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REPORTER**
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ENGINEERING NEWS

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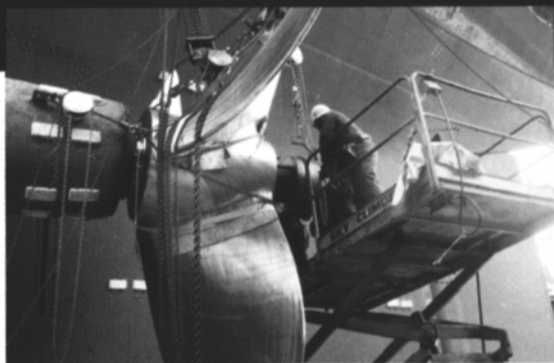
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OCTOBER 1992 ISSUE

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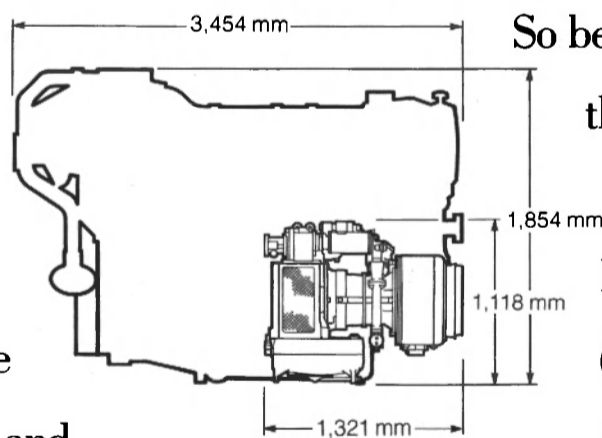
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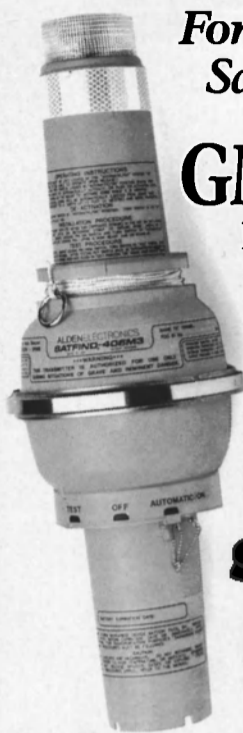
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ON THE COVER

New York hosts the 100th Annual Society of Naval Architects and Engineers Conference and the 11th International Maritime Exposition. Cover photo - New York Harbor showing the South Street Seaport Museum.

INSIDE:

Preview of S.N.A.M.E. Annual Meeting & International Maritime Exposition 28

Preview of Fish Expo '92 45

The Ferry Market: State of the U.S. market and global development of large, fast ferries 69

Preview of International Maritime Transit Association (IMTA) Conference 77

Preview of MTS '92 "Global Ocean Partners" 91

ASNE Environmental Symposium 97

Sealift Program Now On Fast Track

There is a \$4 to \$5 billion potential available to U.S. Shipyards and marine equipment suppliers from the Sealift program. The Navy has recently issued two requests for proposals, one for ship design and conversion, the other for supplying class standard cargo access equipment. The program calls for 20 to 25 ships to be converted or constructed. For full details, see page 11 of this issue of Maritime Reporter.

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MARITIME REPORTER
AND
ENGINEERING NEWS

ISSN-0025-3448

No. 10 Volume 54

118 EAST 25th STREET
NEW YORK, N.Y. 10010
(212) 477-6700

ESTABLISHED 1939

Maritime Reporter/Engineering News is published monthly by Maritime Activity Reports, Inc. Mailed at Second Class Postage Rates at Waterbury, CT 06701 and additional mailing offices.

Postmaster send notification (Form 3579) regarding undeliverable magazines to Maritime Reporter/Engineering News, 118 East 25th Street, New York, NY 10010.

