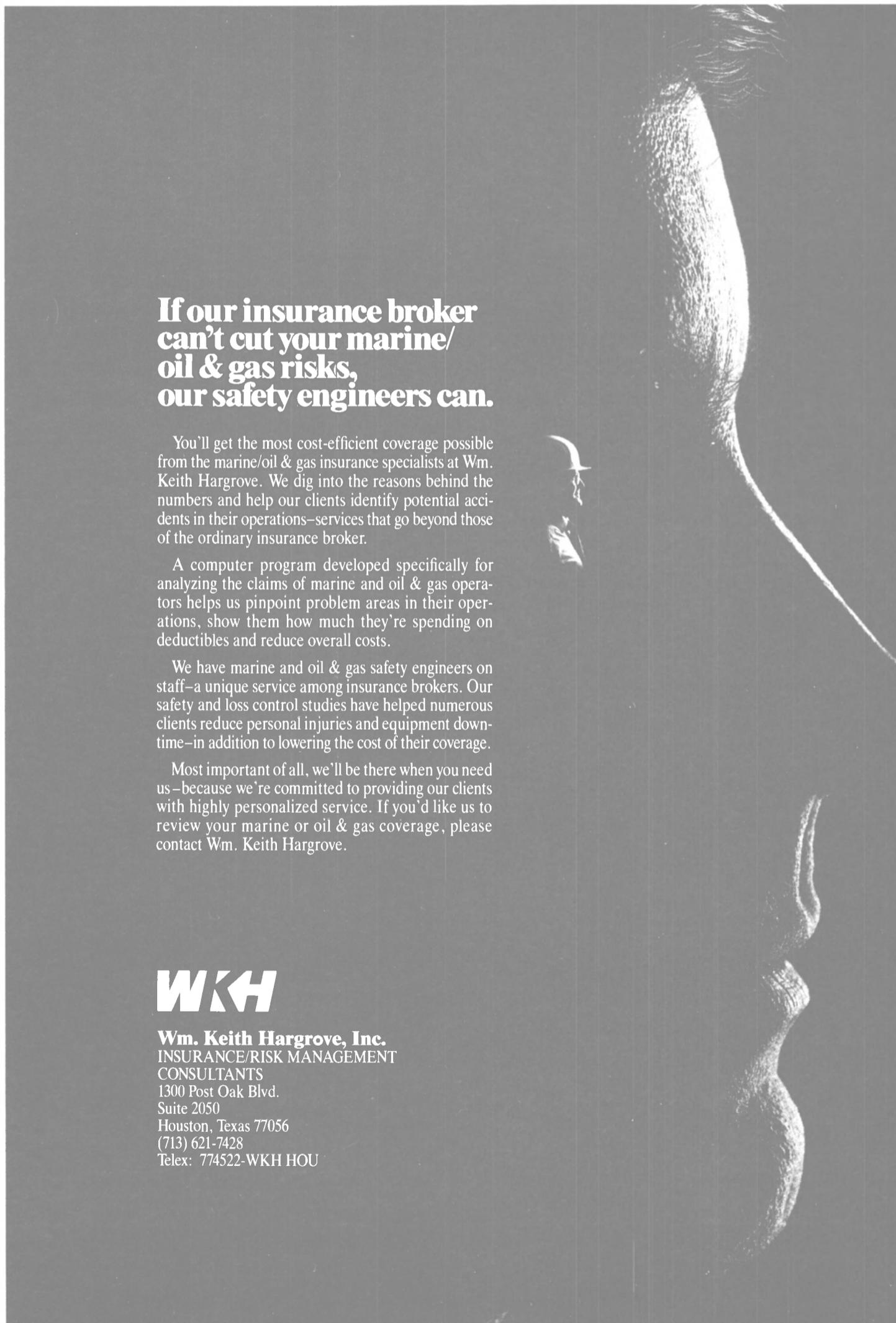
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December 15, 1984

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Shown aboard USCG Aids to Navigation barge are (L to R): **John F. Schermond Jr.**, Bay Shipbuilding; **LT William G. Davidson**, USCG; **LCDR Phillip J. Stager**, USCG; **Mrs. Stager**, sponsor; **CAPT Fred A. Kelley**, USCG; **Brian Armstrong**, Ninth CG District Technical assistant; and **John E. Roby**, Bay Ship.

## Bay Ship Converts NavAids Barge For U.S. Coast Guard

Bay Shipbuilding Corporation in Sturgeon Bay, Wis., a subsidiary of The Manitowoc Company, recently converted a 150-foot jackup barge to an aids to navigation barge for the U.S. Coast Guard. The barge will be teamed with the USCG vessel Bristol Bay, a 140-foot icebreaking tug, to form the first Ninth Coast Guard District Aids to Navigation tug/barge unit on the Great Lakes.

The NavAids tug/barge unit is part of a Ninth Coast Guard District two-year experimental project, the goal of which is to determine the feasibility of servicing buoys with such a unit. The tug/barge concept offers the potential for significant savings in maintaining the aids to navigation system on the Great Lakes.

In a ceremony to commemorate the completion of this unique project, **Mrs. John F. Schermond Jr.** broke a bottle of Door County wine across the bow of the barge. She is the wife of **John F. Schermond Jr.**, the Bay Ship contracts manager in charge of the project.

Also attending the ceremony were the following Ninth Coast Guard District and Bay Shipbuilding representatives: **LT William G. Davidson**, commanding officer of Bristol Bay and the Aids to Navigation barge; **LCDR Phillip J. Stager**,

chief, Naval Engineering Branch, Ninth District; **CAPT Fred A. Kelley**, chief, Aids to Navigation Branch, Ninth District; **Brian Armstrong**, technical assistant, Naval Engineering Branch, Ninth District; **John E. Roby** of Bay Ship's Estimating Department.

Bay Ship handled all facets of the conversion. Modifications to the barge included removal of the six jackup spuds and conversions of spud wells to ballast and fuel tanks. The sides of the barge were strengthened to handle buoys, and the bow was strengthened for operations in the ice.

A Schottel bow thruster capable of being operated from either the barge or the tug was installed to aid maneuverability. Machinery spaces were built underdeck to house the electrical and hydraulic equipment used to power the vessel's five deck winches, anchor system, and buoy-handling equipment. A 10-ton Alaskan Marine hydraulic crane was installed. This crane, designed especially to work aids to navigation, has 70-foot extendable boom and a three-ton auxiliary hoist.

The Bristol Bay/barge unit will service aids to navigation on Lake St. Clair and the St. Clair and Detroit Rivers.



USCGC Bristol Bay (left) and Aids to Navigation barge leaving Bay Shipbuilding.

## Huthnance Corporation Formed To Consolidate Rig Ownership

Huthnance Corporation, Houston, Texas, the newly formed parent company of Huthnance Drilling Company, announced it has completed the acquisition of all limited partner interests in three of its limited partnerships and the stock of an affiliated company. With this consolidation of rig ownership, Huthnance Corporation's nine rig offshore fleet is comprised of six rigs which are 100 percent owned by the Corporation and three rigs which continue to be owned by limited partnerships. First City National Bank of Houston leads a group of banks which has provided \$47 million of long-term financing as the privately held corporation moved from asset-based loans to general corporate financing. The transaction marks a significant point in the nine-year corporation life of Huthnance Drilling Company and is designed to better position the company to capitalize on the current offshore drilling recovery.

## Rebuilt Turbochargers Offered By Caterpillar —Literature Available

Off-the-shelf availability and low exchange price are key benefits of the Caterpillar Tractor Company's factory-remanufactured turbochargers. Now available for 3208, 3306, 3406, and 3408 engines, these turbochargers offer minimum downtime at prices as low as 25 percent of the new turbocharger price.

Cat's remanufactured turbochargers incorporate the latest design advances for longer life, better performance, and improved fuel economy. The company backs its remanufactured turbochargers with the same national warranty as new turbochargers—six months, unlimited mileage/hours—honored by more than 2,500 engine parts and service locations in North America (some 3,500 worldwide).

For additional information and free literature on the remanufactured turbochargers or the warranty,

Circle 14 on Reader Service Card

## Brochure On Halon 1301 Fire Extinguishing Systems Offered By Walter Kidde

Walter Kidde, Division of Kidde, Inc., Wake Forest, N.C., has published a 12-page brochure on Halon 1301 fire extinguishing systems.

On opening the brochure, one reads: "Who Said 'Water is Cheap'? Try it on Computer Room Fires!" It is then explained that Halon 1301 is a safe gaseous extinguishing agent that diffuses into the surrounding atmosphere without leaving a residue, and that most materials (steel,

stainless steel, aluminum, brass and other metals as well as plastics, rubber and electronic components) are unaffected by 1301. Halon 1301 extinguishes a fire by chemically "interrupting" the combustion process and this "clean" quality is particularly important in protecting expensive electronic, electrical, processing equipment and high value materials.

Classified as the "least toxic" (Group 6) by Underwriters Laboratories, 1301 provides great personnel safety. Colorless and odorless, 1301 allows personnel to see and breathe, permitting them to leave the fire area safely. The "low toxicity" classification provides additional safety by permitting fire protection crews to enter the fire area immediately, if necessary.

The publication emphasizes that Kidde's capability in the fire protection field extends over a wide spectrum—from detection systems and components to portable extinguishers and engineered fire protection systems using the most effective agent to solve a particular protection problem. The five basic components in Kidde engineered Halon 1301 fire protection systems are discussed (detectors, controls, cylinders, piping and nozzles), and the principles on which the systems work are thoroughly explained with photographs and diagrams generously supplied to illustrate the text.

For further information and a free copy of the brochure on Kidde Halon 1301 systems,

Circle 25 on Reader Service Card

## Annual Conference Of CSSRA Scheduled For February 18-19, 1985

The Canadian Shipbuilding and Ship Repairing Association has announced that plans are complete for the 37th Annual Technical Conference to be held at the Queen Elizabeth Hotel in Montreal on Monday and Tuesday, February 18-19, 1985.

The meetings will begin Monday with all-day closed sessions for members only. This year's open sessions, starting Tuesday morning, will be simultaneous meetings, with speakers in two separate halls. One room will be for general topics and the other for specialized topics. Each speaker will present a paper of between 15 and 20 minutes, followed by a general discussion and question and answer period.

This Annual Technical Conference, always held in Montreal, is by far the biggest and best-known CSSRA event, and is widely attended by members of the marine fraternity. The Annual Banquet will be held at 7:30 pm on February 19 in the Grand Salon.

For further information contact: **Mrs. Joy Macpherson**, secretary/treasurer, CSSRA, (613) 232-7127, telex 053-4848 CSSRA OTT.



## Lindenau Yard Delivers Seismic Research Vessel To Western Geophysical

After a rebuilding period of only three months, the Lindenau Shipyard in Kiel, West Germany, recently delivered the seismic research vessel Western Challenger (shown above), the latest addition to the seismic fleet of Western Geophysical Company, a Litton subsidiary.

With an overall length of almost 319 feet, the rebuilt ship is one of the largest of its type in the world, and is fitted with state-of-the-art geophysical equipment including an LRS-16, 480-channel, full digital recording system and telemetry streamer cable. The Challenger will be operated by Western's Europe/Africa/Middle East Division headquartered in London.

Initial testing and trials were done in the North Sea, though the ship is classed for worldwide operation. With a cruising speed of 16 knots, the costly travel time be-

tween survey areas will be reduced significantly.

Main propulsion is provided by two Deutz 8 M 358 diesel engines, each with an output of 2,500 bhp at 325 bhp. These drive an Escher-Wyss propeller unit and two shaft generators.

The ship is equipped with Western's high-pressure (4,500-psi) air guns, but with the capability of shooting much larger arrays due to a doubling of the total on-board air compressor capability.

Main rebuilding work included: extension and part renewal of existing accommodations for 60 persons; installation of the seismic equipment; fitting out of a compressor room including installation of five electric-driven, 4,500-psi compressors; installation of a new electric-driven bow thruster; and integration of a helicopter deck atop the new aft deckhouse.

## NMEA Plans to Expand Electronics Technician Certification Program

The National Marine Electronics Association (NMEA) recently announced plans to upgrade and expand its Certified Marine Electronics Technician (CMET) program, which provides minimum qualifications for proficiency in installing and repairing marine electronics equipment.

According to NMEA president **Gerald A. Gutman**, the CMET program is expected to assume greater importance as the Federal Communications Commission (FCC) de-emphasizes its licensing activities. "Formerly, one could measure a technician's competence by the class of FCC license he held," said Mr. **Gutman**. "But the FCC is moving out of the licensing business, and this will leave a void in our industry."

An important goal of the CMET program is to give marine electronics dealers and manufacturers an identifiable pool of skilled technicians, while also giving the technicians themselves demonstrable evi-

dence of their competence in their field. The maritime industry at large is also expected to benefit from the establishment of standardized qualifications, stated Mr. **Gutman**.

The NMEA has established three levels of certification: Certified (CMET), Advanced (ACMET) and Senior Grade (SGMET). The program is open to all technicians in the marine electronics industry, regardless of whether they are members of the NMEA. Since the inception of the program in 1981, more than 100 technicians have received NMEA certification.

The NMEA is a trade association of marine electronics manufacturers, distributors and retailers, dedicated to enhancing professionalism in all segments of the industry. The NMEA sponsors programs aimed at improving product excellence, building technical competence among its members, encouraging good business management and fair business practices, overseeing government policy-making and educating the user public.

For further details and CMET application forms,

Circle 12 on Reader Service Card

## Hose-McCann Introduces Dial Telephone System —Literature Available

After two years of technological and marketing research, Hose-McCann Telephone Company of Englewood, N.J., has developed a completely new automatic dial telephone system. The modular, solid-state system has been developed exclusively for the maritime industries.

The company's primary objective was to build a marine communications system with the highest degree of reliability, flexibility, and optimum performance. Known as the Series 9000, this system is said to have many features never before available in marine telephone exchanges. Most features are included as standard equipment; some optional features are available for special requirements.

According to Hose-McCann vice president of marketing **Dean Uva**, the Series 9000 will provide marine

personnel with a sophisticated system equal to the finest land-based telephone system.

For further information and a new brochure on the Series 9000,

Circle 48 on Reader Service Card

## New Multi-Voltage Lights From Perko —Literature Available

Perko, Inc. of Miami, Fla. has added two new multi-voltage all-around lights to its line of navigation lights.

Both lights feature a double contact Bayonet socket for 12, 24, 32 or 120 volts. They are designed for power driven vessels and meet the U.S. Coast Guard requirements under 72 Colregs for use on vessels under 50 meters (164 feet).

For literature containing full information,

Circle 47 on Reader Service Card

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## USCG License Preparation Quicker And Easier With Computer-Aided System

Preparing for a Coast Guard license is now quicker, easier and less expensive because of a newly introduced computer aided teaching system according to **T. Brantley Houston Jr.**, president of Houston Marine Training Services

Mr. Houston said the new COM-PU-PREP system combines the best of traditional classroom instruction aided by unlimited use of state-of-the-art computers, reinforced with a self-paced programmed home study EXAM-PREP KIT.

When a student enrolls he attends a series of lectures followed by study and testing on the computer. An instructor is available while the student utilizes the computer. A concise series of manuals and reference books is included for study outside the classroom. After successfully testing on the computer, the student is tested by the Coast Guard and

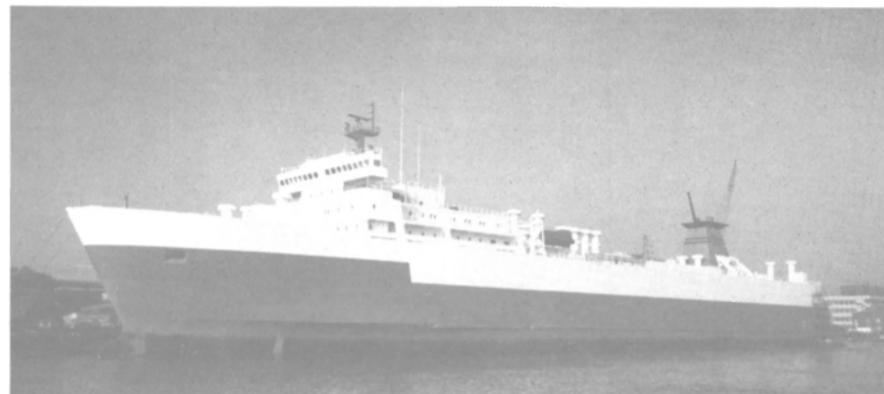
usually receives his license on the first attempt.

The COMPU-PREP courses are taught at the school's suburban New Orleans facility in Kenner, La., and Larose, La., close to the offshore oil service and fishing industries.

For further information on COM-PU-PREP courses,  
Circle 60 on Reader Service Card

## \$9.9-Million Contract To General Ship For USS Connole Overhaul

General Ship Corporation, East Boston, Ma., is being awarded a \$9,946,414 firm-fixed-price contract for the regular overhaul of USS Connole (FF-1056). Work will be performed in East Boston, Ma., and is expected to be completed in May 1985. Contract funds would not have expired at the end of the current fiscal year. This contract is a reprocurement of a contract recently terminated. The Naval Sea Systems Command, Washington, D.C., is the contracting activity.



Train/car carrier Railship II is powered by twin MaK 10,728-bhp diesel engines.

## Seebeckwerft Delivers World's Largest Railway/Car Ferry

Seebeckwerft AG in Bremerhaven, Germany, formerly the AG 'Weser' yard, recently delivered the Railship II, said to be the largest train/car ferry in the world. The new vessel is now in service between Travemunde, on the Baltic Coast of West Germany, and Hango in Finland.

Railship II was designed and developed taking into consideration all the design factors and the successful operational experience of Railship I, which was built by Rickmerswerft in 1975 and lengthened by Seebeckwerft in 1979. The new vessel has a usable rail length of about 6,185 feet, and is designed for the carriage of railway cars on three decks with five tracks each, and for trailers in the same lines as the railway cars. The aft section of the elongated forecastle deck is used for the carriage of cars.

Access to the ship's cargo area is via a stern ramp that leads to the lower deck. From this deck access to the middle and upper railcar/trailer decks is accomplished by a double-level elevator.

Main propulsion is by two MaK 8M601 diesel engines, each with a maximum continuous rating of 10,728 bhp at 425 rpm, suitable for

burning heavy fuel. These drive two Lips controllable-pitch propellers via two reduction gears with horizontal offset shafts, reducing the shaft speed to 230 rpm and each with a power takeoff for an AEG shaft generator of 1,000 kw output at 1,800 rpm.

Electrical requirements are further supplied by two generator sets comprising MaK 6M332 diesels driving two AEG generators, each with an output of 952 kw. There is also an AEG emergency generator driven by a Volvo-Penta diesel engine.

Railship II has an overall length of about 612 feet, beam to permanent fender of 72.2 feet, depth to forecastle deck of 62.2 feet, and design draft of 19 feet. She is built to Germanischer Lloyd Class GL +100A 4E4 +MC E4 AUT for unmanned engine room operation. All necessary controls and alarms for machinery, pumps, valves, etc. are housed in an air conditioned control room.

Other engine room equipment includes an oil-fired boiler, a sewage system suitable for 45 persons, a fresh water generator, and an anti-heeling system.

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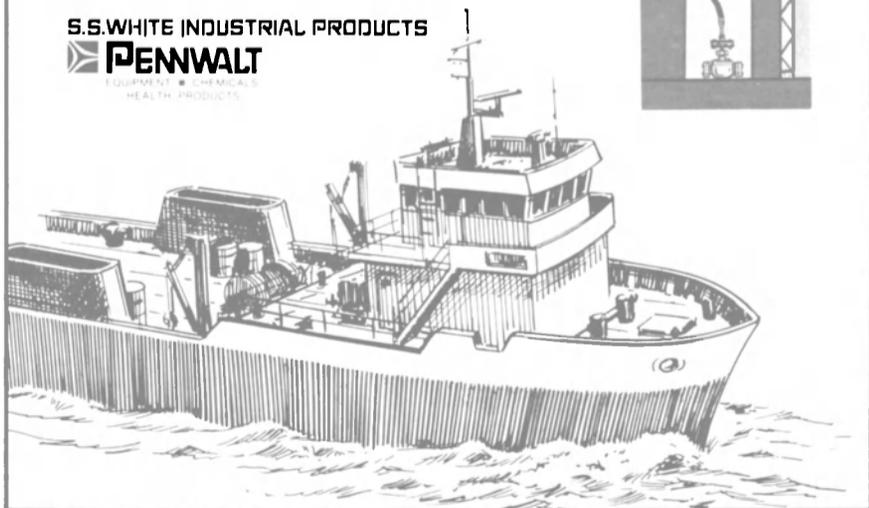
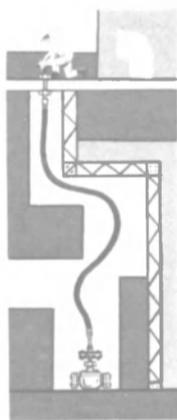
S. S. WHITE Industrial Heavy Duty Flexible Reach Rods are available in standard lengths from 3 to 36 feet and in three sizes to fit valves from 3/4" to 16" in diameter. Other lengths are available on request.

For flexible "heavy duty" reach rods see your local authorized S. S. WHITE distributor. Or contact S. S. WHITE Industrial Products, 151 Old New Brunswick Road, Piscataway, NJ 08854. or call 201-752-8300. TELEX: 833-477; FAX: 201-752-8315.

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Circle 225 on Reader Service Card

## Magnavox Announces First Fully Automatic Vessel Monitoring System

The International Maritime Satellite Organization (INMARSAT) has granted to Magnavox Advanced Products and Systems Company of Torrance, Calif., type approval for the first fully automatic system for remotely monitoring data gathered on board a vessel. The system is offered as an option to the Magnavox Models MX 211 and MS 211A Satcom terminals, and permits automatic storage and programmed transmission of data to a designated shoreside telex terminal.

Any data source on the vessel may be used with the new system. Typical data sources include the ship's satellite navigator, engine or hull performance monitoring equip-

ment, meteorological sensors, cargo monitoring equipment, and scientific instruments. The data is transmitted from the vessel either fully automatically at pre-programmed times of day, or manually on request by either the vessel or shore telex operator. Programming of the time schedule can be accomplished both onboard the vessel and remotely from the shoreside telex location.

Magnavox expects this new vessel monitoring system to make a significant contribution to the efficiency of fleet management techniques by providing shipowners with more current and accurate data on the vessel's status on a very cost-effective basis. This same system will greatly facilitate the collection of meteorological and other scientific data at sea.

The VMS-A automatic vessel monitoring system option for the Magnavox MX 211 and MX 211A

Satcom terminals is priced at \$2,500.

For further information on the monitoring system option and a free technical paper describing it,

Circle 46 on Reader Service Card

### Magliocca Elected New General Chairman Of NSC Marine Section

**Thomas C. Magliocca**, marine manager of Atlantic Cement Company of Ravenna, N.Y., has been elected to a one-year term as general chairman of the Marine Section of the National Safety Council. A veteran of more than 30 years in the maritime industry, he succeeds **Richard L. Fox** as head of the Section, which coordinates and helps promote worker safety in the broad range of marine industry activity throughout the U.S. Mr. Fox will now serve as chairman of the Advisory Committee.

Mr. Magliocca has been with Atlantic Cement since 1963 and presently is responsible for total operations of the marine department. A 1953 graduate of the State University of New York Maritime College at Fort Schuyler, he had prior service with American Export Lines, General Electric, and Bethlehem Steel's shipyard in Quincy, Mass.

Other top officers of the Marine Section are **Anthony Accardo** of Schlumberger Offshore Services, New Orleans, as vice chairman; Capt. **John V. Caffrey**, USCG (Ret.) of Mobile Oil Corporation, New York, as assistant vice chairman; and Capt. **Hugh M. Stephens** of Ships' Operational Safety, Inc., Port Washington, N.Y., as secretary.

### O&K Shipyard Awarded Contract To Construct Hopper Suction Dredge

The German contractor Hochtief AG of Essen has placed an order with O&K Orenstein & Koppel AG in Lubeck for a 2,400-cubic-meter hopper suction dredge. This contract will contribute to continuing employment for the shipbuilding industry in the north of the Federal Republic of Germany, and at the same time it gives the O&K yard follow-up business that will utilize a substantial portion of its capacity until the middle of 1985.

The powerful twin-screw dredge will have an overall length of 270.34 feet, molded beam of 52.5 feet, and depth to main deck of 16.9 feet. Two diesel engines will provide a total output of 6,977 bhp and a full-load speed of 12 knots.

The vessel is being built according to the rules of Germanischer Lloyd for Class +100 A4 Dredger = MC AUT. Delivery has been scheduled for August 1985.

Circle 262 on Reader Service Card →

### BFGoodrich Offers New Brochure On Cutless Line Of Rubber Bearings

The complete line of Cutless® brand rubber bearings is the subject of a new two-color, four-page brochure from BFGoodrich of Akron, Ohio. Featuring an exclusive water wedge design and broad application flexibility, Cutless rubber bearings are a product of years of research

and development by BFGoodrich and Lucian Q. Moffitt, Inc.

The bearings' water wedge design provides maximum lubrication for both bearing and shaft. Tough but resilient, rubber bearings are resistant to oil, grease, and most chemical solutions, and have a very low coefficient of friction when wet. Ideal for marine and industrial applications, they are said to last many times longer than hard-surfaced bearings.

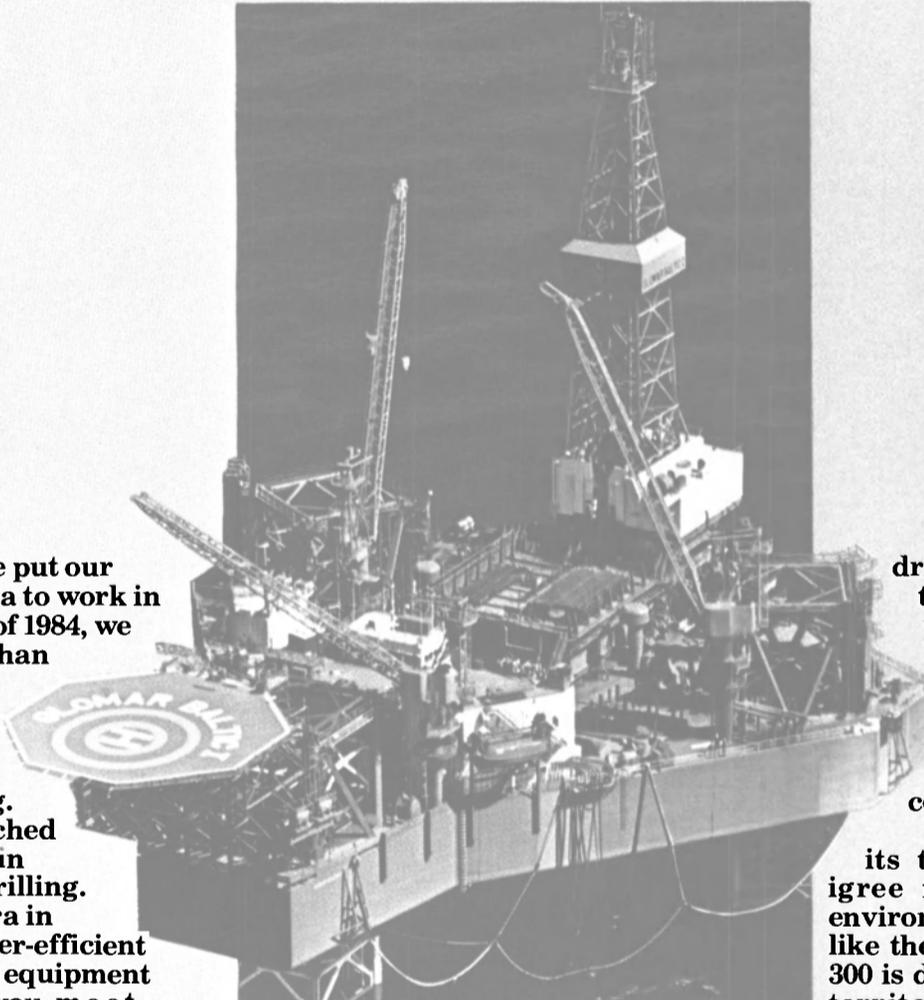
Particularly helpful in this new

brochure are details of Cutless brand bearings designs. Bearings are available with either metal or non-metallic shells. Those with metal backing come in either a full-molded style of solid or split design, or in a segmented style. Also available is information on BFGoodrich's recently patented FE (fiberglass epoxy) bearing.

For a free copy of Brochure LQM 101,

Circle 54 on Reader Service Card

## The Super 300



When we put our first Gorilla to work in February of 1984, we did more than launch the world's largest jackup drilling rig. We launched a new era in offshore drilling. It's an era in which super-efficient Marathon equipment will help you meet today's special environmental challenges. With rigs like our new Super 300.

We've designed the Super 300 specifically for the harsh environment. Where conditions demand special endurance from a rig... but where larger, costlier equipment is just too much iron for the job.

And we've incorporated unique operating features that make drilling more efficient than ever. Features like our unique Slotilever® that allows

drilling in slot or cantilever mode. This permits a 40-well pattern from an area of 24 by 70 feet. And continued drilling even under survival conditions.

The Super 300 gets its technological pedigree from our hostile-environment Gorilla. And, like the Gorilla, the Super 300 is designed to work its territory expertly, thoroughly, and cost-efficiently. And work it like a son-of-a-gun.

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## Training Success With U.S. Rig Simulator Featured At Conference

Nearly 200 persons have successfully completed training on an offshore rig ballast control simulator, similar in function to those used to train airplane pilots.

Details of the program were reported by **Gregory D. Szczurek**, vice president, Houston Marine Consultants, Inc., New Orleans, at the recent North Sea Technology Transfer Conference at the Technical University of Nova Scotia.

Mr. **Szczurek** said the simulator, designed by Houston Marine and W.S. Atkins, is a full scale mockup of a ballast control panel

aboard a semi-submersible drilling unit that reflects changes in ballast, loads and sea conditions in the same way a drilling rig would respond at sea.

The U.S. Coast Guard approved course consists of two days of classroom instruction in stability principles and calculations, which are then followed by three days of "hands on" training with the simu-

lator.

The stability and ballast control courses are taught by Houston Marine at the Det Norske Veritas Technology Center in Houston but are independent of the regulatory agency.

The simulator can be used to train/or upgrade the skills of control room operators, barge engineers, barge movers, masters and tool-pushers.



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waypoints you can call by name, submersion-proof case, backspace key to correct input errors, and optional portability. When you get your hands on this new ML-7500, you'll feel you made the right decision. See your nearest Micrologic dealer for a demonstration.

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## Borum Wins Kings Point Outstanding Professional Achievement Award



John Borum

**John F. Borum**, vice president of the American Bureau of Shipping, has received the Outstanding Professional Achievement Award from the U.S. Merchant Marine Academy at Kings Point, N.Y. He is a 1944 graduate of the Academy.

This prestigious award is presented to graduates who have distinguished themselves in business or professional life to lend honor to their profession and the Merchant Marine Academy. At the award ceremonies held at the Academy recently, it was noted that Mr. Borum had achieved his license as chief engineer within 20 months of graduation. He sailed as chief for four years before coming ashore as port engineer with Seatrain Lines.

He joined ABS in 1958 and spent 15 years in the Far East before moving to Genoa, Italy, as principal surveyor for the Mediterranean Area. He returned to Bureau headquarters in New York in 1978, and has become vice president, Operations Division.

## Norfolk Shipbuilding Awarded Contract For USS Portland Overhaul

Norfolk Shipbuilding and Drydock Corporation, Norfolk, Va., is being awarded an \$8,694,726 firm-fixed-price contract for the overhaul of USS Portland (LSD-37). Work will be performed in Norfolk, Va. and is expected to be completed August 15, 1985. Contract funds would not have expired at the end of the current fiscal year. Six bids were solicited and two proposals were received. The Supervisor of Shipbuilding, Conversion and Repair, Portsmouth, Va., is the contracting activity.

Maritime Reporter/Engineering News



The ferry Governor Hunt is propelled by twin Caterpillar 3412 DITA engines.

## Offshore Shipbuilding Delivers Passenger/Vehicle Ferry

The M/V Governor James Baxter Hunt Jr. was delivered recently to the North Carolina Department of Transportation. The 129-foot 6-inch ferry was built by Offshore Shipbuilding, Inc. of Palatka, Fla. The vessel was designed for river and sound service by the North Carolina Ferry Division. Detailed design was performed by Bold Craft Engineering and Offshore Shipbuilding, Inc. The vessel was built to United States Coast Guard Subchapter "T" requirements for small passenger vessels, as well as structural fire and damaged stability requirements.

The Governor Hunt is propelled by twin Caterpillar 3412 DITA engines driving propellers thru Twin Disc MG 520 gears and 4½-inch Aquamet 18 shafts. WABCO controls, IPS engine order telegraph and a SSI Monitoring system

are also installed. Electrical power is supplied by Caterpillar model 3304T diesels driving Kato 90-kw generators through a switchboard supplied by IPS. A Perkins model 4-336 coupled to a Lima SER emergency generator and a CO<sub>2</sub> firefighting system are installed to handle emergency situations. Electronics include two Raytheon 3500 radars, a Raytheon F360D depth sounder and a Raytheon VHF.

In addition to offshore supply vessels and tugs, Offshore Shipbuilding Inc. has delivered passenger vessels of various types and sizes. The yard is currently rebuilding a 3,000-hp tug.

For free literature on Offshore Shipbuilding's facilities and capabilities,

Circle 40 on Reader Service Card

## Exxon Research Offers To License Computerized Machine Analysis System

Exxon Research and Engineering Company of Florham Park, N.J., is offering under licensing arrangements a new, improved analysis system for determining changes in the mechanical performance of compressors, turbines, and other rotating machinery. The new system utilizes the latest analysis equipment, and employs user-friendly computer programs with expanded diagnostic capability. The licensing package includes computer programs and associated user's manual, a diagnostic manual, and training on how to use the equipment and to analyze the results.

Known as Machinery Signature Analysis (MSA), the technology enables users to monitor and analyze the vibration of turbomachinery to detect and diagnose problems before they become severe. This system helps plant operators avoid unnecessary shutdown, reduces maintenance costs, and improves turn-

around planning, resulting in increased production and optimum machinery operation.

The MSA system uses signals from conventional vibration sensors that are mounted on the equipment. The vibration signals are tape-recorded, conditioned through a Fast Fourier Transform Analyzer to separate key vibratory components, and then fed into a mini-computer for data storage and processing.

The heart of the MSA system is the software that manipulates the raw data, identifies trends and changes in the characteristic vibration pattern of the machinery, and presents the information for condition analysis and problem diagnosis via easy-to-use, computer-generated graphics and tabulations.

All machinery process and vibratory data are stored in the computer's database. New vibratory data are automatically compared with previous data and a summary and analysis is given. The computer flags those machines that have changed since the last analysis.

For further information on the MSA system,

Circle 49 on Reader Service Card

## Corry Elected Director At Rice, Unruh Agents —Mathiasen Joins Firm

Henry F. Corry has been elected to the board of directors of Rice, Unruh Company, steamship agents and operators, according to an announcement by Lawrence Giglio, president. In addition to his new role, Mr. Corry will continue in his position as senior vice president of

the firm.

Mr. Giglio also announced that Math Mathiasen, formerly with J.E. O'Connor & Sons, has joined Rice, Unruh at its corporate office in Philadelphia, and will serve in an administrative position. Both Mr. Corry and Mr. Mathiasen have extensive backgrounds in transportation.

Rice, Unruh also has branch offices in Baltimore, Boston, Norfolk, and Providence, R.I.

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\*Pro-rated replacement charge based upon current cell selling price and time remaining in 5-year warranty period.

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## Liner 'Royal Princess' Coated Throughout By International Paint

International Paint Marine Coatings, through its Finnish licensee Teksno-Maalit Oy, was selected to supply all coatings for both the interior and exterior of one of the largest cruise liners ever built—the 45,000-gross-ton Royal Princess,

built in Finland by Oy Wartsila AB for P&O Cruises Limited.

In all, 130,000 liters of several different paint types were applied, almost half of this being used for internal decorative purposes. Above water, the hull and superstructure are coated with a chlorinated rubber system, as are the small areas of deck that are not planked.

However, it is below the waterline

that the technical sophistication is greatest. The vessel has a three-coat vinyl tar anticorrosive scheme followed by two 125 micron coats of International Paint's second generation self-polishing copolymer antifouling, Intersmooth HiSOL 200 series.

Following completion of the outer hull paint application, a full hull roughness survey was carried out and the average hull roughness

(AHR) was measured as 94 microns. Considering that reasonable new-building practice might be expected to provide a ship with an AHR of around 125 microns, it can be seen that the Royal Princess has started life with a very smooth underwater hull.

The intact paint will become even smoother during service and the fouling control provided by Intersmooth HiSOL will ensure that she performs very efficiently during her first two-year in-service period.

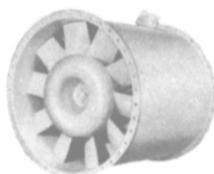
Hull maintenance at her first dry-docking will be minimal. Following high-pressure freshwater hosing, she will simply be "topped-up" with the required Intersmooth HiSOL recoat specification to restore the HiSOL system to the original thickness and equip her for another two-year in-service period. The Royal Princess has started life smoothly where smoothness matters most, on the underwater hull.

For free literature on International Paint's full line of hull coatings,

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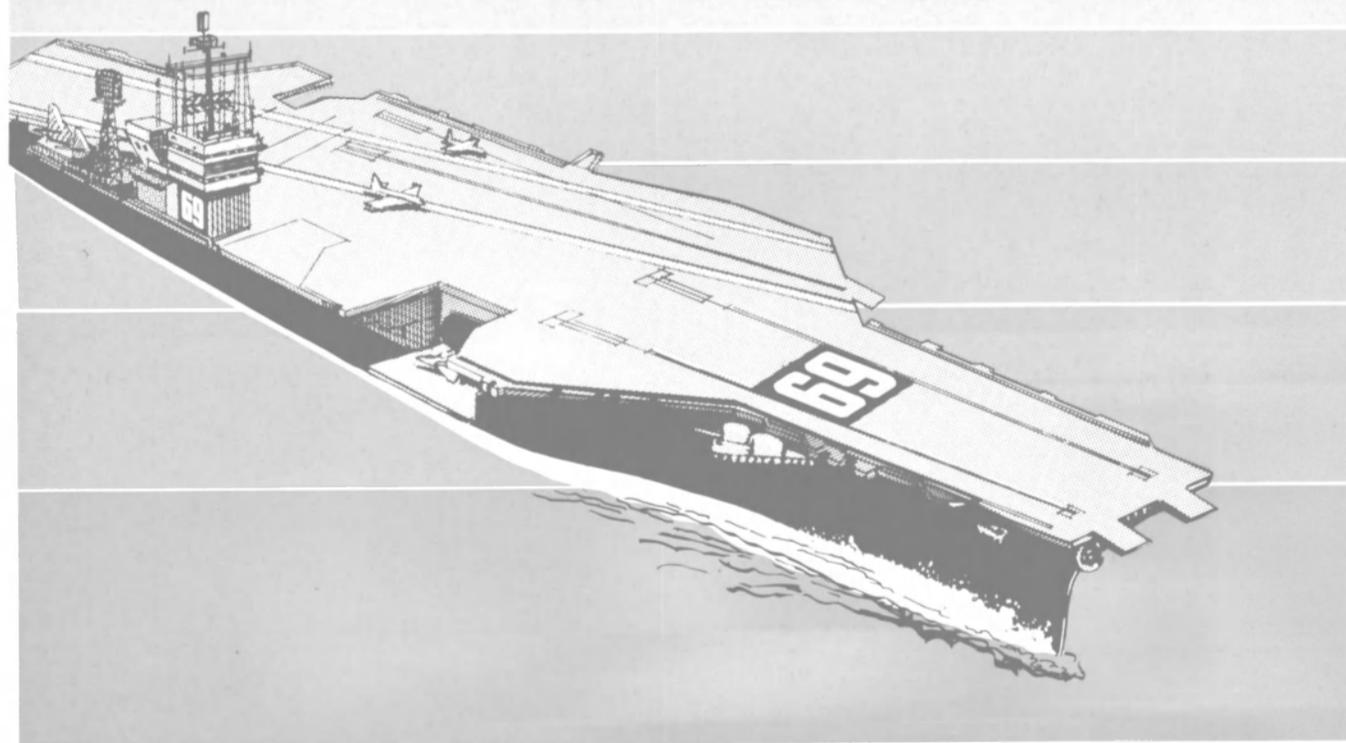


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Standard JOY fans have full approval of the U.S. Navy and U.S. Maritime Administration. Whether you need a standard or custom designed fan for navy or maritime applications contact Joy Manufacturing Company, Air Moving Products, New Philadelphia, Ohio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



Circle 34 on Reader Service Card

### Techplan Awarded \$5.9-Million Contract

Techplan Corporation, Maple Shade, N.J., is being awarded a \$5,906,377 cost-plus-fixed-fee contract for technical, engineering and management services to implement the Ship Alteration Management Information System (SAMIS) modernization and to maintain SAMIS data during transition. Work will be performed in Arlington, Va., and is expected to be completed September 30, 1987. One hundred and nine bids were solicited and two offers were received. This contract is subject to the availability of funds for FY-85. The Naval Sea Systems Command, Washington, D.C., is the contracting activity.

### A.L. Don Awarded \$214,000 Government Contract

It was recently announced that the U.S. Government has awarded the A.L. Don Company a \$214,000 contract.

The contract for debarcation ladders, was commissioned by Navy Ships Parts Control according to A.L. Don president, **Peter Gronbeck**.

"We're delighted by this order," Mr. Gronbeck said. "The government has asked us to deliver a total of 168 ladders of various sizes to a number of locations. We will fulfill that order well in advance of the short six-month period stipulated by Navy Ships Parts Control."

A.L. Don Co., a division of Steelstran Industries is located in Mattawan, N.J. and has a West Coast office in Berkeley, Calif.



Attendance at the keel laying of the Navy T-AO 187 ceremony are from left to right: Front Row: **D. Stein**, MSC; **D.W. Kelley**, PMS 383; **G.C. Hoffman**, PMS 383; Capt. **P.D. Hurst**, SSNO; **A. Nierenberg**, ASI; **R.P. Meric Jr.**, ASI; **J. Cutts**, SSNO. Back Row: **J. Wilkins**, ASI; **J. Griffin Jr.**, PMS 383; **R. Bloom**, SSNO/MSC; **V.C. Cox**, ASI; **R.S. Miller**, ASI; **P.P. Stone**, ASI; **L.C. Beall III**, SSNO/MSC.

## Avondale Shipyards Holds Keel-Laying Ceremonies For First Of Four Navy Fleet Oilers

Keel-laying ceremonies were held recently for the Henry J. Kaiser (T-AO 187), the first of four fleet oilers currently under construction for the U.S. Navy at Avondale Shipyards in New Orleans. The keel-laying occurred almost six weeks ahead of schedule and consisted of six structural units totally outfitted, final painting, welded in place and weighing over 700 tons.

The mission of the T-AO 187 Class Fleet Oilers is to transport bulk petroleum products from shore depots to combatants and support forces underway and to deliver limited fleet freight, cargo water, mail and personnel. The vessels of this class will have a cargo oil capacity of 180,000 barrels in 18 cargo oil tanks and will be capable of simultaneously receiving, storing and discharging two separate grades of cargo fuel (JP-5 and DFM). All cargo pump and valve operations and the ship's segregated ballast system are to be controlled from the cargo control center which is located in the after superstructure with an overview of

the entire underway replenishment (UNREP) deck. The T-AO 187 class vessels are capable of vertical replenishment (VERTREP) from a helicopter facility behind the aft superstructure.

The oilers will be 667 feet 6 inches in length, 97 feet 6 inches in beam and will have a 36-foot maximum draft. They will be powered by twin, medium-speed Pielstick diesel engines and will be capable of a service speed of 20 knots.

The Henry J. Kaiser is scheduled for delivery in September 1986 with her three sister ships following at four month intervals. The ahead-of-schedule keel-laying and its extent are attributable to the use at Avondale Shipyards of state-of-the-art zone outfitting construction techniques. Keel-laying at Avondale signals the start of the erection of completely outfitted units whose fabrication was begun many months earlier.

Avondale Shipyards, Inc. is a wholly owned subsidiary of the Ogden Corporation.

### Marine Applications Book Available From Sandusky

An eight-page booklet published by Sandusky Foundry & Machine Co. of Sandusky, Ohio, is devoted to applications of Sandusky centrifugal castings to the shipbuilding industry.

The booklet, written for marine designers, illustrates Sandusky centrifugal castings used for propulsion shaft sleeves, stern tubes and bushings, rudder stock sleeves and bushings, hawse pipes, and even dredge spuds and spud sleeves. Mention is made also of the use of Sandusky cylinders for naval vessels for snorkel tubes, radar masts, torpedo ejection cylinders, and steering and diving gear hydraulic cylinders.

A table in the book lists typical compositions of a wide variety of metals for marine usage. Included

are specifications and compositions for such metals as copper-base alloys, copper-nickel alloys, nickel-base alloys, carbon and alloy steels, and high alloy steels.

In addition to being illustrated with photos of a wide variety of castings, the booklet strikes an interesting historical note with the reproduction of a 1925 advertisement pointing up that by then Sandusky was the major supplier of centrifugally cast shaft sleeves and bushings to American shipbuilders, and containing photos of the *Leviathan* (the largest passenger ship then afloat), supplied in 1925, and the U.S. Navy's battleship *Maryland* and the cruiser *Richmond*, supplied in 1920 and 1921, respectively.

For a free copy of the booklet on Sandusky centrifugal castings for marine applications,

Circle 21 on Reader Service Card

### Robins Named Managing Director-Business Operations At Rolls-Royce

Sir **William Duncan**, chairman and chief executive of Rolls-Royce Limited, has announced changes in the top management of the company.

**Ralph Robins**, formerly director-civil engines, has been appointed managing director-business operations. He will be responsible for the company's marine and industrial activities, both the Civil and Military Engine Groups, repair and overhaul activities, and the Corporate Engineering Group. In this role he will direct the operation of the major business sectors to meet their financial, commercial, and technological goals.

As chairman and CE, Sir **William** will retain responsibility for major issues and relations with the British Government, key customers, and financial institutions. He also retains responsibility for major issues and relations with the British

Government, key customers, and financial institutions. He also retains responsibility for overall business strategy, major investment decisions, and personnel.

**Jim Keir**, formerly operations director of the Civil Engine Group, has succeeded Mr. **Robins** as director-civil engines and also joins the board of directors.

### Electric Boat Awarded \$4.6-Million Contract

General Dynamics Corporation, Electric Boat Division, Groton, Conn., is being awarded a \$4,623,288 cost-plus-fixed-fee contract for providing research and development engineering on submarine machinery systems and components to augment their operating depth capability. Work will be performed in Groton, Conn., and is expected to be completed in December 1987. Contract funds would not have expired at the end of the current fiscal year. The Naval Sea Systems Command, Washington, D.C. is the contracting activity.



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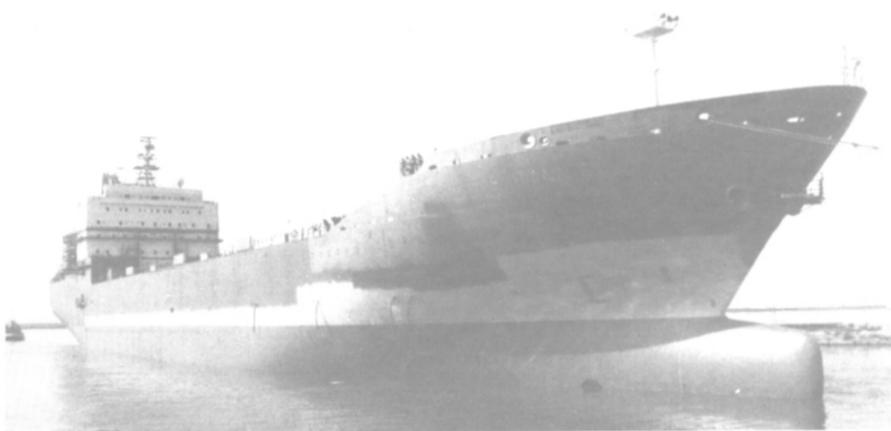
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## Containership 'Merzario Britannia' Launched At Fincantieri Yard

The RO/RO-containership Merzario Britannia (shown above) was launched recently at the Genova-Sestri Shipyard of Fincantieri-Cantieri Navali Italiani S.p.A. The 1,300 TEU, single-screw vessel is the second of two sister ships ordered by Merzario S.p.A.-Milan.