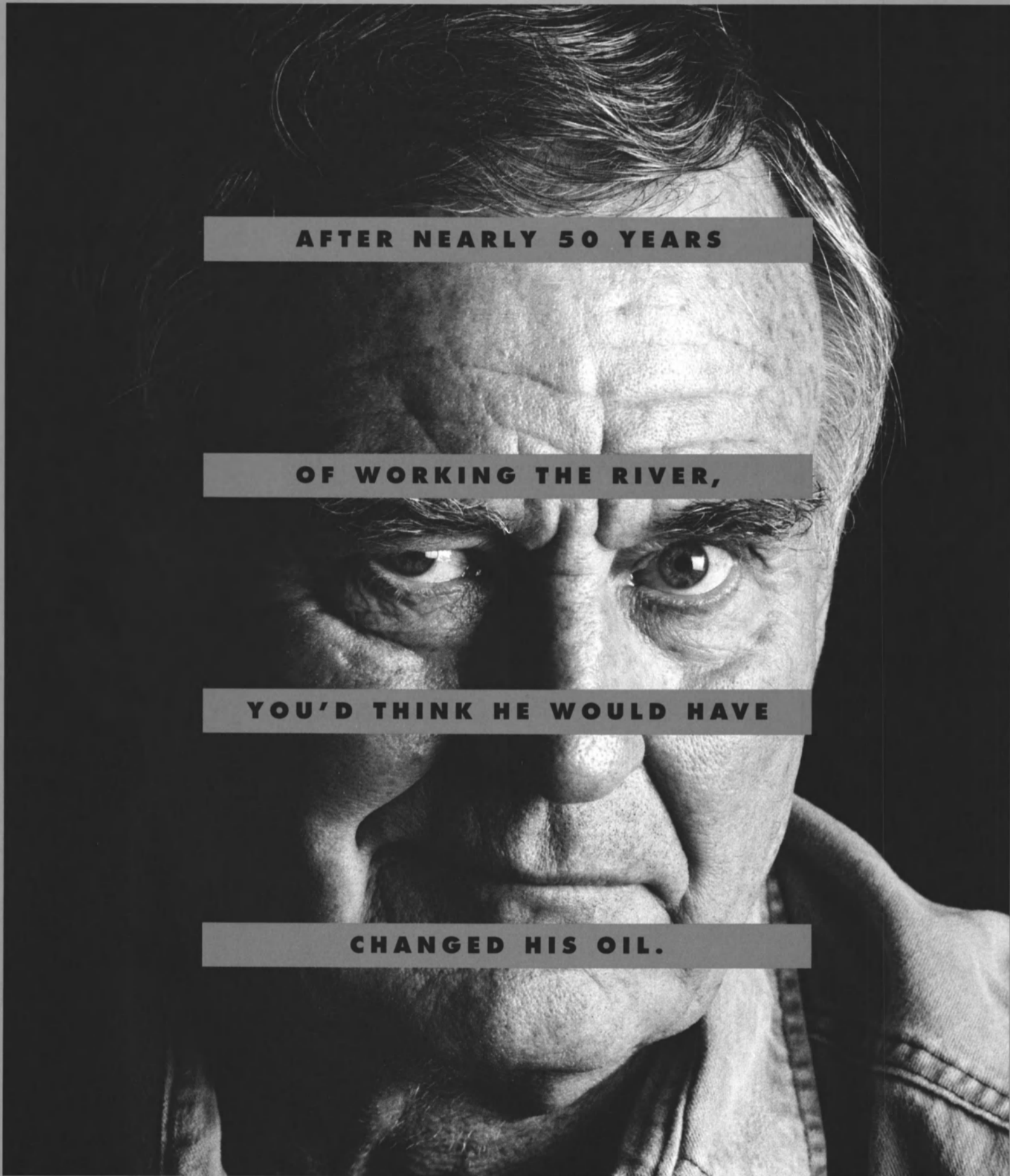
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OUR NATION'S MARITIME CHALLENGE

By Christopher L. Koch
Chairman, Federal Maritime Commission

The S.S. United States, the world's fastest passenger liner, was recently sold in bankruptcy and towed ignominiously to Turkey for an uncertain fate. It marked a photogenic and graphic end to a once glorious vessel and era. But, that kind of passenger ship was like an Edsel, designed to be a dinosaur that couldn't survive in an era when people would be using planes to cross the ocean, not ships.