The ship has an overall length of 632 feet, molded beam of 87 feet, and design draft of 23 feet. Main propulsion is provided by a two-

stroke 6RLB Sulzer diesel having a maximum continuous rating of 11,860 bhp at 135 rpm, direct-connected to the shaft to drive a controllable-pitch propeller. At 80 percent of mcr and design draft, service speed will be 16 knots.

The ship is being constructed under special survey of Lloyd's Registry of Shipping and Registro Italiano Navale.

## N.F. Pergola Appointed Manager-Marine Personnel At Energy Transportation

Joseph J. Cuneo, president of Energy Transportation Corporation (ETC) of New York City, has announced the appointment of Nicola F. Pergola as manager-marine personnel. His responsibilities will include the manning of licensed and unlicensed crews for the company's fleet, and negotiation of labor contracts for the seagoing personnel.

Mr. Pergola began his career at sea with American Export Lines, and the past 11 years of his 35 years in the maritime industry have been

with ETC, most recently as manager-guarantee claims. He was responsible for early design approval and operation, concentrating primarily on technical aspects.

He received his BS degree in marine engineering from the U.S. Merchant Marine Academy in 1949, and his MS degree in mechanical engineering from Columbia University in 1960. He is active in the New York Metropolitan Section of SNAME and is a past chairman. He is also a member of the Institute of Marine Engineers, Society of Marine Port Engineers, American Society of Naval Engineers, and American Society of Mechanical Engineers.

## Atlantic Dry Dock Wins \$5.8-Million For USCGC Overhaul

Atlantic Dry Dock Corporation, Fort George Island, Fla., is being awarded a \$5,809,073 firm-fixed-price contract for the regular overhaul of two Coast Guard cutters USCGC Lipan (WMEC-85) and USCGC Ute (WMEC-76). Work will be performed at Ft. George Island, Fla. and is expected to be completed in July 1985. Contract funds would have expired at the end of the fiscal year. Seven bids were solicited and seven bids were received. The Supervisor of Shipbuilding, Conversion and Repair, Charleston, S.C. is the contracting activity.

## Murray Named Executive Director Of St. John Port Development Commission

Ralph B. Murray has been appointed executive director of the Saint John Port Development Commission in New Brunswick, Canada, succeeding Murray McCavour, who has retired. The appointment was announced by Commission chairman Hugh McLellan.

Mr. Murray has spent 34 years in the marine industry in Saint John and, more recently, in Montreal. Before returning to Saint John he was with Manchester Liner Services (Canada) Inc. He joined Furness Withy and Company Ltd. in 1950.

Noting the \$200 million spent in port development over the past decade, Mr. Murray said, "marketing and promoting Saint John and its facilities is our continuing mission. We're the 'have-it-all' port in Eastern Canada with facilities, labor, and location as well as public and private investment that should be considered by shipowner, exporter, and importer."

Mr. McCavour served as executive director of the Commission for the past 18 years, during which time the port took on major building programs in terminals for containers, forestry products, general cargo, potash, and year-round terminal development.

## Garvey Named Buyer For M P Industries In Baltimore Office

The appointment of Robert T. Garvey as buyer for M P Industries, Baltimore-headquartered marine and industrial cleaning and coatings specialists, was announced recently by James C. Hamilos, president. Mr. Garvey has more than 10 years of purchasing experience. Prior to joining M P, he was a buyer for Maryland Shipbuilding and Drydock Company. He has a BS degree in business administration from the University of Baltimore, and is a member of the Purchasing Managers Association of Maryland.

M P Industries has a branch office in Beaumont, Texas, and services the entire U.S. with complete marine and industrial cleaning and coatings services.

## Regency Introduces The CR5000 Electronic Chart Recorder —Literature Available

Regency Electronics, Inc., Indianapolis, Ind., has announced a new addition to its Polaris line of marine electronics, the CR5000 electronic chart recorder.

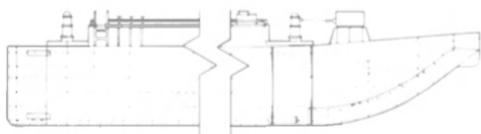
The CR5000 employs a specially designed transducer (included) that can be mounted either transom or through-the-hull. The transducer feeds depth information to the main unit where it is recorded on an easily removable chart paper cassette. Chart speed and recording range are selectable through a front panel control. The fully adjustable sensitivity control allows the user to set the overall gain for proper readings at different depths.

Additional features include a calibrated range scale marker control to mark chart reference point, noise reject switch, chart light, white line switch, and adjustable angle mounting bracket.

For complete details on the CR5000 electronic chart recorder,

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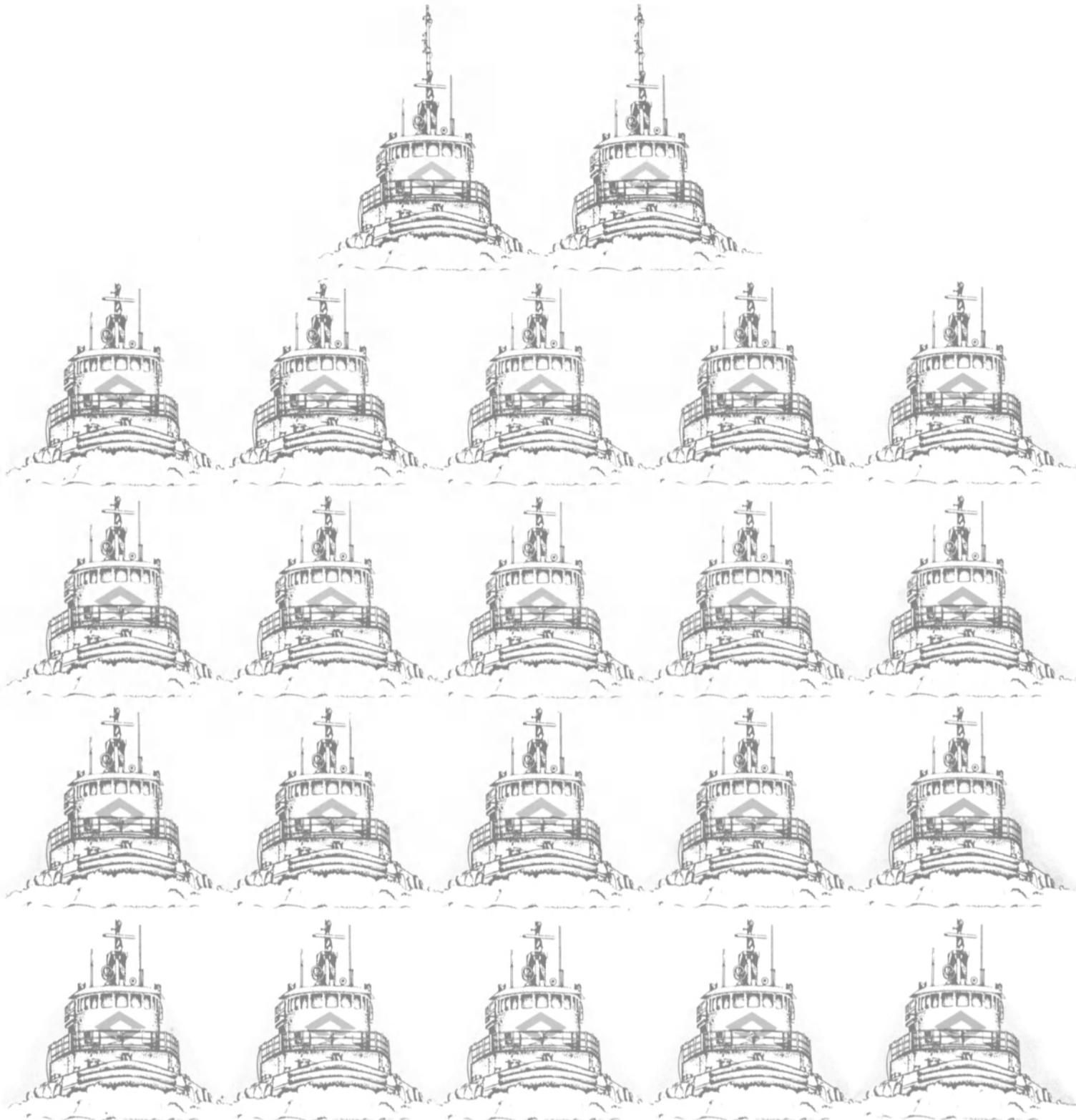
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Maritime Reporter/Engineering News



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

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## WABCO Westinghouse Offers Free Booklet On Controls For Ships

WABCO Westinghouse of Hanover, West Germany, is offering a free 34-page booklet titled "Controls for Ships" that gives information and working data on the pneumatic and electric control of marine propulsion systems. The booklet,

which is illustrated with drawings, diagrams, tables, photos, etc., is divided into five easy-to-read sections.

Section One is a preface that gives a brief history of the development of pneumatics, mentioning that a special field of application is the pneumatic and electric control of marine propulsion systems, and the WABCO Westinghouse Hanover has a manufacturing program of devices that can solve nearly all problems of

control technique, satisfying all requirements of the modern marine plant in technical, functional and economical respect.

Section Two discusses the importance of correct handling and treatment of compressed air to ensure the safe functioning of pneumatic control systems, and gives instructions for filtering, draining, anti-freezing, and oiling.

The third section, titled "Remote Control for Marine Propulsion Sys-

tems," gives a table of some of the most commonly used propulsion combinations, followed by examples of pneumatic remote control for marine propulsion systems (with diagrams), such as: engine, reversing gear, fixed propeller; two engines, gear set, controllable-pitch propeller; directly reversible engine, fixed propeller (manually operated); directly reversible engine, fixed propeller (automatic operation); and pneumatic clutch control. An example of electric remote control of marine propulsion systems is included (engine, reversing gear, fixed propeller) as well as an example of winch control.

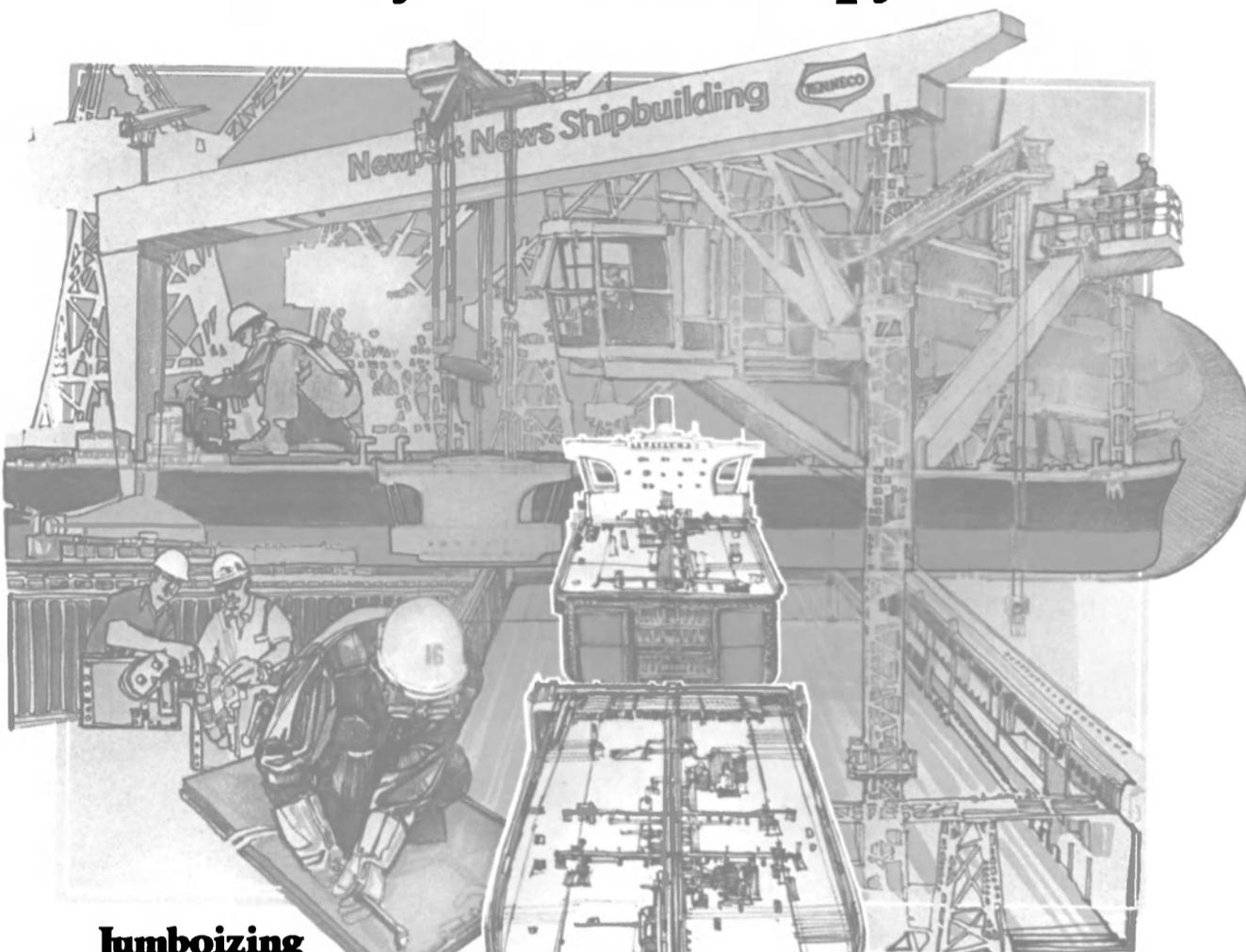
Also dealt with in Section Three are the different problems to be considered in the planning and layout of control systems and the selection of control devices, such as remote control from several controls; remote control of the engine speed: speed control, fuel control and speed control of multi-engines installations (load balancing); remote control of controllable-pitch propellers; monitoring of speed and direction or rotation of directly reversible diesel engines; and long-distance remote control.

A catalog of devices for remote control systems on ships is given (with drawings) in Section Four, and Section Five contains a list of worldwide representatives of WABCO Westinghouse, with addresses, telephone, and telex numbers.

For a free copy of the WABCO Westinghouse booklet "Controls for Ships,"

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We coined the term and jumboized our first ship in 1956. Since then we've jumboized 24 ships ... more than the rest of the U.S. industry combined. No other shipyard in the entire world can match our facilities, our people, our jumboizing experience.

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### COMSAT Awarded \$12.7-Million Contract Modification

COMSAT General Corporation, Washington, D.C., is being awarded a \$12,720,000 modification to a previously awarded firm-fixed-price contract for ultra high frequency satellite communication service. Work will be performed in Washington, D.C., and is expected to be completed September 30, 1985. Contract funds would have expired at the end of the current fiscal year. One bid was solicited and one bid was received. The Naval Electronic Systems Command, Washington, D.C., is the contracting activity.

### K-C Offers Literature On Replacement Parts Line For GM Diesels

Korody-Colyer Corporation (K-C) of Wilmington, Calif., one of the world's largest after-market component manufacturers, is offering literature on its complete line of replacement parts for GM diesels.

K-C produces a complete line of replacement parts for the most popular Series 53, 71 and 92 Detroit Diesels, and the literature says that all K-C parts, new and rebuilt, equal or exceed OEM in every way—

except price; and that generally speaking the K-C line can save up to 20 percent on components from individual replacement to complete engine overhaul.

K-C has made the "heart" of the diesel engine—injectors and components—a specialty for over 20 years, and the entire K-C line is backed by a comprehensive factory warranty. All new and remanufactured K-C parts, including the exclusive "Matched & Balanced" Engine Sets of Injectors are warranted equal to new.

For a free copy of the literature and more information on Korody-Colyer's complete replacement parts line for Detroit Diesels,

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### \$4.4-Million Contract Awarded To NFK

NFK Engineering Associates, Vienna, Va., is being awarded a \$4,471,496 cost-plus-fixed-fee contract for 110,000 manhours of naval architecture, systems engineering and program support for the ship survivability programs, and technical support and testing for surface ships and submarine weapons effects, vibration and noise, damage control and fire protection. Work will be performed in Vienna, Va. and is expected to be completed in September 1985. \$60,000 of the contract funds would have expired at the end of FY-84. Eighty-four bids were solicited and four bids were received. The Naval Sea Systems Command, Washington, D.C. is the contracting activity.

### Crouse-Hinds Offers Literature On Lighting Fixtures & Others Products

Crouse-Hinds Company has available data sheets on its Corro-Gard™ and fluorescent lighting fixtures for marine applications, and an eight-page brochure describing the company's full line of electrical products for shipboard use.

Made of corrosion-resistant Krydon, the Corro-Gard incandescent/HID fixtures, ballast enclosures, and accessories are a Crouse-Hinds exclusive. They are designed for applications where the attack of corrosive elements is a problem, and are available for 100- to 300-watt incandescent lamps.

The EVFDR fluorescent fixtures are ideally suited for use on offshore drilling/production platforms and aboard ships in hazardous areas. Available completely factory assembled, including lamps, the EVFDR is ready to be attached to channel or angle structural members by beam clamps furnished, and connected to the power source.

For further information and free copies of the Crouse-Hinds Literature,

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### Ursini Appointed Vice President-General Manager Of Skagit Products

LTV Energy Products Company has announced the appointment of **Donald M. Ursini** as vice president-general manager of the company's Skagit Products operation in Sedro-Woolley, Wash. A unit of

LTV's Drilling Equipment Division, Skagit is a leading manufacturer of winches, cranes, and mooring systems used primarily in offshore oil and gas drilling operations.

Prior to his recent appointment, **Mr. Ursini** had held the position of controller at Skagit Products for the past four years. Before joining the company, he held various finance-related posts with C.G. Conn, Ltd., Macmillan, Inc.; Rockwell Interna-

tional; FMC Corporation; and Western Electric.

LTV Energy Products manufactures a wide range of machinery and equipment for the energy industry, is a major distributor of oil country tubular goods, and operates one of the industry's largest oilfield supply networks. It is a subsidiary of The LTV Corporation, a diversified operating company also involved in steel and aerospace/defense.

Let's face it. In order to stay afloat today, shipping companies need to squeeze the most out of every dollar spent and continue to find ways to make their fleet more efficient

One way to protect profits is by upgrading a vessel's conventional bottom paint to Farboil's Sta Clean. Sta Clean, a chlorinated rubber coating, provides longer exposure time... as much as 30 months! That means extended periods between those costly drydockings

And Sta Clean reduces expensive labor time by going on 5 mls. thick with one coat and can even be applied over existing paint. Since it's a one-pack system, Sta Clean requires no pre-mixing and dries quickly at most temperatures

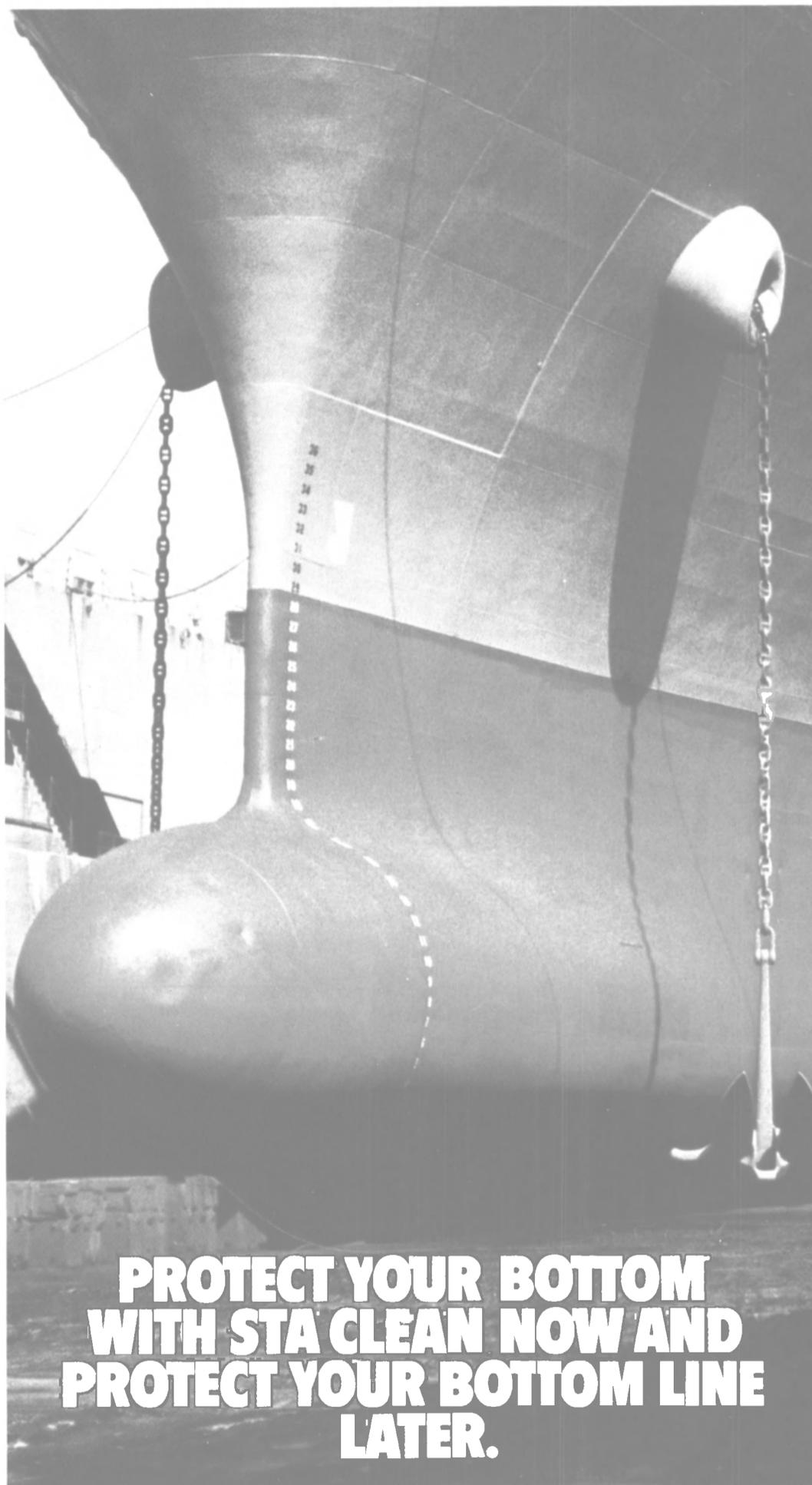
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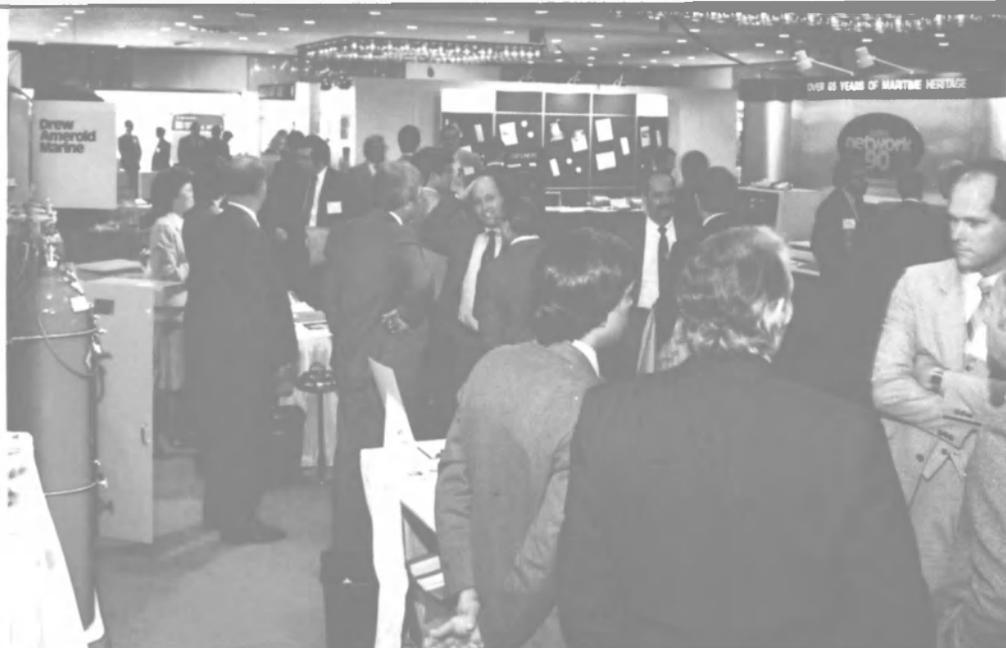
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## The 92nd SNAME Annual Meeting A Special Post-Meeting And Exposition Report



The 92nd Annual Meeting of The Society of Naval Architects and Marine Engineers that took place at the New York Hilton Hotel November 7-10 drew a larger than usual turnout for the technical sessions, the Annual Banquet, and for the again-expanded Third International Maritime Exposition. At the show, 186 exhibitors, an increase from 139 last year, some from as far away as Japan and Korea, occupied about

26,000 square feet of space—virtually the entire second floor of the Hilton. Since its addition to the SNAME annual only two years ago, this third exposition has firmly established itself as the premier marine industry trade show. Its continuing growth promises greater success in the years to come.