Today we face a less understood, but far more foreboding prospect for our nation's maritime legacy and future. We face the imminent and unavoidable question of whether the United States will continue to be a maritime power and whether we will continue to have a merchant marine. Without major change, the answer is unquestionably "no." The good news is that Washington, D.C. may be on the verge of implementing the most sweeping maritime policy reform in over 50 years and, if it does, the answer will be unquestionably "yes."

Background

Puget Sound is constantly the stage for ships moving goods in and out of the nation. They're carrying our economic life-blood—our foreign trade. Last year, the United States regained the title of the world's largest exporter. During the past five years, U.S. exports have grown by 90 percent and overseas trade has contributed about 30 percent of the real growth in the economy. Imports are vigorous, too, as we become increasingly integrated into a global market. The vast majority of our exports and imports are carried on ships.

At the end of World War II, the United States accounted for 60 percent of the world's shipping tonnage. Between 1942 and 1945 we produced 5,000 vessels and possessed some of the most modern shipyards in the world. The war period was obviously unique. But even in 1970 there were 18 U.S.-flag liner companies. Today there are six. In 1970 the liner fleet consisted of 430 vessels. Today there are about 120. This decline in fleet size has also affected seagoing labor. The U.S.-flag fleet supported 100,000 seafarers in 1960 but only 27,000 in 1990. In 1992, less than 20 percent of our liner trade (those huge container ships you see on Puget Sound) is carried by U.S. ships—less than five percent of our total trade if you add tankers and bulk operators. Of the 25,000 ships on the world order books today, only one is currently being built in the United States. The status quo will ensure the industry's demise. As John Lillie, the head of American President Lines, has said, "The U.S.-flag shipping industry is in a state of orderly liquidation." This is despite the fact that U.S. carriers are recognized as the world's leaders in innovation and quality of service.

Why Do We Need A Maritime Industry?

How many great industrialized nations do not have a merchant marine? None. That should tell us something. But we should look deeper—why do we need it?

First, as history has repeatedly shown, our national security is dependent on a merchant marine that can capably and reliably support American forces wherever and whenever they are deployed. Of the total cargo required to support Desert Storm's liberation of Kuwait, 95 percent went by sea and over 80 percent of the dry cargo was carried on U.S.-flag ships. Equally important, U.S. mariners—unlike some of our allies' seamen—unwillingly obeyed all orders to support U.S. forces. If Iraq has attacked Israel rather than Kuwait, nobody doubts that foreign fleets could not be counted on to reliably sustain forces in the Mideast.

Second, without a merchant marine, the United States—the largest trading nation on Earth—would unilaterally surrender control over the transportation of our imports and exports to foreign shipping line. In short, our economic security and a large degree of control over our international transportation infrastructure is at issue. One of the nation's leading manufacturers recently said, "The absence of a U.S.-flag carrier in a trade makes an incredible difference in the way American importers and exporters are treated." In addition, the leading transportation voice for our nation's manufacturers stated, "U.S.-flag carriers have traditionally been the industry leaders improvising innovative services for exporters and importers, by developing the world's most advanced multimodal distribution systems for containerized cargo... In addition to military considerations, the absence of a U.S.-flag merchant fleet would reduce the U.S. exporters' and importers' competitiveness, by making them totally dependent on the national flag shipping lines of their overseas competition. This could result in the strategic leveraging of rates, capacity availability, and service standards in favor of our competitors."

Why Are We In This Condition?