Presiding at the President's Luncheon on November 8 and the Annual Banquet on November 9 was SNAME president **C. Larry French**, chairman and CEO of National Steel and Shipbuilding Company in San Diego. He served a two-year term as president until the end of 1984.

### Officers Elected

Elected SNAME president for the 1985-86 term was **Perry W.**



Shown at right are (left to right): **Robert G. Mende**, secretary and executive director SNAME; **Perry W. Nelson**, president-elect; SNAME, outgoing SNAME president, **Clarence L. (Larry) French**; and **Robert T. Axelrod**, SNAME treasurer.

**Nelson**, a retired U.S. Navy Captain and president of M. Rosenblatt & Son, Inc., naval architects and marine engineers headquartered in New York City.

A 1947 graduate of the Naval Academy at Annapolis, Mr. **Nelson** spent five years at sea before attending Webb Institute of Naval Architecture, where he earned a master's degree in naval architecture and marine engineering in 1955. Subsequently, he rose through the Navy ranks to become commanding officer of the David W. Taylor Naval Research and Development Center in Bethesda, Md.

In 1975 he retired after 28 years of Naval service and joined the Rosenblatt firm as vice president of operations. He was elected president of the firm in April 1984.

Mr. **Nelson** has been a member of the Society since 1955, and was elected an honorary vice president in 1983. He has been serving as chairman of the Editorial Committee of the SNAME journal *Marine Technology*.

Elected honorary vice presidents (for life) were: **Ralph D. Cooper** of the National Academy of Science and chairman of the Editorial Committee of the *Journal of Ship Research*; and **Robert E. Stark**, vice president of Gibbs & Cox Inc. and long-time chairman of the SNAME Scholarship Committee.

The SNAME Council elected two honorary members (for life): retiring president **French** and **George C. Nickum**, recently retired chairman of Nickum & Spaulding Associates, Inc.

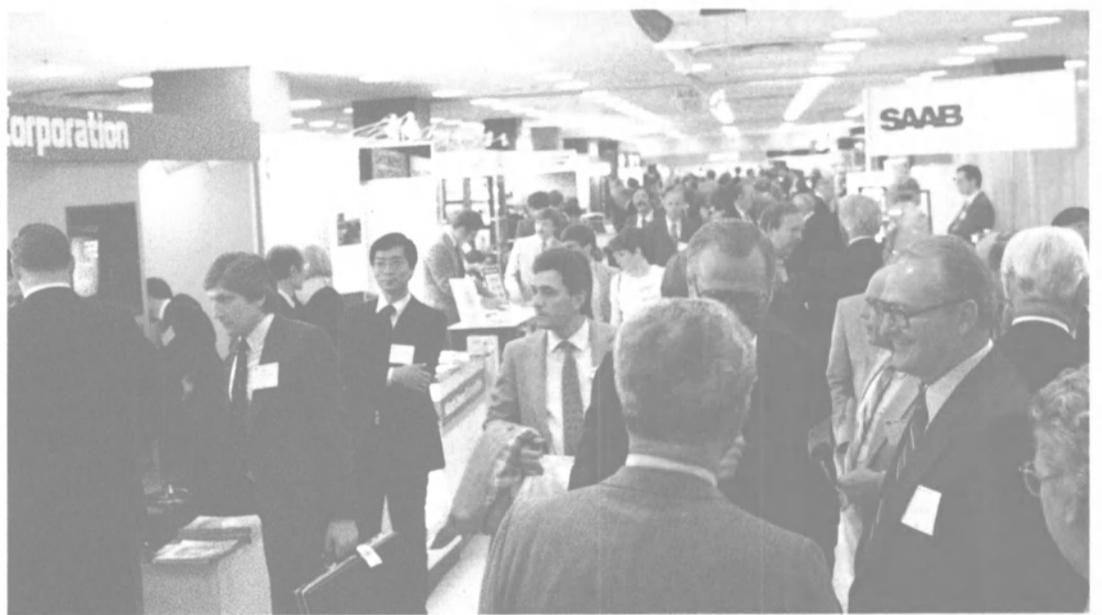
#### Medals & Awards

At the banquet in the Hilton's Grand Ballroom on November 9, the Society's three medals were presented. The David W. Taylor Medal "for notable achievement in naval architecture and marine engineering" that is given annually went to one of the world's foremost hydrodynamicists, Dr. **Jan D. Van Manen**, president of the Netherlands Ship Model Basin. He holds a doctorate from Delft Technological University and is Extraordinary Professor there. His career spans more than 35 years, dealing with ship propulsion and propeller design, making the Netherlands Basin at Wageningen one of the world's best known.

The maritime community needs no introduction to **Lester Rosenblatt**, recipient of the annual Vice Admiral "Jerry" Land Medal, given "for outstanding accomplishment in the marine field." In 1947, with his late father **Mandell Rosenblatt**, he formed the firm M. Rosenblatt & Son, Inc. A University of Michigan graduate, he is a past president of SNAME.

The Davidson Medal is awarded biennially "for outstanding scientific accomplishment in ship research." Its recipient, Dr. **John V. Wehausen**, retired recently as Professor of Engineering Science at the University of California. He holds a doctorate in mathematics

(continued on page 20)





**92nd SNAME  
Annual Meeting**

**Special Report**

(continued from page 19)

from the University of Michigan, and has had a distinguished career in mathematics, naval architecture, and fluid mechanics at Columbia University, the David W. Taylor Model Basin, and the University of California.

At the President's Luncheon the following awards were presented by **Mr. French**:

The Captain Joseph H. Linnard Prize for 1984 was awarded to **Richard J. Baumler, Toshio Watanabe, and Hiroshi Huzimura** for their paper, "Sea-Land's D-9 Containerships: Design, Construction, and Performance," for the best paper presented at the previous Annual Meeting and printed in *Transactions*.

The Vice Admiral E.L. Cochrane Award for the best Section paper of the year went to **Archibald C. Churcher, Alexander Kolomojcev, and Geoff Hubbard** for their paper, "Design of the Icebreaking Supply Ship Robert Lemeur," delivered at the Pacific Northwest Section.

The Graduate Paper Honor Prize for 1984 was awarded to **Thomas J. Ternes** for his paper, "Flow Under Prismatic Structures in Extremely Shallow Water," presented at the Northern California Section.

The 1984 Undergraduate Paper Honor Prize went to **Charles N. Corrado Jr.** for his paper, "Economic Power Generation at Sea: The Waste Heat Recovery Plant/Constant Speed, Shaft-Driven Generator Combination," delivered at the New York Metropolitan Section.

**Michael S. Pantazopoulos** received the Graduate Paper Award for his paper, "An Automated Optimization Approach to Conceptual Design of Naval Combatants Aided by Computer Graphics," presented at the Pacific Northwest Section.

A Certificate of Appreciation was presented to **William C. Freeman** "for outstanding leadership and services to the Society" as chairman of the Budget and Endowments Committee from 1977 to 1983, and to **Carlton E. Tripp** as chairman of Panel HS-1-2 (Wave Loads—Great Lakes Vessels) from 1964 to 1983.

**The President's Address**

In his last speech as SNAME president, **Mr. French** said that some form of legislation such as the Boggs Bill that would reserve a percentage of U.S. imports and exports of carriage by American-flag ships, U.S.-built and manned, is crucial to the survival of the American commercial shipbuilding industry. He also criticized the Reagan Administration for "channeling merchant ship construction to shipbuilders abroad and in manipulating the progressive destruction of domestic shipbuilding resources."

The following paragraphs are excerpted (continued on page 22)



David Taylor Medal—**Mr. French** (left) congratulates Professor **Oosterveldt** (right) of the Netherlands Ship Model Basin who accepted the Medal for winner, Dr. **Jan D. Van Manen**.



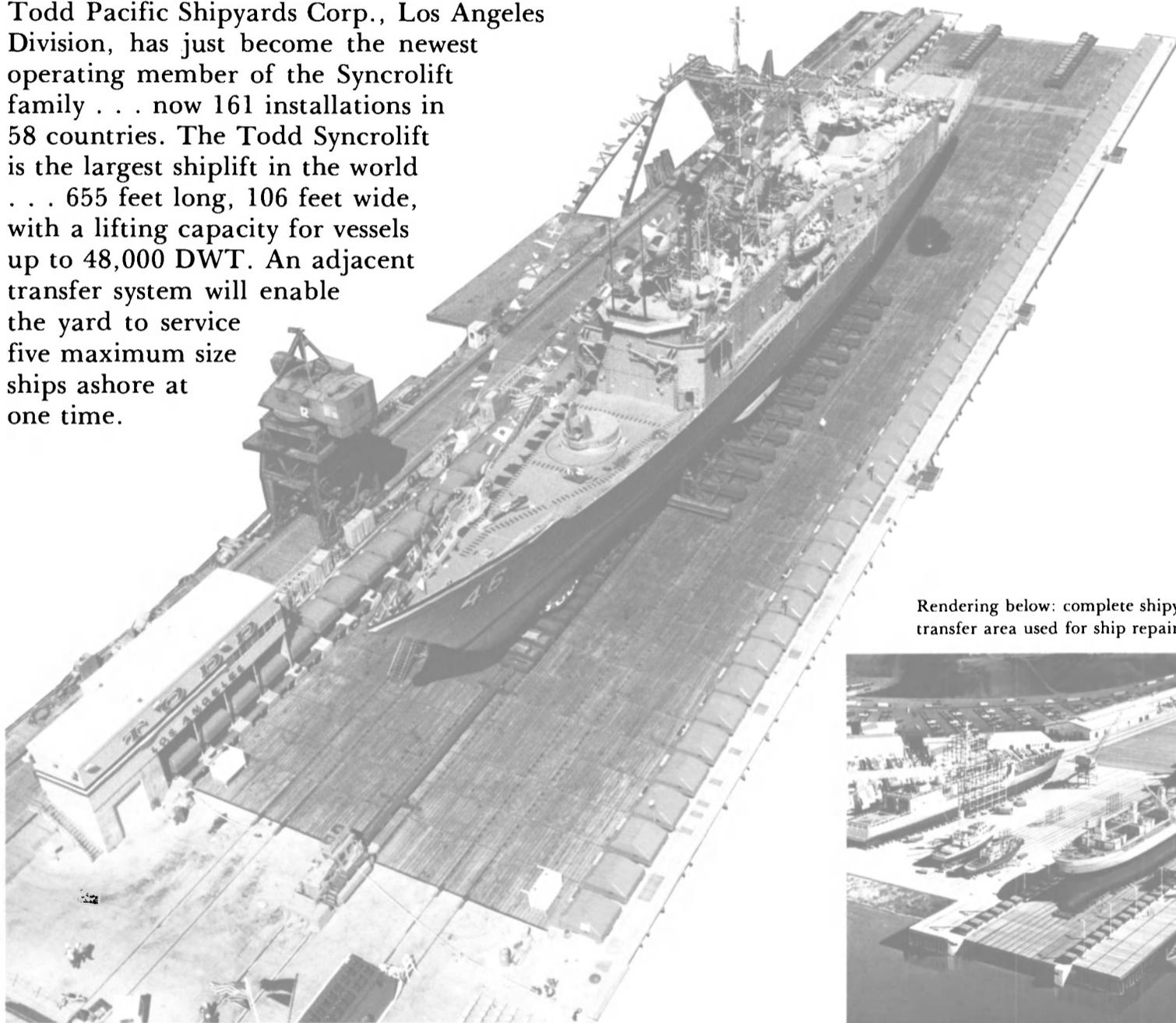
Vice Admiral "Jerry" Land Medal—(left to right) **Daniel D. Stroheim** (presenter), **Lester Rosenblatt** (recipient) and **Mr. French**.



Davidson Medal—(left to right) Professor **John V. Wehausen** (recipient) **John Breslin** (presenter) and **Mr. French**.

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Photograph above taken March 27, 1984, at Inauguration Ceremony.  
Photo by Joseph Ernest, Todd Pacific Shipyard.

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**92nd SNAME  
Annual Meeting  
Special Report**

(continued from page 20)

cerpts from his final president's address.

"All Presidents of the United States, including **Ronald Reagan**, have discovered that being in office is different from seeking office. Nice-sounding, crowd-pleasing, and often misleading campaign promises are not easily or quickly translated into action programs. This has certainly been the case with respect to the noble pledges made in 1980 pertaining to maintaining an adequate shipbuilding industrial mobilization base.

"A naval ship construction program has been well advertised as evidence that those promises have been fulfilled, but in truth the shipbuilding base is rapidly disappearing. Though the Navy new construction dollars are huge, Navy new construction benefits only a handful of shipyards. Yards that normally look

to commercial ship construction opportunities face a bleak future. Some have closed, others will follow. Skilled workers are being laid off and shipyard employment is steadily decreasing. For lack of the promised support from this Administration, the U.S. commercial shipbuilding industry and its allied industries are slowly strangling.

"Foreign governments insure our non-competitiveness by protecting their domestic markets and subsidizing their shipbuilders and ship operators. The results of these conditions are that without some form of government protection or subsidy, no ships would be built in the United States and no domestic shipbuilding would exist.

"Prior administrations have recognized this fact, and cabotage laws and subsidy programs have existed since the days of the clipper ships to insure that a shipbuilding industry and merchant marine exist in the United States. The Merchant Marine Acts of 1936 and 1970 were passed to insure that an adequate merchant marine and shipbuilding capacity could be maintained. This

Administration, driven by free traders, has exported commercial shipbuilding and much of our allied industries, and pushed many of our ship operators into bankruptcy.

"Through the initiative of the Administration in channeling merchant ship construction to shipbuilders abroad, and in manipulating the progressive destruction of domestic commercial shipbuilding resources, we could be moving toward a critical position of over-reliance on foreign sources for future needs. We are already dangerously dependent upon foreign sources for strategic materials that are critical to our survival. And we are already over-reliant on the shipping services of other countries to transport exports and imports that are vital to our national security, economic growth, and trade stability. A higher degree of sovereign control is clearly imperative; the alternative is national peril.

"In my thesis last year I concluded the only policy that would solve the problems of inadequate U.S.-flag merchant marine, U.S. domestic shipbuilding capacity, and

smokestack industries was some form of cargo preference. I proposed a Boggs type bill that would require a specified percentage of U.S. bulk imports and exports be carried in U.S.-built, U.S.-operated ships. The increased costs of implementing this policy would be paid for by the taxpayers of the United States, as are all other national defense costs. I am happy to say that a bill to accomplish this idea has been introduced in Congress. That bill is HR6222, jointly sponsored by Congresswoman **Lindy Boggs** from Louisiana and Congressman **Herbert Bate-man** from Virginia. I endorse this bill and sincerely suggest you urge your Congressional representatives to pass it.

"To further support my thesis I would like to comment on a recent Congressional Budget Office study. This study, prepared at the request of the Senate Armed Services Committee, concludes: 'without government assistance or other reforms, ships operating under U.S. flag and shipyards here, long considered important to the economic and security interests of the United States,

Vice Admiral E.L. Cochrane Award—(left to right) **Archibald C. Churcher**, **Geoffrey Hubbard**, **Alexander Kolomojcev**, recipients, and Mr. **French** (presenter).



Capt. Joseph H. Linnard Prize—(left to right) **Richard J. Baumler**, **Hiroshi Huzimura** (recipients) **Jack Overmeyer** (presenter) and Mr. **French**. (Recipient **Toshio Watanabe**—not shown.)



may shrink because of slack market conditions and lower cost foreign competition and will ultimately impair the ability of the United States to mobilize, deploy, and support its forces in war. The study recommends a program that would support construction of 20 merchant type vessels annually in addition to naval building as sufficiently large to maintain the existing fleet at about its present size and provide something close to a base for wartime mobilization. This conclusion closely agrees with my thesis.

"The study then examines three alternative programs that could be implemented to accomplish this 20 ships per year building program. The first is to re-establish a subsidy program similar to the ones under previous administrations based on the Maritime Acts of 1936 and 1970. The second proposal is to implement a program similar to the Bateman-Boggs Bill. The third is to have the government directly acquire 20 ships per year for use by Military Sealift Command and assignment to ready reserve status or leasing to private operators.

To further support my thesis I would like to examine these alternatives. The first alternative, construction and operating subsidies, is doomed to failure. The Nixon Merchant Marine Act of 1970 did not succeed because no owner will buy a ship, subsidized or not, if there is no cargo. Construction and operating subsidies are not enough to enable U.S. operators to compete with foreign government-supported merchant marines. The third alternative is also a loser. Ships designed for military service will not find any operators willing to lease them for commercial service. Ships built under this program will all end up being operated by the Military Sealift Command or being placed in the ready reserve. Ships operated by MSC, in addition to those already in use, will compete with the existing private operators and force more private ships out of the U.S. Merchant Marine. Ships put in the ready reserve will not provide jobs for merchant seamen, and in time of need no qualified crews will be available. Besides, after the first 20 brand new ships are tied up in some bay, how long would it take for Congress to cut off funds to build any additional ships for the reserve fleet?

"I conclude that the only logical solution to the problem is the second option—a cargo reservation program similar to the Bateman-Boggs Bill. I hope you and others will agree with me and work to get such a program started.

"With this type of program as a basis, a comprehensive Maritime Policy should be developed. It is the only possibility of avoiding a potential national calamity. A Maritime Policy based on cargo reservation and possibly implemented with affirmative bilateralism will strengthen our security and defense, and simultaneously improve our trading leverage. U.S.-flag shipping and U.S. shipbuilding—the entire American Merchant Marine and the country—would in turn benefit."

## Cable Splicing System Lowers Shipbuilding Costs —Literature Available

AMP Special Industries recently issued Product Bulletin 805-1. This Bulletin, entitled "Marine Cable Splicing Kit," describes the latest equipment for wiring methods to be used in modular shipbuilding, jumboizing and repairs. The meth-

ods and equipment listed have been reviewed and accepted by the Coast Guard and the American Bureau of Shipping.

The AMP System is a low-cost method of marine cable splicing. It includes pressure-type butt connectors, thick-wall heat-shrink tubing throughout for replacement cable jacket and maintains the electrical continuity of the armor by AMP "TERMI-FOIL" ground-

ing harness.

The methods described in the Bulletin make it possible to eliminate long cable pulls, splicing of cables at modular breaks, salvage broken shipboard cable and facilitates a faster turnaround in damaged vessels.

For your copy of this bulletin,

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# A new standard in oily water separation.

This new Hamworthy oily water separator complements the range of marine pollution control equipment for which Hamworthy is so justly famous—the Super Trident and Retrofit sewage treatment units and the Neptune incinerator.

So, as you'd expect, the Hamworthy oily water separator is a little different and a good deal better than other units. Most separators pump oily water into a separator. This action breaks down the oil into tiny droplets, making separation more difficult. Our system

draws oily water into the separator and uses the natural gravitational differential to achieve primary separation. It makes the Hamworthy separator more compact, more efficient, more reliable, and less complex.

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# Numb

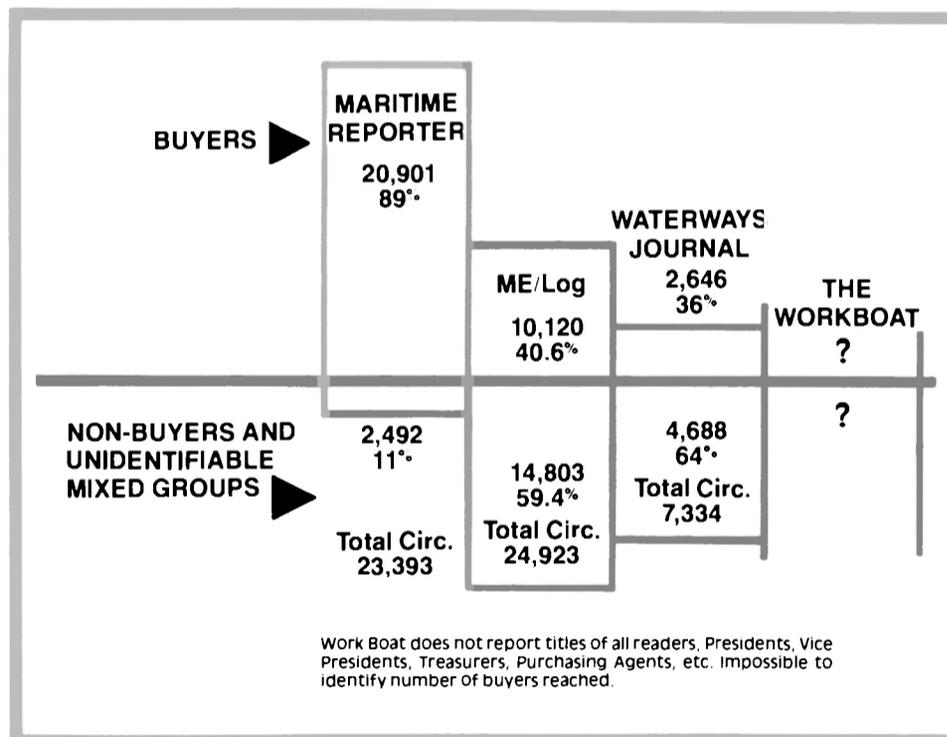
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Here is complete and unmatched coverage of your entire marine buying market...for maximum advertising results in 1984-1985.

## ADVERTISING RESULTS

More and better sales leads than any other magazine and three times more than the industry standard represents inquiries produced by MARITIME REPORTER in one year or less.

### Diesel Engines

1,168  
1,153  
1,123

### Navigation & Communications

663  
621  
590

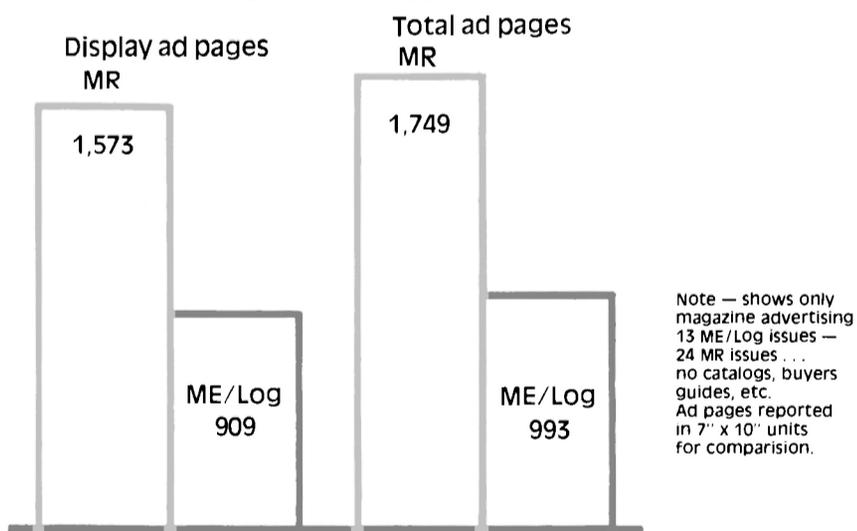
### Oily Water Separators

756  
459  
360

## 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.

### COMPARE 1983 ADVERTISING



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

December 15, 1984

**MARITIME  
REPORTER**  
AND  
ENGINEERING NEWS

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

## New Literature Available On VHF/FM Marine Radios From Uniden Corporation

Uniden Corporation of America, Indianapolis, Ind., is offering new literature on the line of VHF/FM marine radios that the company produces.

By way of introduction, the publication mentions that Uniden's posi-

tion as a technological leader has been earned through a strong commitment to research and development, advanced components design, ultramodern manufacturing techniques, a strong sense of responsibility to customers, and a pledge of quality. In the pleasure boating market, Uniden is one of the leading manufacturers of VHF marine radio equipment and has now incorporated the latest microprocessor technology in their VHF radios.

Uniden's line of marine radios is illustrated with color photos, and each model is described in the text. A chart of specifications lists such information as number of transmit and receive channels, channel display, size, weight, etc., for each model, so that one can see at a glance what particular VHS/FM marine radio meets a particular need.

In addition to the existing one-year limited warranty, the company has a radio life insurance program

under which any Uniden VHF marine radio will be repaired for a flat fee after the first year of ownership under normal conditions.

For a free copy of the new literature on VHF/FM marine radios from Uniden Corporation of America,

Circle 18 on Reader Service Card

## Hahnfeldt Appointed Power Division Sales Manager At H.O. Penn Machinery



Fred Hahnfeldt

Fred Hahnfeldt has been appointed sales manager for H.O. Penn Machinery Co. Inc.'s power division by vice president Henry Killian.

Mr. Hahnfeldt joined H.O. Penn in 1968 after graduating from Yale University. He has held several positions, including credit manager and finance representative. In 1976 he accepted a sales position with the construction equipment division.

As sales manager for the power division, he will oversee the division's sales efforts throughout all of H.O. Penn's lower New York State and Connecticut territories. Offered is the full line of Caterpillar diesel and gas powered engines and generator sets, including marine engines, plus experienced sales engineers, financial advice and assistance, genuine Caterpillar parts and reliable service.

Mr. Hahnfeldt is based at H.O. Penn's corporate headquarters in Armonk, N.Y., and can be reached at (914) 273-9800 or (212) 292-4800.

## 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 psg—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

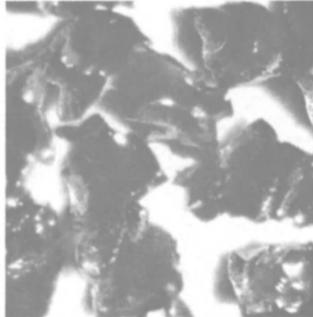
## Laboratory tests prove it!

# Copper Blast

## Cuts 30-50% Better Than Lower-Quality Slag And Up to 4 Times Faster Than Many Silica Sands.



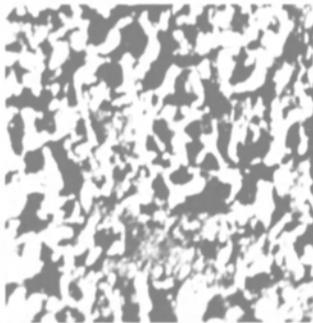
Workers using COPPER BLAST see what they're doing and do more work in less time.



Every edge of a reusable COPPER BLAST particle is a cutting edge (magnified 17 times).



COPPER BLAST creates a uniform anchor pattern which provides good coating adhesion.



These cratersed surfaces were made by nickel slag (left) and silica sand abrasives (right). They left more residue and will require more paint.



Once again, lower initial cost doesn't mean lower operating cost.

In recent laboratory tests, COPPER BLAST has a 50% cutting advantage over lower quality copper slags and, on many jobs, could do twice the work in the same time.

These same tests prove COPPER BLAST produces less dust during use than other sand or slag-based abrasives. Less dust means greater visibility and increased productivity. COPPER BLAST is certified by the California and Utah air quality standards boards.

### Why all-purpose COPPER BLAST works harder.

Particles are angular. Every surface is a cutting surface. COPPER BLAST is harder so particles are not crushed on impact and can be reused on many jobs.

Because the six grades of COPPER BLAST are uniformly screened, more particles are similar in size. They strike the surface with the same mass and velocity, providing a more even anchor pattern.

### COPPER BLAST is safe.

With very little dust, workers can see and have greater protection from silicosis, (a form of lung disease). The free silica content of COPPER BLAST is so low it can't be detected by standard laboratory methods. COPPER BLAST meets all current OSHA, EPA and NIOSH chemical limits.

### COPPER BLAST cleans faster at lower cost.

It makes sense. If you blast with a product that cuts better, cuts faster, creates less dust and lasts longer, your work forces will clean more surfaces in less time for less money. This makes premium-quality

COPPER BLAST a very cost-effective abrasive, especially with its safety benefits and low free silica levels.

If you're responsible for specifying or buying blasting material, we have a quality, performance and cost story you should hear. We can also show you how much dust particles cost on *your* jobs.

COPPER BLAST is made in a new, high-tech plant. It is available for immediate delivery throughout the West and Midwest.

**Just call or write James D. Hansink, Manager, Construction Materials, Rocky Mountain Energy, 10 Longs Peak Drive, Box 2000, Broomfield, CO 80020.**

Or return the reader response card in this publication.

Call toll-free: 800 525-8113. (In Colorado, call collect 303 469-8844.)



## ROCKY MOUNTAIN ENERGY

A Subsidiary of Union Pacific Corporation

Circle 25 on Reader Service Card

# WHATEVER IT TAKES



**WE ARE DEDICATED TO MEETING CHALLENGES WITH INNOVATIVE SOLUTIONS THAT PRODUCE HIGH QUALITY, ON TIME, BUDGET-ORIENTED RESULTS . . .**

San Diego needed drydocking capacity to assure a fair share of Navy and commercial repair and overhaul work. The NASSCO Builder is now in service. Maximum ship size is 780 foot length, 135 foot beam, and displacement up to 25,000 long tons.

We get the job done . . . *whatever it takes.*

**nassco**

**National Steel and Shipbuilding Company**  
A Wholly-Owned Subsidiary of Morrison-Knudsen Co., Inc.  
28th & Harbor Drive, San Diego, CA • (619) 696-7000

**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,

Circle 38 on Reader Service Card

**Todd-Los Angeles Delivers  
Guided Missile Frigate  
FFG-51 Gary To U.S. Navy**

The Guided Missile Frigate Gary (FFG 51) was delivered recently by the Los Angeles Division of Todd Pacific Shipyards Corporation.

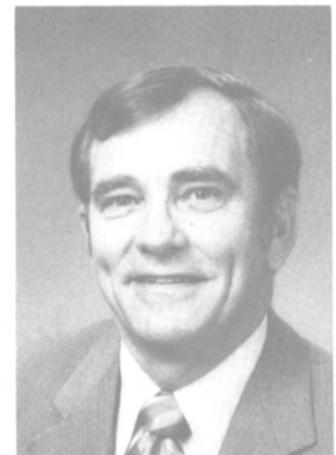
The Gary, completed 27 weeks ahead of contract schedule and well below cost, was originally presented

to the Navy for delivery on October 26 but rejected due to installed equipment possibly containing incompletely tested microchips. As the results of comprehensive inspection, verification and analysis of installed equipment, closely coordinated between the Navy, related equipment suppliers, and Todd, coupled with an extended warranty on the part of the shipbuilder, resolution of the potential problem was achieved to the Navy's satisfaction.

The Gary is the 14th in the series of 17 frigates currently under contract at Todd Los Angeles, the only private shipyard on the West Coast qualified to design and construct major surface combatants. The 14 ships have been completed a total of 83 weeks ahead of schedule.

Todd Shipyards Corporation, one of the nation's largest independent shipbuilding companies, operates other yards in or near Seattle, San Francisco, Galveston and New Orleans.

**Ryan-Walsh Appoints  
John McCarron Jr.  
Chief Executive Officer**



John L. McCarron Jr.

Ryan-Walsh Stevedoring Company, Inc. has announced the appointment of **John L. McCarron Jr.** as chief executive officer.

Ryan-Walsh chairman **E.B. Peebles Jr.**, described Mr. **McCarron's** appointment as a continuation of the succession procedure which began last fall with Mr. **McCarron's** selection as president. He becomes only the eighth chief executive officer in Ryan-Walsh's 119-year history.

For the past 14 years Mr. **McCarron** has served in a succession of executive capacities, leading to his selection as president last fall. He is a member of several professional, trade and civic organizations. He is a director and past president of the National Association of Stevedores, serves as chairman of the Port and Waterways Committee of the Mobile Area Chamber of Commerce, and is also a member of the Mobile Propeller and Traffic and Transportation Clubs.

**PENSKE'S**  
**COMMITMENT TO EXCELLENCE**

*"We'll put the East Coast's most capable parts, service and engineering organization at your disposal. We'll work with you around the clock and throughout the region to help you minimize downtime and increase profits!"*

**Authorized Distributor for Detroit Diesel Allison**

- 24 hour service—7 days a week
- custom engineered products

**Penske is an EMD application contractor**



**So...Call the PENSKE POWER PRO nearest you!**



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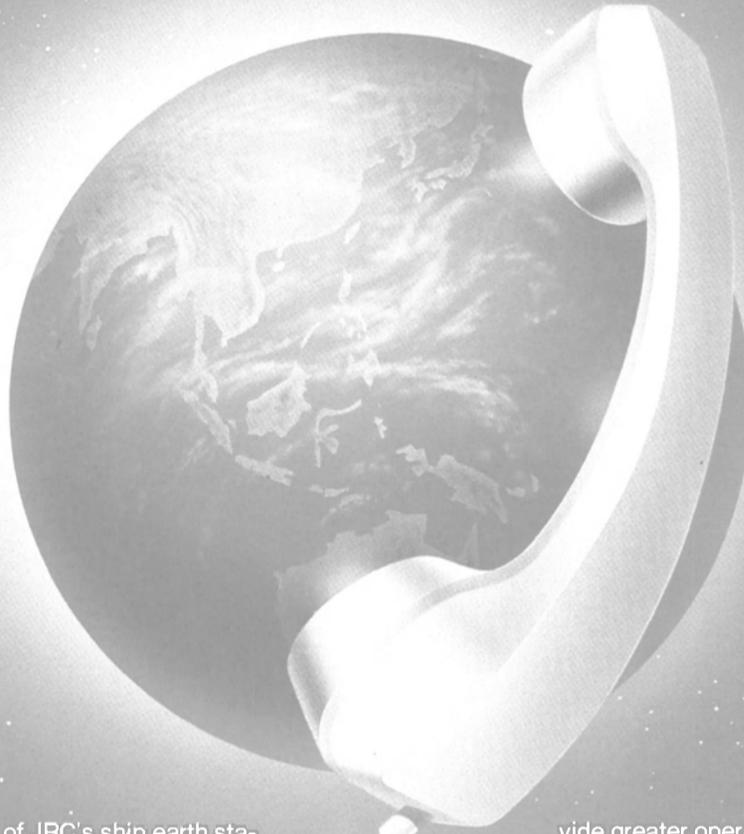
Piscataway, N.J.  
169 Old New Brunswick Rd.  
Piscataway, N.J. 08854  
201-752-7100

Long Island, N.Y.  
3025 Veterans Memorial Hwy.  
Ronkonkoma, N.Y. 11779  
516-981-5800

Circle 116 on Reader Service Card



Your key to global marine communications —  
the New JUE-35B Ship Earth Station from JRC



The excellent reliability of JRC's ship earth stations for INMARSAT communications has been proven by the number of sets we have delivered to the world shipping—over 1,000 as of September 30, 1984. This impressive sales record is based upon the continuous research and development efforts JRC has undertaken since our founding in 1915.

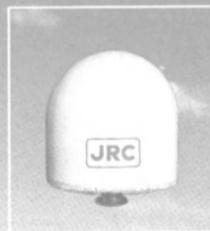
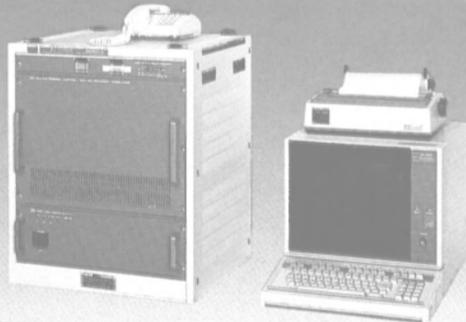
Our new JUE-35B ship earth station incorporates a small, 89 cm-diameter antenna, an easy-to-read video display unit, a compact RO printer and an easy-to-operate telephone set. A variety of optional equipment is also available to pro-

vide greater operational capability and flexibility.

The JUE-35B is type-approved by INMARSAT and designed for easy installation not only on large merchant ships and offshore construction sites but also on smaller fishing and pleasure boats.

**Optional Equipment**

- Fleet Data Management System and Onboard Data Automatic Reporting System.
- Remote VDU, Operation Panel Unit, Remote Telephone, Buzzer Box, Facsimile Transceiver, Telex Channel Interface, PABX Interface, Satellite Navigator, Voice Distress Box, Save Mode and Data Modem.



**JRC** *Japan Radio Co., Ltd.*

MAIN OFFICE: Akasaka Twin Tower (Main), 17-22, Akasaka 2-chome, Minato-ku, Tokyo 107, Japan  
Telephone: (03)584-8836 Telex: 242-5420 JRCTOK J Cable Address: "JAPANRADIO TOKYO"  
U.K. BRANCH OFFICE: N. Shiokawa, Ground Floor, Temple Chambers, Temple Avenue, London E.C. 4  
Telephone: 01-353-7960 Telex: 885629 JAPRAD G  
U.S.A. BRANCH OFFICE: T. Hayashi, 405 Park Avenue, New York, NY 10022  
Telephone: 212-355-1180 Telex: 961114 JAPANRADIO NYK

## Koomey Announces Management Changes—Dumas Named President



Jerry Dumas

Lester Heath

Paul Koomey

Koomey Inc. of Brookshire, Texas, has announced changes and additions in its management. **Jerry D. Dumas** has been elected president and chief executive officer. He was formerly president and CEO of Hughes Drilling Fluids, a Grace/Hughes Tool Company joint venture. He was also named to the board of directors.

**J. Lester Heath** has been

elected corporate secretary and a director. He recently retired from Vector/Schlumberger as president and CEO. **Larkin C. Eakin Jr.**, a member of the Koomey board and County Attorney for Waller County, Texas, has been named general counsel and will continue to be in charge of any litigation. **Paul C. Koomey** will serve as chairman of the board.

### ASNE Establishes Dr. James A. Lisnyk Memorial Scholarship

The Council of the American Society of Naval Engineers has established the Dr. James A. Lisnyk Memorial Scholarship Program.

**Dr. Lisnyk**, who was killed in an automobile accident this past August, was a long time member of the Society, having joined in May 1965. Always active, he chaired the ASNE Day 1977 Technical Papers Committee for which he was presented the ASNE President's Award for 1977. He was a member of the

ASNE Council from 1978 to 1980 and at the time of his death was a member of the council of the Society's Flagship Section.

Well known in the naval engineering community, **Dr. Lisnyk** was a graduate of Webb Institute of Naval Architecture, held a masters degree in naval architecture and marine engineering from MIT and a doctorate in engineering administration from the George Washington University. His professional experience included positions at the New York Naval Shipyard, the Mobil Oil Company, United States Lines, and lastly he was with Naval Sea Systems Command as deputy director, ship

hull engineering group. He was also active in the Society of Naval Architects and Marine Engineers and was a past chairman of their Chesapeake section.

The Dr. James A. Lisnyk Memorial Scholarship Fund has already received its initial contribution and many others are anticipated. All contributions will be welcome, are tax deductible, and may be sent to: Executive-Director, American Society of Naval Engineers, 1452 Duke Street, Alexandria, VA 22314

### Navy Awards E-Systems \$40-Million Contract

E-Systems, Inc. has been awarded a contract in excess of \$40 million by the U.S. Navy for the development, production and testing of a Full Scale Engineering Development Model of the Battle Group Passive Horizon Extension System Surface Terminal (BGPHE-ST).

The award follows the successful completion by the Melpar Division (Virginia) of a multimillion-dollar system definition and design contract. The new contract will also be performed by the Melpar Division, a leading supplier of electronic warfare and reconnaissance systems to the U.S. Department of Defense.

BGPHE-ST will support combat information needs of at-sea commanders in tactical operations. The Melpar Division is the prime contractor, supported by a team of subcontractors. The engineering development contract will culminate with shipboard installation and evaluation at sea.

The operational capability provided by this system will satisfy key Navy tactical requirements through the 1990s.

### Rexnord Announces Formation of Process Controls Division

Rexnord, a Milwaukee-based industrial manufacturer, announced recently that it is expanding its role in the process controls market with the formation of the Process Controls Division.

The new division combines the product lines, markets and control technology capabilities of Rexnord's recent acquisitions—Fife Corporation, Tano Corporation and Micro Pure Systems Inc.—and the company's former Electronic Products Division.

In making the announcement, **James J. Hayden**, a corporate vice president and division president, said: "This unifying of our process controls capabilities provides Rexnord with a higher level of controls technology and more aggressive approach to the marketplace. The acquisitions were an excellent complement to our existing sensing technology. We are optimistic that through our commitment to quality products, new product development and selective acquisitions, we will further strengthen our position in the control products marketplace.

Fife Corporation is a leading supplier of automatic guiding and spreading or expanding continuous flexible material such as paper, plastic, textile, steel or copper. Its facilities are located in Oklahoma City.

Tano Corporation, headquartered in New Orleans, designs and manufacturers computer-based automation and control systems for marine, oil and gas, and energy management applications.

Micro Pure Systems Inc. manufactures instruments which use ultrasonic technology to detect microscopic particles in liquids. The instruments are used in the manufacture of semiconductors and in oil production monitoring. The company is located in Smithfield, R.I.

Rexnord's former Electronic Products Division manufactures industrial weighing equipment, microprocessor-based process controls and systems, water and wastewater analytical instruments, fixed gas detection equipment and self-contained breathing apparatus. Its operations are located in New Berlin, Wisc.; Malvern, Pa.; and Sunnyvale, Calif.

Rexnord serves the world's marketplace as a major manufacturer of industrial components and machinery. The company produces power transmission components, specialty fasteners, crushing and processing machinery for the aggregate and mining industry, water pollution control equipment, material handling systems, process controls, chemical products and other specialized equipment. They employ people in 51 United States and Canadian plants and in 22 overseas facilities. They are headquartered in the Milwaukee area.

Circle 61 on Reader Service Card

**SKILL**  
When we overhaul, repair and rebuild, we do it right.

Skills like block welding, line boring, engine overhauling and rebuilding are not learned overnight. They take time, and at National Marine we've been developing these skills for over fifty years.

Whether at our convenient shipyard locations or on board your vessels, we keep your engines operating... service a variety of equipment... provide remanufactured and ABS certified diesel engines.

At National Marine we've developed our skills for over fifty years... and the experience shows.

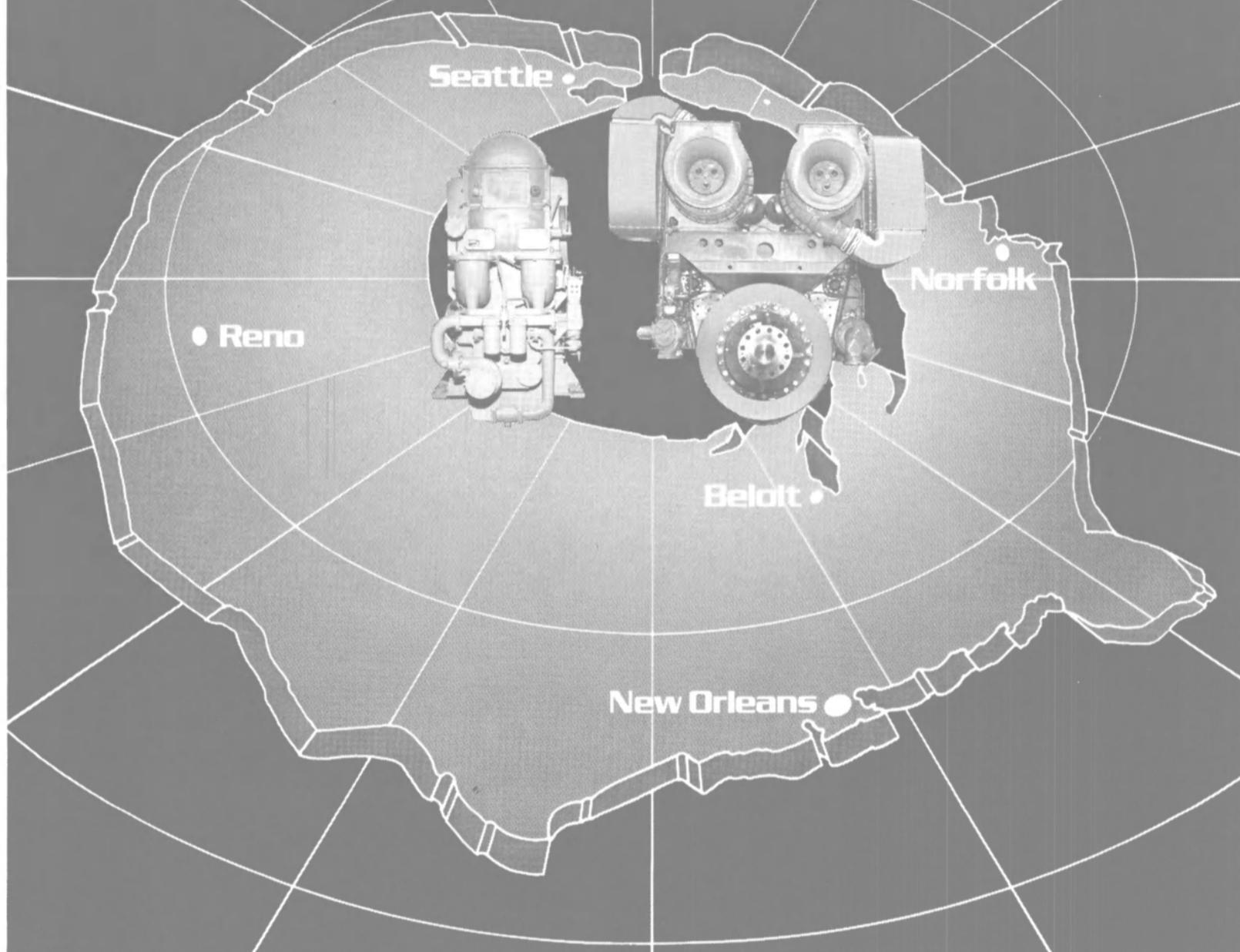
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**NATIONAL MARINE SERVICE**  
INCORPORATED  
One of the NICOR basic energy companies

Circle 124 on Reader Service Card

# We've reshaped our engine service map

Now Colt Pielstick\* and OP Engine Parts and Service is even better



Today, no matter where you are you can get Colt engine parts and service fast. 24 hours a day. 365 days per year. We've reshaped the Colt engine service map to provide new centralized parts warehousing and enlarged service facilities to better funnel our service to your maintenance needs. Plus, new computerized inventory control and order processing means you'll have the parts where you need them—when you want them.

To minimize engine downtime, a new regional warehouse and fuel injection service center has been 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.

Yes, it's a new map that we're wrapping around your Colt Pielstick and OP engine service needs, with facilities and programs designed to assure better and faster service, and parts availability for you.

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



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

**Colt Industries**



**Fairbanks Morse**  
Engine Division

## Du Pont's Maintenance Painting Service Lowers Costs On Offshore Platforms

After building a 12-year onshore success record, Du Pont has moved its cost-reducing Maintenance Painting Service (MPS) offshore to oil drilling and production platforms and other marine structures.