U.S. carriers compete with shipping line of all nations. That produces a more competitive transportation system with greater consumer choice. However, foreign countries often support their fleets far more extensively; some governments own and operate their own shipping lines. Furthermore and perhaps even more important, U.S. laws and regulations have imposed higher cost and more regulation on U.S. carriers—which in a freely contestable market has compounded our fleet's economic woes. For example, U.S.-flag carriers have been required

to build their vessels in U.S. shipyards. U.S. carriers must pay a 50 percent duty on the value of their vessel repairs if that work is done abroad. U.S. carriers that receive subsidies must get permission from the government when they want to change vessel deployments. Their competitors are free of that burden. U.S. carriers are required higher cost U.S. crews—their competitors employ much cheap foreign labor.

Our shipyards' decline has been even more precipitous. Sheltered behind failed government subsidies until 1981, the industry had been struggling to compete against foreign shipbuilders who receive massive subsidies from their governments.

The Solution

The Bush Administration, working in a close and cooperative fashion with Congress, has proposed comprehensive changes that will rectify this sad state of affairs. This new policy would:

- Allow U.S.-flag operators to acquire their vessels anywhere on the world market, and allow them to use these ships immediately to carry any cargo, including government cargo.
- Eliminate the 50 percent customs penalty on repairs to U.S. vessels done in foreign shipyards.
- Eliminate design and equipment standards that provide no safety benefit but add five-eight percent to the cost of building a U.S.-flag ship.
- Give persons who leave their regular jobs ashore to crew sealift ships during national emergencies reemployment rights, like those of military reservists who are called to active duty.
- Provide a contingency retainer payment to ensure the presence of up to 74 U.S.-flag and crewed commercial vessels to meet national security requirements. This system of direct payments from the government to the U.S.-flag vessel operator would replace the failed "operating differential subsidy" program, and is structured to create strong incentives for improving efficiency and productivity. These payments are necessary because, even with all the other parts of this program, the costs of operating U.S.-flag, U.S.-manned vessels is still higher than foreign-flag competitors. To be eligible to participate in this program, an operator would be required to keep the vessel in active commercial service under the U.S. flag, commit to improving its productivity and operating efficiency, and make it available to the government in times of emergency.
- Ease U.S. citizens ownership requirements of U.S. vessels to enable foreign capital to be invested in the U.S.-flag industry. Already several European carriers have begun considering switching over to become U.S.-flag operators employing U.S. merchant mariners if this program passes.
- Assist struggling U.S. shipyards

by expanding federal loan guarantees for vessels built in U.S. shipyards, and funding a research and development program to help promote shipyard productivity.

• Increase the ongoing effort to get foreign nations to stop their excessive shipbuilding subsidies.

This package has startled the callous observers of the maritime industry.

It is comprehensive, and it took on the tough issues. More importantly, it will work, and it will result in a competitive American maritime industry. As a result, the Administration's plan has been embraced by U.S. carriers, organized labor and both political parties' maritime leadership in Congress. In short, it has created a coalition of supporters who have traditionally never been able to agree.

Not everyone is ecstatic. The elimination of regulatory restrictions always concern their beneficiaries. Some U.S. carriers, who benefit from protected trades at public expense, won't want more competition or want to share those benefits with new companies—even American companies. That's understandable. But, it should not decide such policy debates.

While some issues are still being worked out, including the best way to create an open, free and unsubsidized world market for U.S. shipyards, the package can be passed by Congress before this fall's adjournment.

America's maritime heritage is proud and impressive. But this program is not based on a sentimental attachment to history. It's a recognition that the maritime industry is a multi-billion dollar component of our economy and employment base which is important to maintain. It's a recognition that our national security requires an active, commercial merchant marine in times of world crisis. It's a recognition that our economic and trading security requires some degree of control over the terms of transporting our imports and exports. In a global economy, the idea of this nation being completely dependent on foreign shipping companies for the carriage and delivery of all of our imports and exports is discomfiting at best. It is important for American shippers and policy makers to reflect on the fact that other nations—our trading partners, and especially our Pacific partners—view a nation's ability to control a commercial fleet as a weapon of domination.

Adam Smith, the great free trade advocate, recognized this in 1776 when he characterized shipping laws as "the wisest of all commercial regulations."

Congress now has the fate of the industry in its hands.