In the past two years, Du Pont's Offshore MPS (OMPS) has helped Conoco Oil's New Orleans Division cut maintenance painting costs by 25 percent at its Grand Isle offshore production platforms in the Gulf of Mexico. At the invitation of Du Pont, *Maritime Reporter and Engineering News* recently visited several Conoco platforms to view the procedure and the results (photos).

Conoco officials credit the reduction to the systematic OMPS program, which combines tight management controls with flexible scheduling to cover contingencies such as weather and platform operating emergencies.

Working with Conoco's New Orleans Division, OMPS specialists prepared a program for painting 75 platforms in a 600-square-mile area to specific coverage standards at a guaranteed price that, according to Du Pont, turned out 15 percent below Conoco's lowest cost in the past 20 years. OMPS offshore operations manager **Gene Ivey** reports that 25 platforms were painted on schedule at a lower cost than estimated. Du Pont will adjust the contract accordingly.

"Offshore painting is three to five times more expensive than onshore

painting," Mr. **Ivey** said. "Weather and water conditions and operating emergencies can affect scheduling, and rigging is more complicated and time-consuming. Because labor is the most expensive component of a painting program, we kept costs down by using highly qualified, efficient painting contractors and by planning backup work in case of emergencies or weather problems," he said.

Du Pont built its MPS success on the combination of its ability to manage maintenance painting projects for quality within prescribed deadlines and budgets, and for its technological expertise in preparation and painting of production facilities. In the past 18 years, Du Pont has saved as much as 60 percent in maintenance painting of its production facilities, which represent a capital investment of more than \$10 billion. Du Pont began offering MPS to chemical and industrial production facilities 12 years ago, and its success prompted the company to look offshore for another outlet for the service.

"We felt that our expertise in controlling corrosion and in managing painting contracts would work offshore, and the Conoco program seems to confirm that," said **Jack Jones**, OMPS marketing manager.

"As the managing partner of the Grand Isle Project, Conoco had to consider the interests of other owners in getting the best performance

at the lowest price," said **E.L. Moffatt**, division production superintendent.

"The entire program is geared to efficient planning and management. We surveyed the corrosion levels and painting needs of all of our platforms with the OMPS people to match critical areas with production priorities and locations. This gave us primary areas and backup areas, which is something previous painting contractors didn't do. As a result, we are able to have something painted even if painters have been working in an area where a production emergency occurs. That's been a key factor in keeping our program on schedule and within budget," Mr. **Moffatt** said.

Predictability, accountability, and protection are the cornerstones of OMPS. Du Pont assumes the responsibility for painting platforms and other marine structures at an agreed-upon level of protection and/or appearance for an extended period at a predetermined fee, subject only to change in labor rates and material costs. The annual price for the first five years will be at or below the price quoted by Du Pont before the program begins.

OMPS consists of preparations, finishing, and inspection. It includes all vessels, structural steel, walkways, piping, and all the surfaces constantly exposed to deterioration from weather, corrosion, and wear and tear. OMPS specialists devote full-time attention to planning, scheduling, supervision, monitoring, and follow-up. This regimen is necessary to keep a job on target.

Offshore painting can run \$5 to \$6 per square foot, sometimes going as high as \$12 in hard-to-paint spots. This is an average of three to five times higher than the cost of land-based painting programs, and most of the cost is labor-related, especially for rigging. OMPS is investigating

a rigging method that involves rigging an entire platform leg at one time, which has great promise of reducing labor significantly, and a non-painting technique for protecting platform splash zones.

Along with technological advances, only safety-conscious, highly productive contractors are selected before work begins. In addition to being productive and reliable, contractors hired by OMPS must be able to furnish work crews capable of performing under difficult marine conditions.

Once work begins, OMPS managers hold periodic reviews with facility managers and technical personnel to stay current with their changing needs and to assess the program's progress relative to objective.

### Additional Services

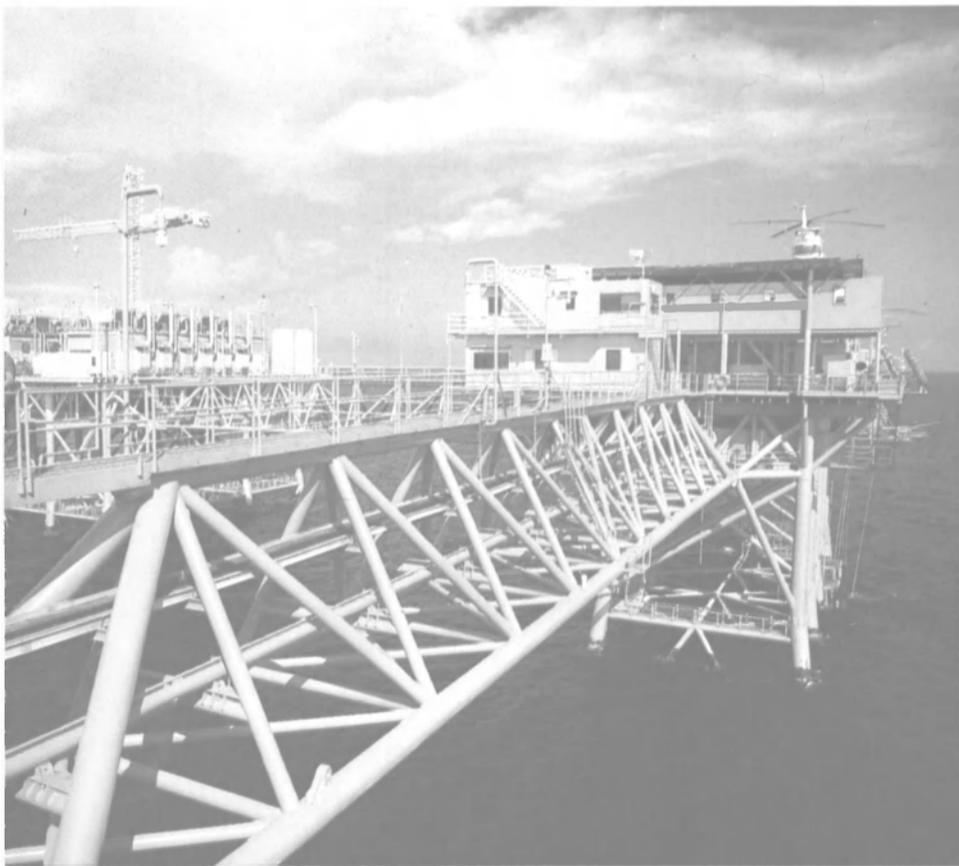
Based on its offshore success, OMPS is extending its inspection and monitoring to integrate cathodic protection services with painting for complete structure protection. With 15 years of cathodic protection experience, Du Pont will apply the same approach used for painting.

Specialists will survey and analyze existing cathodic protection systems and develop a planned retrofitting program for optimum continuous protection. Du Pont will design, engineer, and install all anodes and continuously monitor and inspect them.

With its expanded services, OMPS is preparing to extend the geographic range of its operations into the North Sea.

For a free 12-page color brochure on Du Pont's OMPS,

Circle 65 on Reader Service Card



## Morgan Appointed National Sales Manager For Welded Beam



Craig E. Morgan

Larry N. Lamphier, president of Welded Beam Company of Perry, Ohio, recently announced the appointment of **Craig E. Morgan** to the newly created position of national sales manager. He will be responsible for setting new marketing directions as well as supervising the sales force.

Mr. **Morgan** has been involved in the sales and marketing of high-frequency welded structural shapes since 1978. Prior to joining Welded Beam in 1981 he was employed by Kaiser Aluminum, and Riblet Products.

Welded Beam Company produces custom, high-frequency welded I, H, and T beams for the shipbuilding, railcar, trailer, and light construction industries. Thermatool Company, Welded Beam's parent, is a world leader in the development of high-frequency welding systems for such products as pipe, tube, and structural shapes, with more than 900 machines installed worldwide since 1952.

## John Gaughan Named To New Maritime Post

Maritime Administrator **Harold E. Shear** has announced the appointment of **John Gaughan** to the newly created post of Director of External Affairs of the Maritime Administration, an agency within the Department of Transportation.

Mr. **Gaughan** will be responsible for the agency's liaison with the maritime industry, overseeing Mar-Ad's public affairs activities, and, in coordination with the Office of the Secretary, contacts with the Congress on maritime matters.

For three years prior to this appointment he had served in the office of the Secretary of Transportation as Congressional Relations Officer for Maritime Programs and previously had been assigned to the U.S. Coast Guard's Congressional Affairs Staff while on active duty as Coast Guard officer.

His active duty service with the Coast Guard (1970-80) also included command of the cutter Point Martin.

Mr. **Gaughan** graduated from the U.S. Coast Guard Academy with

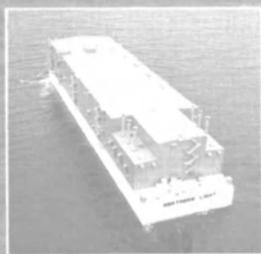
a BS degree and earned a Doctor of Laws degree from the University of Maryland School of Law. From 1980-81 he served as an attorney at the Federal Maritime Commission. He holds the rank of Lieutenant Commander in the U.S. Coast Guard Reserve and is a member of the District of Columbia Bar Association and the Maritime Law Association.

## Hoboken Shipyards Wins Contract To Overhaul USS Oak Ridge (ARDM-1)

Hoboken Shipyards Incorporated, Hoboken, N.J., is being awarded a \$3,740,345 firm-fixed-price contract for the overhaul of USS Oak Ridge (ARDM-1). Work

will be performed in Hoboken and is expected to be completed June 1985. Contract funds would not have expired at the end of the current fiscal year. Thirteen bids were solicited and seven offers were received. The Supervisor of Shipbuilding, Conversion and Repair, Charleston, S.C. is the contracting activity.

## Top Value in a Variety of Vessels



Daewoo takes pride in being able to offer clients specialized service in a broad spectrum of both specialty and conventional vessels to meet virtually all shipping requirements. Our massive and highly technical capabilities make possible the successful construction of virtually any order, and highly sophisticated production flow can accommodate client requests for any of an expanding range of special

features that may be required for a vessel to ensure top efficiency and performance. It's top value in a variety of vessels, and your choice is our pleasure. And we aim to please.

### Select from:

Ships: Oil Tankers, Chemical Tankers, Bulk Carriers, O/B/O Carriers, Container/Ro Ro Ships, LNG/LPG Carriers, Specialty Ships

Offshore Structures: Jackets, Platforms, Barges, Jack-up Drilling Rigs, Semi-submersible Drilling Rigs and other Mobile Rigs.

Plants: Barge Mounted, Modular, Power & Desalination, Iron & Steel, Cement, Tire, Pulp & Paper, Rolling Stock, Chemical & Petrochemical Plants, Refineries, and other Industrial Plants

Other Products: Cranes, Bulk Handling Systems, Dam Gates, Storage Tanks, Pressure Vessels, Heat Exchangers, Steel Structures

•American New York, a 2129 FEU Container Ship, one of a fleet of 12 being produced at Daewoo's Okpo Shipyard



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Circle 163 on Reader Service Card

## Todd Marine Systems Offers New Brochure On Combustion Technology

A new four-page brochure on the efficient combustion of marine fuels is being offered by Todd Marine Systems, a company that brings to the marine world the amalgamation of combustion technologies from the United States and Europe through the recent merging of Todd Combustion, Inc., F.A. Hughes Marine Ltd., and International Power Chemicals, Inc. The literature states that the merger of expertise from these three companies will now make it possible for marine engineers to optimize the burning of fuels aboard ship, and that Todd Marine Systems has been chartered to bring all the pertinent technology in the Fuel Tech Group to the marine industry.

Of paramount importance to the new company will be the efficient combustion of marine fuels, both in boilers and diesel engines, and to give the marine engineer the tools he needs to handle and burn high-priced, low-quality bunkers. To meet this objective, Todd Marine Systems brings selected expertise on the subject of combustion from their affiliated companies, and this is listed in the brochure specifically as follows:

1. From Todd Combustion, Inc.—the most modern burner systems and components for marine boilers.
2. From F.A. Hughes Marine

Ltd.—over 100 years of supplying marine products and services, including antifouling equipment, impressed current cathodic protection, inert gas systems, gas-freeing equipment, tank cleaning equipment, marine pump and pressure sets and marine injectors. More recently they have been at the forefront of technology with the "Emulsa" fuel saver for marine engines.

3. From International Power Chemicals, Inc. (IPC)—innovative advances in the chemical emulsification, catalysis and ash modification of marine fuels. IPC combustion expertise will facilitate the development of modern oil/water emulsification technology.

The publication says that for the first time in the marine industry there is a company that combines real mechanical and chemical knowledge to solve complex fuel-burning problems. For boilers, the Todd Combustion burners will be enhanced by F.A. Hughes oil/water emulsifiers and IPC's chemical emulsifiers, catalysts and ash modifiers. For diesel engines, F.A. Hughes's oil/water emulsifiers will be maximized by IPC's additives. Emulsification will be optimized by utilizing both mechanical and chemical techniques. In both cases combustion will be more efficient and complete. Ship operators and owners will benefit from reduced bunker costs. Marine engineers will benefit from easier handling and burning of fuel.

For a free copy of the Todd Marine Systems brochure,

Circle 53 on Reader Service Card

## Boeing Marine Wins \$14.8-Million Contract

Boeing Marine Systems, Seattle, Wash., is being awarded a \$14,865,852 cost-plus-fixed-fee contract for providing planning yard and design agent services and logistic support for patrol hydrofoil ships. Work will be performed in Seattle, Wash. (85%) and Key West, Fla. (15%) and is expected to be completed in September 1985. This contract includes options which, if exercised, could total an additional \$32,224,138. The Naval Sea Systems Command, Washington, D.C. is the contracting activity.

## Taylor Joins COMSAT World Systems Division As Senior Vice President

COMSAT World Systems Division announced recently that William C. Taylor has been appointed senior vice president. In this capacity, Mr. Taylor will manage the provision of international communications services through COMSAT's international earth stations and satellites of the International Telecommunications Satellite Organization (INTELSAT).

Mr. Taylor comes to COMSAT from ITT, where he served most recently as executive director, U.S. Operations and vice president of World Communications, U.S. Transmission Systems, and Com-

munications Services. He has held a variety of technical, operations and engineering management positions throughout his long career with ITT.

Commenting on the announcement, COMSAT World Systems division president Joel R. Alper noted: "Mr. Taylor brings to COMSAT a strong record of success in the international communications industry. His talents and skills will be of crucial importance as we face a new and rapidly changing environment for international communications services."

Circle 62 on Reader Service Card

## Torpedo SPC Chosen For Advanced Cable Layer —Literature Available

Torpedo self-polishing copolymer (SPC) paints have been selected by Cable & Wireless (Marine) Ltd. to provide anti-fouling protection on its latest cable ship, the 6,133-gt Pacific Guardian. Three coats of Torpedo SPC, at 100 microns each, have been applied to the vessel's underwater hull from the keel to the load draft to provide up to three years of protection against fouling by marine growth.

In addition to being a highly effective anti-fouling, the Torpedo SPC system from Ameron Torpedo Marine Paints also provides a progressively smoothing hull surface, resulting in greater fuel efficiency during the vessel's operation.

Costing in excess of 18 million pounds and reputed to be the most advanced cable ship ever built, Pacific Guardian was launched earlier this year at the Neptune Yard of the Swan Hunter Division of British Shipbuilders in Wallsend. After delivery she will be stationed in Fiji to carry out maintenance work as required on the Australia/New Zealand/Fiji/Canada telephone cable system.

In addition to supplying the anti-fouling system for the ship, the Torpedo contract also includes the supplying of paint systems for the entire vessel and her components.

For further information and free literature on Torpedo paints.

Circle 50 on Reader Service Card

## Management On The Move In The Rauma-Repola Shipbuilding Group

Jorma Nieminen, formerly general manager of the Rauma Repola Shipyards in Rauma, Finland, had been appointed purchasing manager of the Rauma-Repola Company in Helsinki. Succeeding him is Jouko Nevala, former manager of the Deck Machinery Works. At the same time, Timo Salokoski has been named manager of the Deck Machinery Works, under the direction of Mr. Nevala.

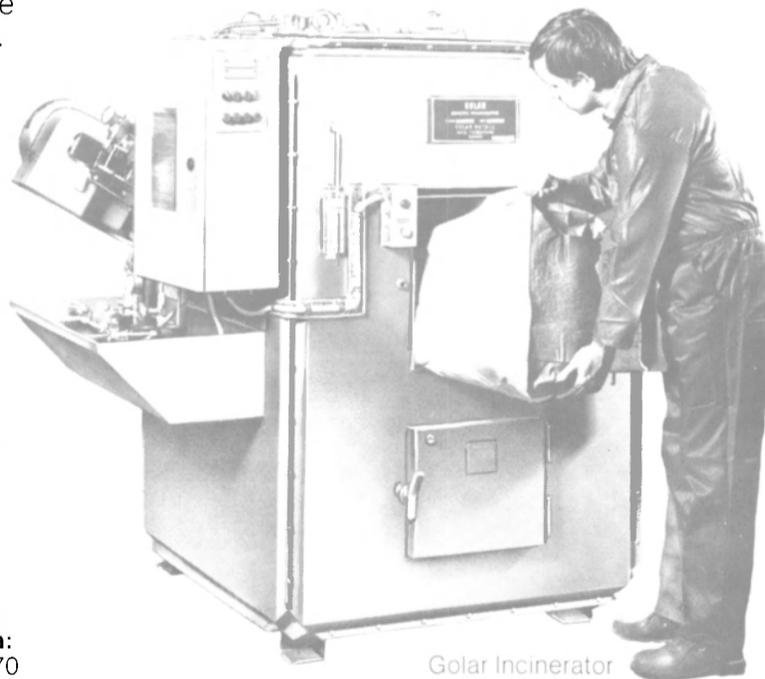
Maritime Reporter/Engineering News

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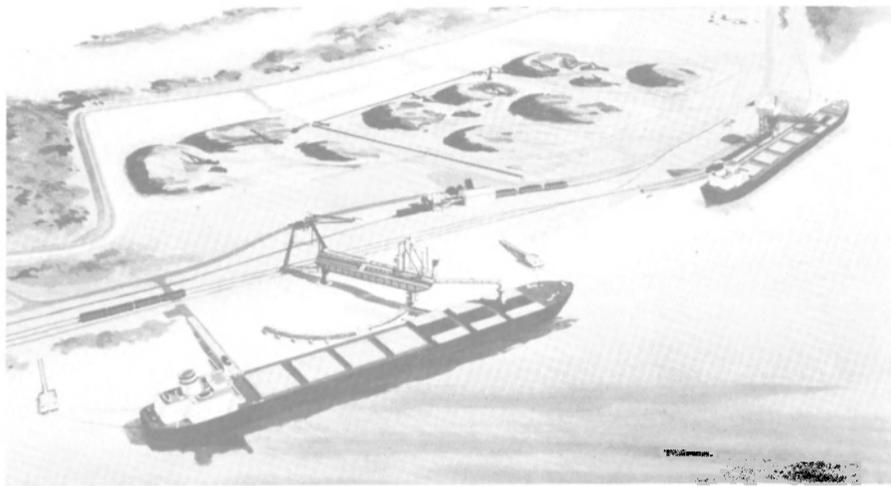
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Circle 324 on Reader Service Card



Artist's rendering of new bulk loadout facility designed and engineered by Soros Associates that will be constructed by Port of Corpus Christi (Texas) Authority.

## Corpus Christi Bulk-Loading Facility To Be Modernized

By Col. Nolan C. Rhodes, USA (Ret.)  
and Richard W. Vander Laan

The Port Commission of the Port of Corpus Christi (Texas) Authority recently approved funds for modernization of its existing bulk materials dock. The existing facility includes a bucket type unloader that is also used for loading vessels calling at the port. The Port Commission recognized that a more efficient loadout system would better serve the present users of the facility as well as prospective users.

The Commission retained Soros Associates, a New York-based international consulting engineering firm specializing in the planning, design, and construction management of ports, offshore terminals, and bulk material-handling systems, to provide the engineering and construction supervision for the modernization program. Soros, working closely with the Port's staff, developed various concepts that considered means to reduce ship turnaround time, increase operating efficiency, and construct a new loadout facility without disrupting the present operations.

The concept selected provides for a new loadout facility to be located west of the existing unloading dock. A new berth able to accommodate vessels ranging from 1,500-ton barges to 100,000-dwt ships will be constructed with three breasting dolphins and two mooring dolphins along the length of the channel. A radial type Sumitomo shiploader, mounted on a curved rail in front and turntable in the rear, will have the capability to move along the length of a vessel at berth, as well as raise, lower, and shuttle the boom conveyor in and out from the bulk-

head line. These shiploader movements will permit loading of most vessels without the need to move the ship at the berth.

The shiploader will be fed by a 48-inch-wide belt conveyor system designed to handle 1,500 tons per hours of material weighing 55 pounds per cubic foot. The conveyor system will be fed at multiple points along its length—at two points in the existing stockpile area and at a combination truck/railroad car dumping pit located adjacent to the existing railroad yard.

The pit dump, enclosed in a building, can accommodate a 100-ton, bottom-dump railroad car or three 20-ton trucks that rear-dump through openings in the side of the building. These openings will be closed with overhead doors when dumping from railroad cars. An overhead type, trolley-mounted railroad car shakeout will be provided to speed up railcar unloading. Material discharged into the dump hopper is fed onto the belt conveyor system by four variable-rate, vibrating pan feeders located under the openings in the bottom of the hoppers. The belt conveyor system will be protected from damage by tramp iron by a suspended magnet and a metal detector. An in-motion belt scale to record tonnage loaded into ships will be provided to assist in the shiploading operation.

In order to meet the standards of the Texas Air Control Board, the facility will be constructed with a dual dust control system. This system will consist of dust suppression for bulk materials such as coal and petroleum coke that can be sprayed with water, and containment for bulk materials that cannot be sprayed with water. All conveyor transfers will be fully enclosed, and all ground conveyors will be provided with hood covers. Return belt scrapers and plows will be designed and installed to minimize any carry-back of material on the return strand of the belt.

Col. Rhodes is director of engineering services for the Port of Corpus Christi Authority; Mr. Vander Laan is vice president of Soros Associates.

Dust collection during the ship-loading operation is in two modes. In the first mode, the loading spout, inside a flexible concentric air duct, is lowered into the ship's hold with the discharge end of the spout and the air duct located in close proximity to the discharged material. The dust-laden air generated at the discharge is drawn into the duct at approximately one-half (17,500 cfm) of the rated capacity of the dust-collection system. The spout and duct are raised simultaneously as the material is discharged into the ship's hold.

In the second mode, a trimming spoon located at the discharge end of the spout is used to throw material under the vessel's hatch coamings. This operation generates more dust. Therefore, the dust is contained in the hold by strip tarps, and is exhausted from the hold through the concentric duct that is raised independently of the spout and spoon and positioned over the openings in the tarps. In this mode, the full air volume of the system (35,000 cfm) is utilized to capture the airborne dust in the hold.

This type of shiploader dust-collection system was also designed by Soros Associates for the new shiploader at the Port of Houston, as well as at Arco Petroleum Products Company's coke-loading facility at the Port of Longview, Wash.

The Port of Corpus Christi recognized the need to expand the new facility in the future without having to shut down the operation. Therefore, the design incorporates space for additional conveyor transfers for both inbound cargoes from rail and truck and outbound cargoes from areas on the site designated for future storage.

Contracts for construction of the new facility were awarded recently to the following contractors: dredging, Lloyd W. Richardson Construction Corporation, Arkansas Pass, Texas; shiploader, Sumitomo Heavy Industries Ltd., Japan; mechanical/electrical, SCE Incorporated, Birmingham, Ala.; and civil/marine, Paragon Engineers and Constructors, Inc., Houston.

The Corpus Christi facility is scheduled for start-up during the last quarter of 1985.