From: Congressional Information Bureau, Vol. 96, #157, August 13, 1992.

Kvaerner Wins Conoco Contract For \$119 Million

Conoco has awarded a \$119 million contract to the Kvaerner Group of Norway to build the concrete foundation templates for the Heidrun field tension leg platform (TLP) off central Norway.

Kvaerner Concrete Construction (KCC), a wholly-owned subsidiary of Kvaerner, will begin work on the four foundation structures designed to hold the TLP to the seabed in February 1993 at Hanoytangen dock outside Bergen, Norway. The foundation structures are scheduled for completion in April 1994 and will be installed on the field in the summer of 1994.

A joint venture called Kvaerner Doris Offshore Concrete (KDOC), 60 percent owned by Kvaerner and 40 percent by the French company Doris, will carry out the engineering for the project.

Todd Receives Contract For \$500,000 From Alaska Marine Highway

Todd Pacific Shipyards, Seattle, Wash., was recently awarded a contract from the Alaska Marine Highway System to perform drydocking and general repairs to the M/V

Matanuska. The \$500,000 contract includes baseline and contingency work.

In addition to repairs on the M/V Matanuska, Todd is presently working on several factory trawlers and Washington State ferries.

The shipyard reports that it is aggressively seeking and bidding new work, both marine and industrial. Todd has maintained a core of experienced management and craft personnel despite a recent slow period.

Of particular interest to the yard is the Jumbo Mark II ferries program for Washington State. Todd is working with other interested parties on the "Build Them In Washington" campaign, designed to keep work and material procurement for the ferry construction project within the state.

For more information about the services and facilities available from Todd Pacific,

Circle 187 on Reader Service Card

Mackay, Anritsu Enter Service Agreement

Anritsu Corp. and Mackay Communications have signed a long-term service agreement which complies fully with the shore-based maintenance requirement stipulated in the 1988 amendments to the 1974 Solas Convention implementing the Glo-

bal Maritime Distress and Safety System (GMDSS)

Anritsu Corp. is engaged in the manufacture and sales of communication and navigation equipment for the marine market. Mackay, established more than 75 years ago, is one of the oldest and largest installation, maintenance and service organizations in the world.

Dehumidification Can Help Lower Costs, Protect The Environment

Of the four processes used to dehumidify only two, refrigeration and solid sorption (desiccant), have application in the marine industry.

Refrigeration of the air below the dew point helps remove moisture. The cooled air is then further treated and exhausted to the tank, vessel or enclosure. This system uses less energy when the air is comparatively warm with a high moisture content and the outlet dew point is greater than 32 degrees Fahrenheit.

Solid sorption uses granular beds through which air is passed, moisture is absorbed, and is thus regenerated by heat to release the moisture into another air stream. The power requirements higher than that of the refrigerant system, and

the units function only in the dehumidification mode.

Enviro-Air Control Corp. (EACC), a Houston-based refrigerant dehumidification company, offers equipment that can be powered by either electricity or hydraulics. Many of EACC's units have the capability to provide air conditioning, heating, or two levels of dehumidification.

Using dehumidification equipment helps control the environment in terms of both temperature and humidity, thus reducing both the heat and discomfort indexes and creating a more inviting work environment. According to EACC, this can help increase worker productivity and reduce the potential for accidents, resulting in a bottom line cost savings.

Also, dehumidification will enable a yard to abrasive blast and line a tank in adverse weather which can, in effect, reduce turnaround time, enabling a vessel to maintain its schedule, and help reduce costs, EACC said.

Current concepts under study by EACC is exterior environment protection in accordance with the Clean Air Act of 1990. This would involve the use of shrouding around a structure, such as a portion of a vessel, establishing a closed loop system, to be used in surface operations such as blasting, painting and welding.

For more information on Enviro-Air Control Corp.,

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Circle 346 on Reader Service Card

Evergreen Orders Five New Containerships From Japanese Shipyards

Evergreen Line, a Taiwanese shipping-to-aviation company, has placed an order for five more 4,000-TEU 'R' class containerships at Onomichi Dockyard in Japan and Mitsubishi Heavy Industries (MHI). Reports indicate that the order is

valued at about \$500 million. The deal involves Onomichi building two vessels and MHI building the other three. All five vessels will be built according to plans developed by Onomichi engineers.