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Circle 212 on Reader Service Card



**PACTOW HOSTS DILLINGHAM TUGS**—A historic meeting took place recently as Long Beach, Calif., became the crossroads of the Pacific for four Dillingham Maritime tugs. Flanked by PacTow's revolutionary tractor tug Pacific Escort, which is stationed in Long Beach, is the Moana Hele, operated by Dillingham Tug and Barge in Hawaii. The Moana Hele arrived from Honolulu to tow a container barge from Long Beach back to Hawaii. The Barbara Foss, from Foss Company in Seattle, was on her way to Louisiana to pick up two barges. The tug Drew Foss was completing a voyage from Ocean Transportation Services in Houston, Texas, to Seattle, Wash. Dillingham Maritime offers coastal, harbor and ocean tug and barge service. For additional information,

Circle 41 on Reader Service Card

### New Full-Color Brochure Available From PACECO

PACECO, Inc., a subsidiary of the Fruehauf Corporation, has recently published a new full-color brochure describing in detail its newly expanded, computer-integrated manufacturing facility located in Gulfport, Miss.

Originally built in 1971, the facility was expanded in 1981 at a cost of \$30 million to include a 400,000-square-foot, under-roof fabrication facility; a 58,000-square-foot, environmentally controlled blast and coating facility; and a 44,000-square-foot engineering and admin-

istration center, which is equipped with CAD/CAM.

PACECO, formerly Pacific Coast Engineering Company of Alameda, Calif., has specialized in contract manufacturing since 1923, and is well known in the maritime industry for its giant container cranes.

For a free copy of the new brochure,

Circle 70 on Reader Service Card

### New 16-Page Brochure From Caterpillar On Six Diesel Series

The manufacture of the highest quality engines and engine systems

is the subject of a new 16-page, full color brochure. "Caterpillar Engines, An Industry Standard of Excellence" discusses all elements of the company's engine program. Numerous photographs show research and engineering, foundry technology, production, quality control, and parts distribution capability at company locations. Also described are basic specifications of six series of Caterpillar Engines ranging from 85-6,000 hp (63 kw to 4,500 kw) for use in a broad variety of truck, marine, agricultural, electric power generation and industrial applications.

To obtain a copy of the brochure,

Circle 71 on Reader Service Card

### Daewoo Gets \$425-Million Contract From Sonat For Six Semisubmersible Rigs

What is said to be the largest-ever order for offshore drilling rigs, a contract for six semisubmersibles worth \$425 million, has been placed by Sonat Offshore Drilling of Houston with Daewoo shipbuilding & Heavy Machinery Ltd. of Korea. The six rigs will be constructed to a design based on Gotaverken's GVA 4000, and will be capable of drilling in waters up to 3,000 feet deep and operating almost anywhere in the world. Deliveries are scheduled from late 1986 to 1989.

Sonat Drilling, with a current fleet of 21 offshore mobile rigs, also has two other semisubmersibles under construction. One was ordered in partnership with Wilh. Wilhems- en Enterprises Ltd. of Oslo, and will be long-term chartered to Norsk Hydro. The other was ordered by Sonat on speculation; it is under construction at Mitsui's Tomano Works in Japan with delivery scheduled for 1985. Total cost of these two rigs is about \$145 million.

### Whalen Joins Huthnance As Vice President -Operations

Bill Huthnance, president of Huthnance Drilling Company, has announced that **Herb Whalen** has joined the company as vice president—operations.

Mr. Whalen has extensive experience in both operations and management. While attending Texas A&M University, he worked as a roustabout and roughneck while studying petroleum engineering. After graduation he began as a drilling engineer for Tenneco. He next served as manager of operations for Teledyne Movable Offshore and later as vice president of worldwide operations for Diamond M Drilling Company. In 1980, he formed Whalen Drilling which operated three inland barges before he sold the company three years later. Mr. Whalen will supervise operations for Huthnance Drilling from the company's New Iberia, La. office.

### New Transmission Accessories Bulletin Offered By Twin Disc

Twin Disc, Inc., has just released an updated 12-page bulletin covering accessories available for its line of marine transmissions in the 52 to 1,193-kw (70 to 1,600 bhp) range, suitable for diesel engines.

New information includes specifications on input hub assemblies designed to fit Vulastik torsional couplings. The bulletin also contains basic capacity and dimensional data on the company's standard and multi-pump PTO's, top PTO's, live PTO's, indicating gauges, output shaft flanges, trolling valves and heat exchangers.

To obtain a copy of Bulletin 319-P-AC,

Circle 77 on Reader Service Card



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Circle 321 on Reader Service Card  
Maritime Reporter/Engineering News

## Liner Norway Fitted With New MaK-Driven Gensets —Literature Available

Two of the latest additions to the growing number of MaK type M35 diesel engines now in service are those recently installed in the SS Norway, the world's largest cruise liner. Owned by Klosters Rederi A/S of Oslo, the Norway operates mainly in the Caribbean area. However, during a recent visit to Europe she paid a brief call at Hamburg where the two MaK diesel generator sets were installed. Each engine develops 3,600 bhp at 750 rpm and drives a three-phase Siemens alternator producing 3,150 kva.

Installed by Klosters to improve the ship's power system, it is expected that the Norway's electrical requirements of 6-7 megawatts will be produced mainly by the new gensets. Operating on heavy fuel oil of 320 CST, the new gensets should halve the fuel costs of the former turbogenerators.

MaK produces a range of diesel engines covering outputs from 1,000 to 13,500 bhp, suitable for main propulsion or generator drive. The company has extensive experience with heavy fuel operation dating back to 1964, and all its engines are designed for operation on bunker fuels up to 700 CST.

For further information and free literature on MaK diesels,

Circle 51 on Reader Service Card

## MarineSafety Offers Radar Renewal Course —Literature Available

MarineSafety International (MSI), a training organization for bridge and engineering officers located at LaGuardia Airport in New York City, is inaugurating a one-day radar endorsement renewal course for individual ships' officers. The new course includes some unique features such as guaranteed plotting proficiency and a free refresher session prior to sea duty. Open to all licensed merchant marine officers, this course is something new for MSI, whose courses usually are sponsored by shipping companies or government agencies.

The one-day course covers radar plotting and maneuvering decision-making practice on realistic, interactive ships' bridge simulators. The exercises cover both coastwise and offshore situations. Emphasis is on practice in analyzing information and vessel maneuvering in complex collision-avoidance situations. The same licensed, experienced instructors who conduct MSI's courses for major shipping companies are used. The course meets IMO, USCG, Canadian, Liberian, and other national standards. The fee for the one-day course is \$165 per person.

For further information and a free brochure,

Circle 19 on Reader Service Card

December 15, 1984

## Crosby Group Adds New Block To Product Line —Full Catalog Available

A new try net block has been added to its line of marine products by The Crosby Group, Inc. of Tulsa, Okla. The all-steel Crosby F-453 block with a 6-inch-diameter forged steel sheave with flame-hardened

groove is capable of handling multi-line feeds through its extra-side, flared throat opening.

Another feature of the F-453 is that the swivel eye, as well as the center pin, is lubricated. The new block is hot dipped galvanized for enhanced corrosion resistance, and has a working load limit of 5 tons.

The Crosby Group, a Division of Amhoist, is comprised of Laughlin, Lebus, McKissick, National, and

Western. These companies manufacture every conceivable kind of fitting and accessories for deck machinery, cargo handling, and other applications, including forged fittings, hooks, blocks, sheaves, pulleys, load binders, and chain.

For further information on The Crosby Group, and a free 180-page full-color catalog describing all of the products of all divisions,

Circle 52 on Reader Service Card

## Hyundai for Your Product Carriers

If you need a product carrier or are considering a new building project, please contact our Hyundai yard built to 31,000 DWT product carriers for the U.S.A. and 40,700 DWT (U.S.A.) which are available for order with us for two 40,700 DWT product carriers.

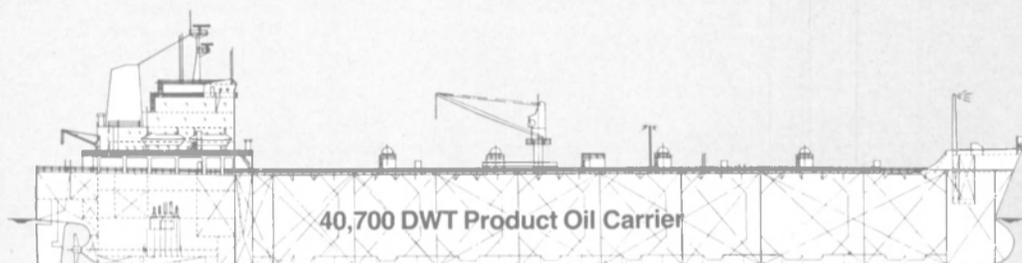
We are also building two 40,700 DWT and three 105,500 DWT product carriers for The Shipping Corporation of India Ltd. and Shell Tankers B.V. (Netherlands) respectively.

There are good reasons why you should

shipowners have selected our Ulsan yard — competitive price, economy design, on-time delivery and experience.

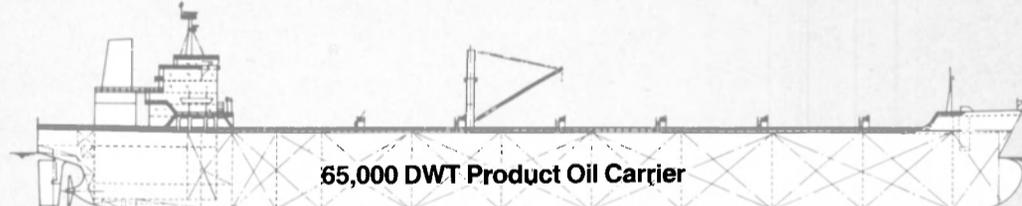
For your new product carriers, come to Hyundai — an ideal yard where you will see firsthand how our experience and technology can serve you best.

For further information contact our Shipsales Department in Ulsan or any of our overseas offices.



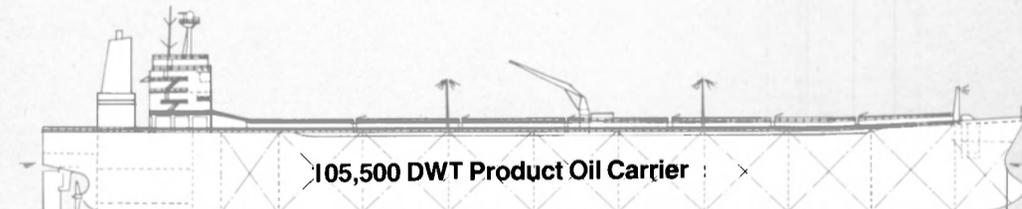
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**DWT & Capacity**  
DWT at 12.4M Draft . . . . . 40,700 MT  
Cargo Oil Tanks . . . . . 57,100 M<sup>3</sup>

**Main Engine**  
Hyundai-Sulzer 5RTA 58  
MCR . . . . . 7,600 BHP x 103 RPM  
NCR . . . . . 6,800 BHP x 99 RPM  
**Service Speed** . . . . . 14.0 Knots  
**Segregation** . . . . . Four (4)



**Dimensions**  
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Draft, Scantling . . . . . 13.30 M  
**DWT & Capacity**  
DWT at 13.3M Draft . . . . . 65,000 MT  
Cargo Oil Tanks . . . . . 73,500M<sup>3</sup>

**Main Engine**  
Hyundai-B&W 5L 70MCE  
MCR . . . . . 11,280 BHP x 91 RPM  
NCR . . . . . 10,150 BHP x 88 RPM  
**Service Speed** . . . . . 13.8Knots  
**Segregation** . . . . . Four (4)



**Dimensions**  
LOA/LBP/BM/DM . . . . . 243.80/234.00/42.67/19.80 M  
Draft, Designed/Scantling . . . . . 12.19/14.60 M  
**DWT & Capacity**  
DWT at 14.6M Draft . . . . . 105,500 MT  
Cargo Oil Tanks . . . . . 109,300M<sup>3</sup>

**Main Engine**  
Hyundai-B&W 5L80MCE  
MCR . . . . . 16,000 BHP x 83 RPM  
NCR . . . . . 14,400 BHP x 80 RPM  
**Service Speed** . . . . . 14.94 Knots  
**Segregation** . . . . . Four (4)

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HYUNDAI HEAVY INDUSTRIES	SHIPBUILDING 168	G.J. WORTELBOER JR. B.V.	ANCHORS/WINCHES/CHAINS 321

## Regency Introduces Marine Television/FM Stereo Antenna And Amplifier —Literature Available



Regency Electronics, Inc., Indianapolis, Ind., recently announced the Polaris TVS-100/TVS-AMP marine television FM stereo antenna and amplifier.

The Polaris TVS-100 is a compact outdoor marine antenna that receives UHF-VHF television and FM radio receptions. It features a built-in high-performance, low-noise amplifier circuit and a compactly designed enclosure made of ABS resin. A rubber weather guard boot and F type connector are included.

If additional signal amplification is needed, the TVS-100 can be connected to the optional TVS-AMP. The TVS-AMP incorporates a constant voltage circuit for use with 24- and 12-volt DC power supplies. Additional features include simple input/output terminal connections, a compact, sturdy case with power indicator, and a DC power cord.

For free literature containing full information,

Circle 44 on Reader Service Card

## Butterworth Systems (UK) Announces New Location

Butterworth Systems (UK) Ltd. recently announced its new location in New Malden, Surrey, England; telephone 01-942-8989, telex 269541.

Martin Smith has been ap-

pointed general manager, along with Shirley Tovey as SCAMP administrator and Ray Turney as technical sales coordinator.

Its parent company, Butterworth, Inc. (an Exxon affiliate), is headquartered in Houston, Texas.

For free literature on Butterworth products and services,

Circle 10 on Reader Service Card

## Newman's Introduces NEWCO Marine Valves —Free Catalog Offered

Newman's Inc. of Tulsa, Okla., has introduced a full line of international marine valves under their brand name of NEWCO. They are available from stock in a size range of 2 inches through 24 inches in classes 150# through 2500#. NEWCO valves come in gate, globe, angle and check types. A bolted bonnet design is used 150# through 600# with a pressure seal design on 600# through 2500#. Standard body materials include carbon steel, stainless steel, cast iron, ductile iron with others obtainable upon request. All NEWCO marine valves are bronze trimmed with stainless-steel, Stellite®, Monel®, and other special trims upon specification.

NEWCO marine valves are used in all salt-water applications such as cargo ships and tankers, barges, dry-docks and pipelines. In addition, all meet MSS, ASTM and ASME specifications and are ABS inspected.

NEWCO marine valves are stocked in depth at local distributors to facilitate complete customer accessibility. They can also be ordered directly from Newman's seven strategically located warehouses in Tulsa; Houston, Texas; East Brunswick, N.J.; Milwaukie, Ore.; Chicago, Ill.; Barrie, Ontario, and Edmonton, Alberta, in Canada.

The Newman's engineering staff

is available at all times for consultations on customers' special requirements, and can modify almost any valve in their product line to meet the specific needs of particular applications. Newman's specialists make the modifications and actuation in their own fully equipped shop facilities. For a free NEWCO Marine Valve catalog and further information,

Circle 57 on Reader Service Card

## Rockwell Offers Brochure On Ship Information Management Systems

Ship Information Management Systems (SIMS) is the subject of a free brochure from Rockwell International of Anaheim, Calif. The publication points up the problem of managing shipboard data since today's warship is an aggregate of increasingly complex subsystems. These sophisticated and data-intensive systems generate such large quantities of information that new techniques for data control and management are now imperative.

Rockwell's Ship Information Management Systems are discussed as a cost-effective answer to today's proliferation aboard U.S. Navy warships. By means of a unique Rockwell-designed multiplex data bus, all of the information functions for command, control, and communications are carried out—rapidly, accurately, and totally without interference—by a single, integrated system. A list is given of the advantages provided by Rockwell's SIMS: design flexibility, improved acquisition times, easy conversion and modernization, high reliability, economical functional reconfiguration, reduced training, and reduced manning.

The Rockwell-developed Ship-

board Data Multiplexing is featured as the key to SIMS' ability to efficiently handle the multiple functions of a modern ship's information processing. This system is presently being installed onboard the USS Olendorf (DD 972), for technical and operational evaluation.

The brochure is illustrated with photos of the Olendorf and various Rockwell International equipment.

For a free copy and additional information,

Circle 55 on Reader Service Card

## Markey Delivers DESH-6 Electric Research Winch

Markey Machinery Co., Inc., of Seattle, builder of auxiliary marine equipment since 1907, recently delivered a DESH-6 Electric Research Winch to a California based institute of oceanography. The winch's easily removable drum has a capacity of 10,000 meters of .332 Dia. E.M. cable and is coupled with the winch's dual range gearing which provides high pull and high-speed ranges. The drum is declutchable for free drop wire loading, and use of the 10-inch gypsy.

The 75 hp AC/SCR/DC system with variable speed remote controls allows a wide range of performance when coupled with the winch's two operating ratios. The fairlead unit has provisions for displaying tension, scope and line speed. The fairlead drive is designed to accommodate use of different wire sizes with minimal modification.

Extensive use is made throughout the winch of stainless-steel fairlead sheaves, roller chains, fasteners and fittings, along with an inorganic zinc coating system to insure minimum maintenance. For further information on Markey's DESH-6 winch,

Circle 56 on Reader Service Card

# 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 63049  
Stal Refrigeration AB, Butangsgatan 16, S 601 87 Norrköping, Sweden

## ANCHORS AND CHAIN

Baldt Incorporated, P.O. Box 350, Chester, PA 19016  
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

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 Q. Moffitt, Inc., P.O. Box 1415, Akron, OH 44309  
Norton Chempplast, 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

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

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

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

Key Houston Division of Jacksonville Shipyards, 13911 Atlantic Blvd., Jacksonville, FL 32225

## BOILERS

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

Combustion Engineering, Inc., Windsor, CT 06095  
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 Göteborg, Sweden  
MacGregor Navire U.S.A. Inc., 135 Dermody St., Cranford, NJ 07016

## CASTINGS/FORGINGS

NKS Industria Pesada, Grupo Industrial, Reforma 404, 140 Piso, Mexico, D.F. 06600 U.S. REP.—Lexington Transport (New York) Inc., 551 Fifth Ave., Room 910, New York N.Y. 10017

## 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  
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  
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

Indikorp 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

Marine Safe Electronics, 37 Staffern Drive, Concord, Ontario, Canada, L4K 2X2

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

CamLock Flange Sales Corp./Marine Moisture Control Co., 60 Inip Dr., Inwood, N.Y. 11696

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

## CRANE BUMPERS

Kastalon Inc., 4101 West 123rd St., Alsip, IL 60658

## CRANES—HOISTS—DERRICKS—WHIRLEYS

Appleton Marine, P.O. Box 2339, Appleton, WI 54913  
ASEA Stal-Laval Inc., 525 Executive Blvd., Elmsford, NY 10523

HIAB Cranes & 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

Colt Industries Inc. Fairbanks Morse Engine Div. 701 Lawton Ave., Beloit, WI 53511

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

Stewart & Stevenson Services, Inc.—MWM, P.O. Box 1637, Houston, TX 77251-1637

## DIESEL ENGINE—Spare Parts & Repair

Colt Industries Inc. Fairbanks Morse Engine Div. 701 Lawton Ave., Beloit, WI 53511

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

Stewart & Stevenson Services, Inc.—MWM, P.O. Box 1637, Houston, TX 77251-1637

Sulzer Brothers Inc., 200 Park Ave., New York, N.Y. 10166

## ELECTRICAL EQUIPMENT

Jergens Inc., 19520 Nottingham Rd., Cleveland, OH 44110  
Stewart & Stevenson Services, Inc.—MWM, P.O. Box 1637, Houston, TX 77251-1637

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, Hoffert 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

Boston Metals Co., 313 E. Baltimore St., Baltimore, MD 21202  
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 Ave., 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

## 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**  
Ferrous 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

CamLock Flange Sales Corp./Marine Moisture Control Co., 60 Inip Dr., Inwood, NY 11696

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 Göteborg, 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

Himont 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 seavser, 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

Hydra-Dynamics, Inc., 2141 Greenwood Ave., Wilmette, IL 60091  
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

Wm. Keith Hargrove, Inc., 1300 Post Oak Blvd., Suite 2050, Houston, TX 77056

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

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

Phoenix Products Company, Inc., 4769 North 27th Street, Milwaukee, WI 53209

## LINE BLINDS

Stacey/Fetterolf Corp., P.O. Box 103, Skippack, PA 19474

## MACHINERY MAINTENANCE, REPAIR, OVERHAUL, AND TESTING

A-C Brake Co., 308 E. College St., Louisville, KY  
Jered Brown Brothers Inc., 1300 Coalidge, P.O. Box 2006, Troy, MI 48007

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

Goltens, 160 Van Brunt St., Brooklyn, NY 11231  
Rosan, Inc., 2901 West Coast Hwy., Newport Beach, CA 92663

## METALS

Bayou Steel Corp., P.O. Box 5000, Laplace, LA 70068

## MINING

Rocky Mountain Energy, 10 Longspeake Dr., Box 2000, Broomfield, CO 80020

## MOORING SYSTEMS

Murdock Machine & Engineering Company of Texas, P.O. Box 2278, Irving, TX 75061

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

## NAME PLATES—BRONZE—ALUMINUM

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

## NAVAL ARCHITECTS, MARINE ENGINEERS, SURVEYORS

Advanced Marine Enterprises, Inc., 1725 Jefferson Davis Highway (Suite 1300), Arlington, VA 22202

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

Hi-Test Laboratories, Inc., P.O. Box 226, Buckingham C.H., VA 23921

Hoffman Maritime Consultants Inc., P.O. Box 186, Glen Head, NY 11545

HydroComp, Inc., 10 Cutts Road, P.O. Box 865, Durham, NH 03824

Inframarine, Inc., P.O. Box 53043, Jacksonville, FL 32201

R.D. Jacobs & Associates, 11405 Main St., Roscoe, IL 61073

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

J.L. Konopasek & Associates, 3523 Scrimshaw Dr., Jacksonville, FL 32217

James S. Krogen & Co., Inc., 3333 Rice St., Miami, FL 33133

Rodney E. Lay & Associates, 13891 Atlantic Blvd., Jacksonville, FL 32225

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

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

McLear & Harris, Inc., 28 West 44 Street, New York, NY 10036

Fendall Marbury, 1933 Lincoln Drive, Annapolis, MD 21401

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 Pile, 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

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 Hydraulics, 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

General Electric Company, Mobile Communications Division, Lynchburg, VA 24502

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

Japan Radio Co., Ltd., Akasaka Twin Tower, 17-22, Akasaka 2-chome, Minato-ku, Tokyo 107, Japan U.S. Rep: 405 Park Ave., New York, NY 10022

King Radio Corporation, 400 North Rodgers Rd., Olathe, KS 66062

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

Kongsberg Vopenfabrikk, 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

Micrologic, 20801 Dearborn, Chatsworth, CA 91311

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 6400D, 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

Robertson Autopilot, 400 Oser Ave., Happpauge, NY 11738

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 77701

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, Willits, 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 Chemical 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

Farboil Company, 8200 Fischer Rd., Baltimore, MD 21222

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

Jatun 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

Crawford Fitting Company, 29500 Solon Rd., Solon, OH 44139

Deutsch Metal Components, 14800 S. Figueroa St., Gardena, CA 90248

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 Wheatshaf La., P.O. Box 5997, Philadelphia, PA 19137

#### PLASTICS—Marine Applications

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

Norton Chemplast, 309-150 Dey Rd. Wayne NJ 07470

#### PLYWOOD

Simpson Timber Co., Third and Franklin, Sheton, WA 98584

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

Aquamaster Inc., 4125, 9th Avenue N.W. Seattle, WA 98107

Armo 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

Boston Metals Co., 313 E. Baltimore St., Baltimore, MD 21202

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

George Engine Company, Inc., Lafayette, LA

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

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 Høleby, Denmark

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

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

Mapco 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

North American Marine Jet P.O. Box 1232 Benton, AR 72015

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

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

Penske GM Power, Lodi N.J., 180 Rt. 17 South, Lodi, NJ 07644

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

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 Taravella 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

Goltens, 160 Van Brunt St., Brooklyn, NY 11231

Ingersoll—Rand Pump Group, Dept. B—346, Washington, N.J. 07882

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

A.I. Don Co., Foot of Dock St., Matawan, NJ 07747

American Mfg. Co., Inc., Willow Avenue, Honesdale, PA 18431

Atlantic Cordage Corp., 60 Grant Avenue, Carteret, NJ 07008

DuPont Co., KEVLAR Aramid Fiber, Room G-15465, Wilmington, DE 19898

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

Tubbs Cordage Company, P.O. Box 709, Orange, CA 92666

Vermeire N.V. Industriepark Zwaarveld, B-9160 Hamme, Belgium TX: 21687

Wall Industries, Inc., P.O. Box 560, Elkin, NC 28621

#### SANITATION DEVICES—Pollution Control

Davit Sales Inc., P.O. Box 232, Jefferson Valley, NY 10535

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

Hamworthy Engineering Ltd., 10555 Lake Forest Blvd., Suite 5F, New Orleans, LA 70127

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

McCausey Lumber Co., 7751 Lyndon, Detroit, MI 48238

Trus-Joist Corp., P.O. Box 60, Boise, ID 83704

#### SCUTTLES/MANHOLES

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

#### SHAFT SEALS, REVOLUTION INDICATOR EQUIPMENT

Bird-Johnson Co., 100 Norfolk St., Walpole, MA 02081

Crane Packing Company, 435 Regina Dr., Clarksberg, MD 20734

Norton Chemplast, 309-150 Dey Rd., Wayne, NJ 07470

#### SHIPBREAKING—Salvage

Fred Devine Diving & Salvage, Inc., 6211 N. Ensign, Swan Island, Portland, OR 97217

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

#### SHIPBUILDING EQUIPMENT

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

Armo 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, Valpariso, 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

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 Yarrow Corporation, P.O. Box 86099, North Vancouver, B.C., Canada

Cantieri Navali Riuniti, Via Cipro, 11, 16100 Geneva, Italy

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., Ayongri, 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

Genstor Marine, 10 Pemberton Ave., No. Vancouver, B.C., Canada V7P 2R1

Gladding-Hearn Shipbuilding Corp., 1 Riverside Ave., Somerset, MA 02725

Golten 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

Jered Brown Brothers, Inc., 56 S. Squirrel Rd., Auburn Hills, MI 48057

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

Kone Corp. P.O. Box 6 SF-05801 Hyvinkaa, Finland

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, Toyko, 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

## C. Plath Offers Literature On NAVIGLOBE Satellite Navigation Receiver

C. Plath of Hamburg, West Germany, a division of Litton Industries, Inc., is offering literature on NAVIGLOBE, the Global Positioning System (GPS) satellite navigation receiver that was the center of interest at their stand during this year's International Ship, Machinery and Marine Technology Exhibition in Hamburg.