Evergreen has already had 18 ships built at the Onomichi yard, but due to Japanese governmental legislation, Onomichi is restricted over the size of the vessels which can be built at the yard. At the

present time Onomichi has three 3,388-TEU 'R' class vessels under construction for Evergreen and all are expected to be delivered some time next year with plans to immediately jumboize the vessels to 3,950 TEU.

With the five additional vessels being built in Japan, the total number of 'R' class vessels built in that country will be 10. The order placed at MHI is the first that Evergreen

has placed with that shipyard, although it has provided stevedoring equipment and reefer refrigerators for the company in the past.

The 'R' class vessels will be 872.7 feet long, with a beam of 105.7 feet and a draft of 41 feet. Operating speed is expected to be 23 knots. The vessels will be about 964.6 feet long once they are jumboized.

Decking Design Receives \$474,000 Contract From Marine Hydraulics

Decking Design, Norfolk, Va., has received a \$474,000 contract award from Norfolk, Va.-based Marine Hydraulics International (MHI) for the installation of interior and exterior marine decking systems aboard the U.S. Navy's Military Sealift Command (MSC) supply ship USNS Saturn.

Decking Design will perform reefer box deck upgrades to the USNS Saturn utilizing the 7K-Magnesite and Promdeck systems developed by the Selby Division of Quaker Construction Products.

The project also calls for the rework of the USNS Saturn's weather decks and the installation of International's Proreco III, a flexible, exterior nonskid deck coating system.

Repairs to the ship will be performed at MHI's Norfolk repair facility on the Eastern Branch of the Elizabeth River.

For more information on the marine decking systems available from Decking Design,

Circle 4 on Reader Service Card

Kobelco Offers New Electronic Helm

The new model 7172 Electronic Helm from Kobelco Manufacturing Company, Richmond, British Columbia, Canada, has been introduced for use with hydraulic steering systems. The unit provides an electronic signal to the hydraulic steering gear, which then positions the rudder.

Constructed of bronze and stainless steel, the electronic helm is designed to give years of trouble-free service and carries a five-year warranty. Its heavy-duty construction allows the helmsman firm and positive control in any weather conditions.

The electronic helm is normally equipped with two potentiometers. The first is used with an amplifier interface to send the rudder either port or starboard. When used with a feed-back unit, precise rudder positioning is achieved.

The second potentiometer indicates rudder demand. The actual rudder position is sent back through the feed-back unit to a separate rudder angle indicator.

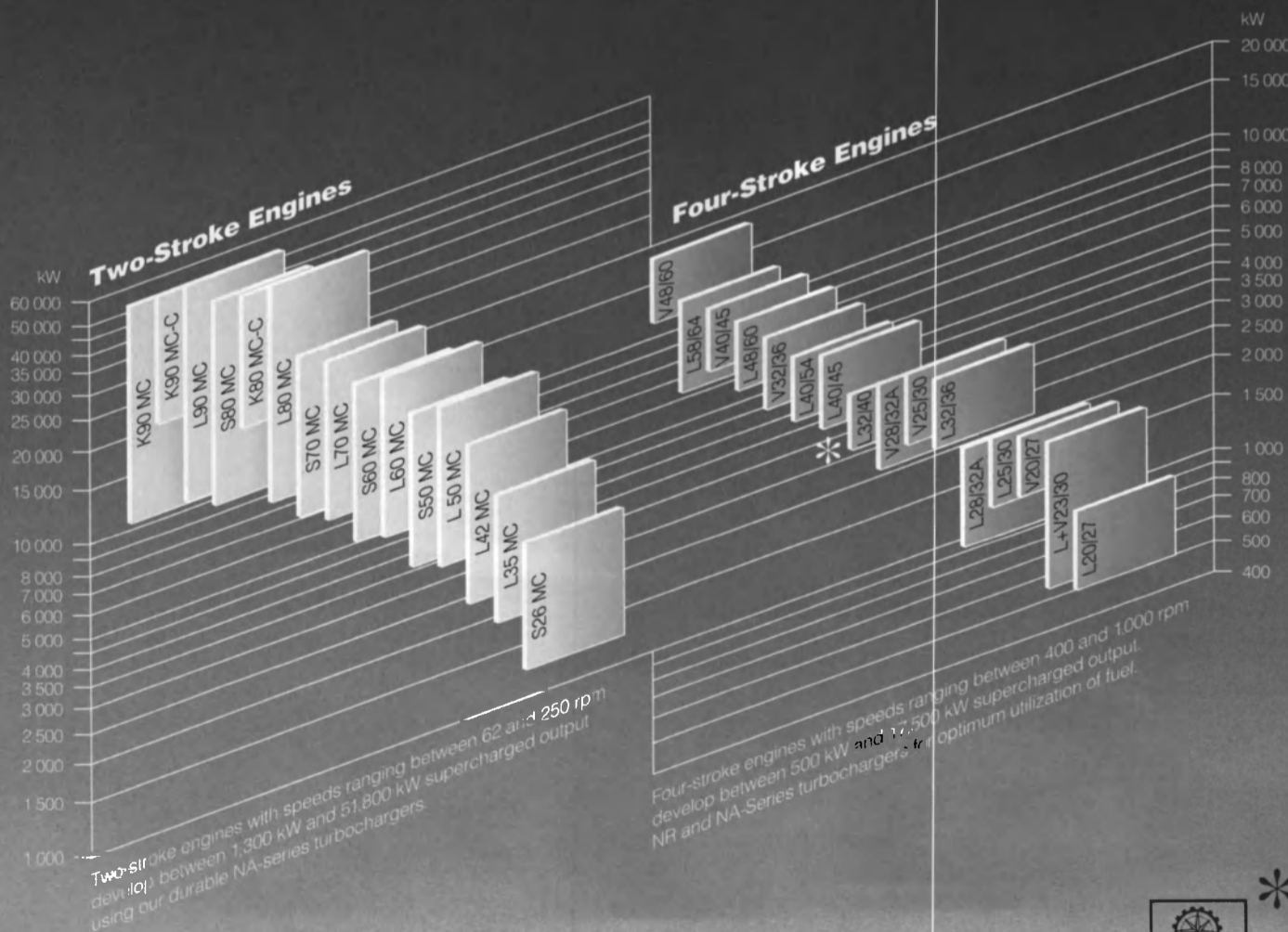
For additional free information about Kobelco's model 7172 Electronic Helm,

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Maritime Reporter/Engineering News



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WORLDWIDE SERVICE

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Southwest Marine Wins \$40 Million Navy Contract

Within a one month period, Southwest Marine, Inc. (SWM) has won two major navy repair contracts.

The first, awarded in August, was a \$98.3 million, four-year phased maintenance contract to perform routine repair work on five Navy guided missile cruisers.

More recently, SWM was awarded a contract in excess of \$40 million for the post shakedown availabilities (PSA's) for the USS Shiloh (CG-73), USS John Paul Jones (DDG-53), USS Curtis Wilbur (DDG-54), and the USS Port Royal (CG-73). The work will begin in February 1993, with the arrival of the USS Shiloh. Work on the remaining three ships begins in 1994.

The PSA for the USS John Paul Jones will introduce the Navy's new DDG-51 Class ships to a West Coast shipyard. "The performance on this technical work gives SWM a significant advantage, as we are the first repair facility to be exposed to these specific systems," said SWM president/COO, **Herb Engel**.

SWM has repair facilities in San Diego, San Pedro, San Francisco, Portland and America Samoa.