The informative literature explains what the Global Positioning System is, how it works, and how GPS user equipment processes pseudorange measurements and satellite positions to estimate three-dimensional user position and time. Features and performance of the NAVIGLOBE are discussed and technical data is listed, such as navigation signal, dynamic capability, interference immunity, reaction time, accuracy, interfaces, dimensions, power requirements, etc.

The publications points out that the main advantage of the NAVIGLOBE, which was developed with in the Litton Group by C. Plath in cooperation with a sister company, is its layout for simple operation: without knowledge of the operator's position, time special chart or calibration, NAVIGLOBE will indicate continuously its position with highest accuracy, shortly after switching. Photos of the NAVIGLOBE control display unit and receiver processor unit are included.

For a free copy of the literature and more information on the NAVI-

GLOBE GPS satellite navigation receiver,

Circle 20 on Reader Service Card

## Free Literature Offered On Walter Kidde Marine Smoke Detection System

Walter Kidde, Division of Kidde Inc., Wake Forest, N.C., has available free literature on the company's U.S. Coast Guard-approved Marine Smoke Detection System.

The four-page publication, which is printed in red, black and white and illustrated with photos, drawings and diagrams, explains that in this era of superships, fire protection and onboard safety have become extremely critical factors because of hazards that exist within the many interspaced, partitioned cargo holds of cargo carriers such as roll-on/roll-off and containerships.

To meet this complex problem Walter Kidde has developed the Marine Smoke Detection System, based upon a continuous monitoring of air within multiple zones of the ship to detect the presence of smoke, and to provide early warning of a potential fire problem. Air samples are continuously drawn from each fire zone and are inspected by a directed light beam. The presence of smoke in the viewing path of the light source causes the light to scatter and be seen by the photocell. Once the presence of smoke is detected in any zone, the appropriate annunciation actions occur to provide audible and visual warning of an impending danger.

Essentially, the system is comprised of three principal components: a Smoke Detection cabinet; a separate Suction Fan Blower Cabinet; and a Repeater Panel. The system features ease of installation, individual alarm systems, independent light detectors, visual detection, olfactory detection, automatic power protection, and reserve blower control.

For further literature containing full information,

Circle 59 on Reader Service Card

## Imperial Survival Suits Offered by Alexander—Literature Available

Alexander Industries, Inc., based in New Orleans and Lafayette, La., and Houston, is the exclusive Gulf Coast distributor for Imperial Manufacturing, maker of the Imperial survival suit. According to Alexander Industries president Roy Perrin, Imperial is one of the largest manufacturers of survival suits in the U.S. "We are especially pleased to now offer our customers the complete line of Imperial survival and underwater diving suits," he said.

Hypothermia is a very real danger on offshore platforms and in abandon-ship emergencies in cold water conditions. More than 200 people have documented their being saved from the killing effects of hypothermia by the Imperial suit. Throughout the world, more than 50,000 of the suits are in use.

The Imperial survival suit combines excellent flotation protection against drowning with superior in-

sulation protection against hypothermia. In a water temperature of 32.5 F, an unprotected person would survive only 15 minutes or less; with an Imperial Suit, the survival time increases to 18 hours or more. The one-piece suit can be donned over the bulkiest clothing in less than 60 seconds.

For further information and free literature,

Circle 22 on Reader Service Card

## Phoenix Introduces Sodium Fishing Lights—Literature Available

A new line of fishing vessel lights designed to provide more light while consuming less power has been announced by Phoenix Products Company, Inc. of Milwaukee.

Available in both 12-volt and 120-volt models, these fixtures can be mounted on masts or cabin bulkheads to illuminate deck areas and trawling nets. The high-pressure sodium (HPS) lights are designed to provide up to five times the light per watt as quartz lights. The new line includes models ranging from 35 to 150 watts, all with integral ballasts, thus eliminating the extra wiring and mounting involved with lights that require separate ballasts.

The fixtures are made of copper-free marine aluminum to resist salt water corrosion and offer long lamp life. HPS lamps can last up to 24,000 hours.

For further information and free literature on the HPS lights,

Circle 24 on Reader Service Card

Newport News Shipbuilding, 4101 Washington Ave., Newport News, VA 23607  
 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, Taeyong-ro, Chung-ku, Seoul, Korea  
 St. Louis Ship, 611 East Marceau St., St. Louis, MO 63111  
 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  
 Zidell Explorations, Inc., 3121 S.W. Moody Street, Portland, OR 97201  
**SHIPPING—PACKING**  
 Pilotage Consultants, Inc., P.O. Box 2046, New Hyde Park, NY 11040  
**SILENCERS**  
 Riley-Beard, P.O. Box 31115, Shreveport, LA 71130  
**SMOKE INDICATORS**  
 Robert H. Wager Co., Inc., Passaic Avenue, Chatham, NY 07928  
**STUFFING BOXES**  
 Johnson Rubber Co., Duramax Marine Div., 16025 Johnson St., Middlefield, OH 44062  
 Smith-Meeker Engineering Co., 157 Chambers St., New York, N.Y. 10007  
**SURVEYORS AND CONSULTANTS**  
 Booz Allen & Hamilton Inc., Crystal Square 2, Suite 1100, 1725 Jefferson Davis Highway, Arlington, VA  
 Francis B. Crocco, Inc., P.O. Box 1411, San Juan, Puerto Rico 00903  
 Frank Jeffrey & Assoc., 5201 Westbank Exp., Suite 206, Marrero, LA 70073  
 M.A. Stream Associates, Inc., 400 Second Ave. W., Seattle, WA 98119  
**TANK CLEANING**  
 Butterworth Inc. (USA), 3721 Lapas Dr., P.O. Box 18312, Houston, TX 77223-9989  
 Butterworth Systems (UK), 123 Beddington Lane, Croydon CR9 4NX, England  
 Gamlen Marine Division, 375 Allwood Rd., Clifton, NY 07013  
 Gamajet Equipment Div., Sybron Chemicals Inc., 121 S. Maple Ave., So. San Francisco, CA 94080  
 Petrochemical Services, Inc., 3820 Dauphine St., New Orleans, LA 70117  
**TANK LEVELING INDICATORS**  
 American United Marine Corp., 5 Broadway, Route 1, Sagas, MA 01906  
 Kongsberg North America Inc., 400 Oser Ave., Hauppauge, NY 11738  
 Marine Moisture Control Co., 60 Inip Dr., Inwood, NY 11696  
 Metal Goods Manufacturing Company, 309 W. Hensley Blvd., Bartlesville, OK 74003  
 Metritape, Inc., P.O. box 2366, Littleton, MA 01460

Transamerica Delaval, Inc., Gems Sensors Division, Cowles Road, Plainville, CT 06062  
**TORSIONAL VIBRATION SPECIALISTS**  
 T.W. Spaetgens, 156 W. 8th Ave., Vancouver, Canada, V5Y 1N2  
**TOWING—Barges, Vessel Chartering, Lighterage, Salvage, etc.**  
 Bay-Houston Towing Co., 805 World Trade Bldg., Houston, TX 77002  
 Curtis Bay Towing Co., Mercantile Bldg., Baltimore, MD 21202  
 Jan Erik Dyvi A/S, P.O. box 454, Sentrum, Norway  
 McAllister Bros., Inc., 17 Battery Pl., New York, NY 10004  
 McDonough Marine Service, P.O. Box 26206, New Orleans, LA 70002  
 Midland Affiliated Co., 580 Walnut St., Cincinnati, OH 45201  
 Moran Towing & Transportation Co., Inc., One World Trade Center, Suite 5335, New York, NY 10048  
 National Marine Service, Transport Div., 1750 Brentwood Blvd., St. Louis, MO 63144  
 Suderman & Young Co., Inc., 918 World Trade Bldg., Houston, TX 77002  
**VALVES AND FITTINGS**  
 Boston Metals Co., 313 E. Baltimore St., Baltimore, MD 21202  
 Dover Corporation, Norris Division, P.O. Box 1739, Tulsa, OK 74101  
 Elliott Manufacturing Co., Inc. (Remote Valve Operating Equipment), P.O. Box 773, Binghamton, NY 13902  
 Hayward Marine Products, 900 Fairmount Avenue, Elizabeth, NJ 07207  
 Jamesbury Corp., 640 Lincoln St., Worcester, MA 01605  
 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  
 Stacey/Fetterolf Corporation, P.O. Box 103, Skippack, PA 19474  
 Stockham Valves & Fittings, box 10326, Birmingham, AL 35202  
 Tate Temco, Inc. 1941 Lansdowne Road, Baltimore, MD 21227  
 Union Flonetics, P.O. Box 459, Clinton, PA 15026  
 Robert H. Wager Co., Inc., Passaic Avenue, Chatham, 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  
 William E. Williams Valve Corporation, 38-52 Review Avenue, Long Island City, NY 11101  
 Zidell Explorations, Inc., (Valve Division), 3121 S.W. Moody Avenue, Portland, OR 97201  
**VENTILATION DUCTING**  
 Flexaust Company, 11 Chestnut St., Amesbury, MA 01913  
**VESSEL OWNER/OPERATOR**  
 Wallenius Lines, P.O. Box 17086, S-10432 Stockholm, Sweden  
**VIBRATION ANALYSIS**  
 DLI Engineering Corp., 253 Winslow Way West, Bainbridge Island, WA 98110  
**VIDEO TRAINING FILMS**  
 Gulf Publishing Company Video, P.O. Box 2608, Houston, TX 77001  
 ICHCA Canada, P.O. Box 2366, Station D, Ottawa, Ontario, Canada K1P5W9

**WATER PURIFIERS**  
 Alfa Laval, Inc., Dept. MR-2, 2115 Linwood Ave., Fort Lee, NJ 07024  
 Aqua-Chem, Inc. P.O. Box 421, Milwaukee, WI 53201  
 Drew Chemical Corporation, One Drew Chemical Plaza, Boonton, NJ 07005  
 Everpure, Inc., 660 N. Blackhawk Dr., Westmont, IL 60559  
 Marine Moisture Control, 60 Inip Dr., Inwood, NY 11696  
 Maryland Environmental Systems, P.O. Box 501, Great Falls, VA 22066  
 MECO (Mechanical Equipment Company, Inc.), 861 Carondelet St., New Orleans, LA 70130  
 Riley-Beard, P.O. Box 31115, Shreveport, LA 71130  
 Village Marine Inc., 2000 W. 135th St., Gardena, CA 90249  
**WEATHER CHART RECORDERS**  
 Aiden Electronics, 1145 Washington St., Westborough, MA 10581  
**WELDING**  
 KSM Fastening Systems Inc., 301 New Albany Rd., Moorestown, NJ 08057  
 Metallizing Co. of America, Inc., 321 So. Hamilton, Sullivan, IL 61951  
 Miller Electric Mfg. Co., P.O. Box 1079, Appleton, WI 54912  
 Oerlikon Welding Industries, Inc., P.O. Box 40964, Houston, TX 77240  
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 Fritz Culver, Inc., P.O. Box 569, Covington, LA 70434  
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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  
 Smith Berger Marine Inc., 516 S. Chicago St., Seattle, WA 98108  
 Stanspec Corp., 13600 Diese Ave., Cleveland, OH 44110  
**WINDOWS**  
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## Tano Corporation Offers New Brochure On Marine Automation Systems

Tano Corporation of New Orleans, La., designers and manufacturers of computer-based automation and control systems for marine, oil and gas, and energy management applications, is offering a new six-

page color brochure on marine automation systems.

The publication discusses Tano systems for the '80s, and emphasizes that regardless of the degree of sophistication and capabilities of particular marine automation system installations, certain objectives are common to all Tano systems: reduced manning, maintainability, minimum cost, safety, and durability. The full range of Tano services

to marine systems users are listed and include system design, inspection/surveys, specification writing, project management, installation and certification, post-installation checkout and commissioning.

A photographic record of an actual test procedure to which a Tano marine console was subjected prior to acceptance for a military installation is included in the brochure, as well as illustrations of a typical

Tano bridge console and the advanced engine room console which is described as incorporating micro-computer technology, digital displays and continuous logging on magnetic tape.

The brochure lists current Tano functional capabilities in the marine products area for both commercial and military systems, as well as vessel types currently using Tano systems.

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## SNAME Announces 1985 Scholarships In Graduate And Undergraduate Levels

Scholarships in both the graduate and undergraduate levels are again being provided by The Society of Naval Architects and Marine Engineers to encourage men and women to pursue studies in naval architecture and marine engineering, or closely related fields. Only U.S. or Canadian citizens are eligible.

Ship operators and shipbuilding companies, affiliated trades, and universities in all sections of the country have been notified of the availability of the graduate scholarships. Applications for this program for the fall of 1985 may be obtained from Society headquarters. The completed applications should be sent to **Robert G. Mende**, secretary and executive director of SNAME, at One World Trade Center, Suite 1369, New York, N.Y. 10048 before the closing date of February 1, 1985.

The Scholarships Committee will determine in each case the exact value of the graduate scholarship award. Each successful candidate may select the institution for advanced studies, subject to the approval of the Committee.

In addition to the graduate program, undergraduate scholarships of various amounts are made available by SNAME at Massachusetts Institute of Technology, University of Michigan, State University of New York Maritime College, and Florida Atlantic University. Grants-in-aid are also available at the University of California at Berkeley. In addition, Webb Institute of Naval Architecture provides a tuition-free education to all undergraduate students. Recognizing this fact, the Society supports the Webb program with annual contributions, bringing that school indirectly into the scholarship program.

Those interested should contact the above institutions directly and not the Society, as nominations for undergraduate funds have been assigned to them. All recipients of undergraduate scholarships will be subject to the approval of the Scholarships Committee.

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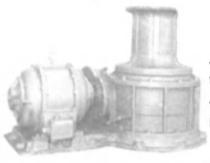
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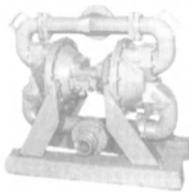
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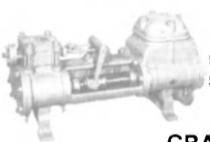


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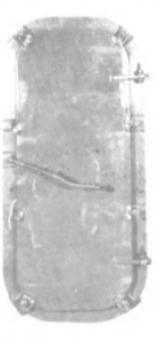
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## Bethlehem Steel's Huge Drydock At New Sabine Yard In Texas To Be Operational In Spring '85



The seven-section floating drydock berthed at Pearl Harbor, Hawaii, will be transported to the new Sabine Yard of Bethlehem Steel Corporation on Pleasure Island. The seven-section, open-ended unit has a lifting capacity of 56,000 tons. It is one of the largest floating drydocks in the country.

Bethlehem Steel Corporation's new Sabine Yard on Pleasure Island, Port Arthur, Texas, will be operational in spring 1985 following the installation of one of the largest floating drydocks in the country.

The announcement by David H. Klinges, vice president of Bethlehem's marine construction group, came after the signing of all lease and operational documents with the City of Port Arthur, owner of the Pleasure Island property, and the Port of Port Arthur, owner of the drydock.

The new Bethlehem facility on the Sabine-Neches Ship Channel will be devoted primarily to the repair and inspection of off-shore oil drilling and production facilities.

The location of the new yard will give rig operators ready access to and from the Gulf of Mexico. The channel width and depth at Bethlehem's 100-acre Pleasure Island location is 1,200 feet and 40 feet, respectively.

The U.S. Navy surplus drydock (AFDB-5) is currently berthed at Pearl Harbor, Hawaii, and will arrive at the Sabine Yard in late December 1984.

The seven-section open-ended unit has self-docking capabilities and a lifting capacity of 56,000 tons.

In addition to electrical generating equipment, utility capacity and cranes, it is equipped with machine, carpenter and electrical shops. The seven buoyancy chambers contain galley and mess facilities, bunk rooms and bath facilities



The location of Bethlehem Steel Corporation's new Sabine Yard on Pleasure Island is shown by white lines. The new yard will be operational in spring 1985 following the installation of one of the largest floating drydocks in the country.

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ties and the wing walls house over 25,000 square feet of potential office and shop space.

The sectional steel dock can be configured to provide a clear docking area of either 362 feet by 310 feet or 825 feet by 122 feet, depending on the size and shape of the incoming vessel. This unique flexibility will accommodate semi-submersible, mat-supported and independent leg jackup rigs.

The new Sabine Yard will be located downriver from the Beaumont Yard which has been operated by Bethlehem since 1947.

Ownership of the drydock was transferred from the U.S. General Services Administration to the State of Texas to the Port of Port Arthur. The port will own the drydock, but will allow Bethlehem to use it through an operating agreement approved by the federal agency and the port authority.

Employment at the new yard will grow to approximately 750 persons in the initial development phase, with additional employment opportunities as phases two and three are implemented.

## Gulf Engineering Unit Named Distributor For Alfa-Laval Separators

The OMI Equipment Sales Division of Gulf Engineering Company, New Orleans, has been named tri-state stocking distributor of Alfa-Laval MAB 100 and 200 series separators for the marine and offshore markets in the states of Louisiana, Mississippi, and Arkansas.

The Alfa-Laval separators are solids-retaining centrifuges that are used for the purification and clarification of fuel and lubricating oils commonly used in marine engine rooms and offshore installations.

Edward F. Bergeron Jr., vice president in charge of the OMI Division, said that this appointment will enable his company to offer customers top-quality separators that represent the best value on the market. "The Alfa-Laval equipment complements the other products we represent," he added. The OMI Division is based in Kenner, La.

For further information on Alfa-Laval separators,

Circle 42 on Reader Service Card

## New Rudder-Shaft Bearing From Thomson-Gordon —Literature Available

A new concept in rudder-shaft bearings, developed by Thomson-Gordon Limited of Burlington, Ontario, can reduce initial cost and increase wear life for ocean-going vessels, Great Lakes ships and smaller vessels down to 200 tons.

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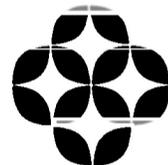
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# U.S. Navy Ship Overhaul Market

A Marketing Guide To The \$6.8 Billion  
Navy Ship Repair And Alteration Program

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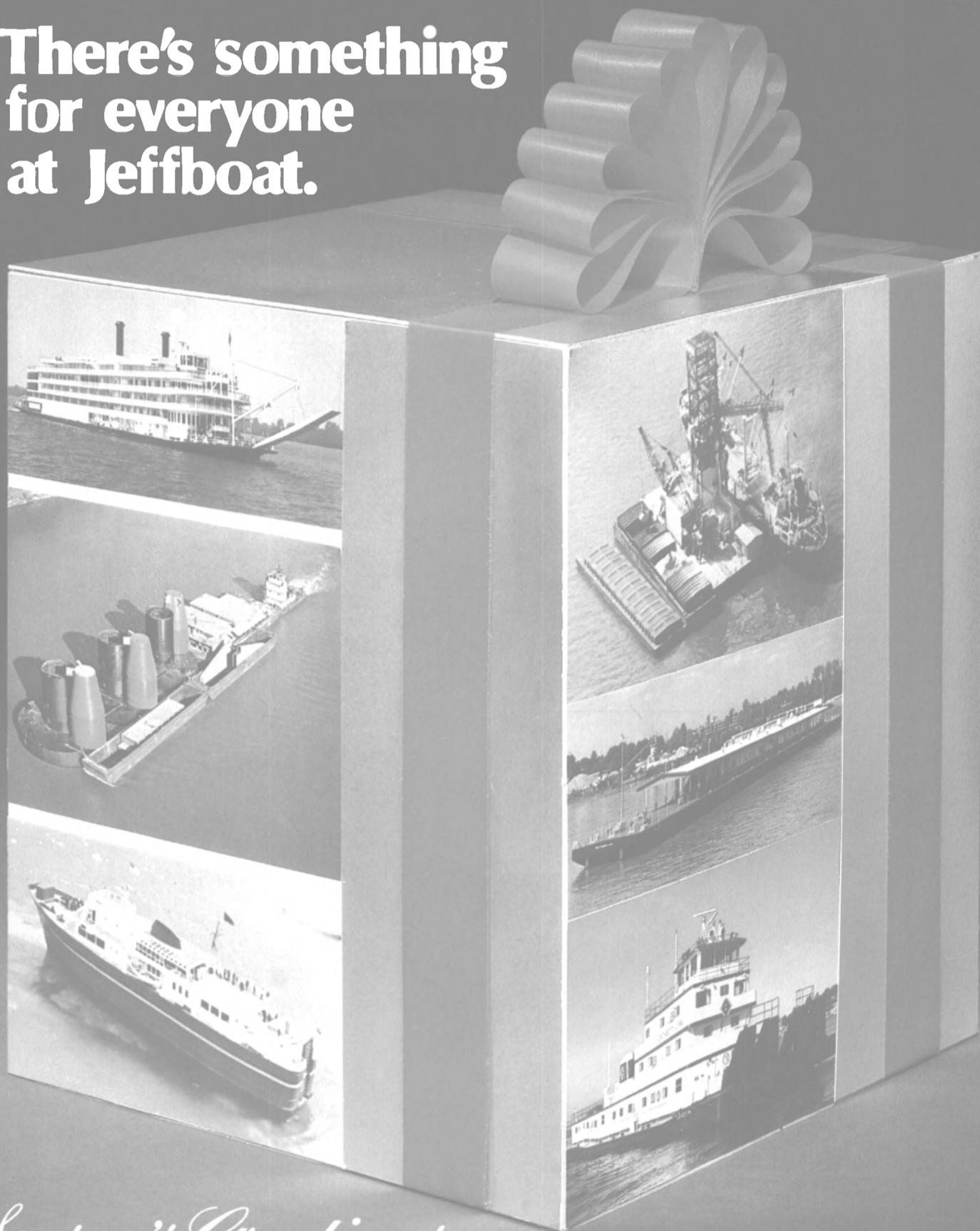
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