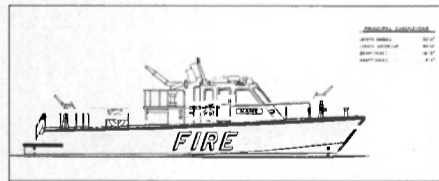
For free information on Southwest Marine Inc.'s facilities and capabilities,

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Gladding-Hearn Begins Construction Of New York City Fireboat

Gladding-Hearn Shipbuilding, The Duclos Corp., recently began construction of an all-aluminum fireboat for the city of New York.

The 52-foot, shallow-draft fireboat, designed by the shipyard and C. Raymond Hunt Associates of Boston, has a rated pump capacity of 5,000 gpm and is equipped with four deckpipes. The new vessel is scheduled to be delivered in December.



Outboard profile of fireboat being built for New York City

The twin-screw vessel is powered by a pair of Detroit Diesel 8V-92TA engines, each rated for 650 bhp at 2,300 rpm. The vessel will be able to attain speeds up to 26 knots.

Engine controls will be supplied by Morse with the steering system supplied by Teleflex and Seastar. Navigational and electronics equipment will be supplied by Raytheon, Datamarine, Ritchie, Horizon and Whelan.

The fire system consists of two separate Gould 3196XLT centrifugal pumps, each powered by a 400 hp Detroit 6V-53TI engine. Each

pump will deliver 2,500 gpm at 150 psi to four monitors located on the foredeck, midships and stern. A 250 gpm foam system, supplied by Chubb National Foam, also will supply the forward monitor.

According to the vice president of engineering at Gladding-Hearn, **Peter Duclos**, with the pumps sepa-

rated from the main engines, the vessel will be easy to operate and will be able to be maneuvered and to maintain its firefighting capacity even with the loss of a main engine.

Some available design options are monitors which can be remote-controlled from the wheelhouse and a water-jet propulsion system instead

of conventional propellers that would reduce the vessel's draft to about 18 inches from four feet.

For more information detailing the service and facilities provided by Gladding-Hearn,

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American Commercial Lines Announces Restructuring

American Commercial Lines Inc. (ACL) of Jeffersonville, Ind., announced that the company has streamlined its management structure and consolidated administrative functions as part of an ongoing organizational review.

The change results in a loss of 110 shoreside positions. Sixty positions were eliminated from its headquarters, 27 positions were eliminated from its New Orleans base, and the rest were cut from other outlying areas.

The new organization, designed to increase efficiency of ACL operations and responsiveness to customers, focuses on eliminating work redundancies and reducing layers of staff to improve information flow and to speed decision-making.

"Conditions make it clear that we must reduce our cost structure to improve our return," said ACL's CEO **Michael C. Hagan**.

Members of the ACL senior management team include: **Daniel J.**

Marquitz, senior vice president of sales, marketing and distribution services; **Robert W. Greene**, president of American Commercial Marine Service Co. (ACMS); **Michael A. Khouri**, senior vice president and general council; **William N. Whitlock**, senior vice president of transportation services; and **James J. Wolff**, senior vice president of finance and administration.

ACL is a wholly owned subsidiary of CSX Corp., and operates the nation's largest fleet of inland river barges and towing vessels.

Kirby Buys \$9.3 Million Tank Barge And Tug Unit

Kirby's transportation division purchased a 160,000 barrel, double-hull offshore tank barge and tug unit for \$9.3 million. The tug and barge meet all OPA90 requirements and are on charter until Spring of 1993. The transportation unit also bought five inland towboats for \$1.65 million.

Kvaerner Shipyard Takeover Postponed

Kvaerner's takeover of eastern German Warnow-Werft GmbH shipyard has been delayed because the Treuhandanstalt privatization agency finds Kvaerner's conditions unacceptable. Details on the conditions demanded by Kvaerner were not released. The Norwegian company has offered to invest between \$426 million to \$497 million into the shipyard.

Samsung Wins \$200 Million Contract For German Ships

Samsung Heavy Industries based in Seoul, South Korea, has won orders to build two container ships of 2,700 TEUs each for \$100 million, from Germany's Schiffahrts-Gesellschaft Seeve GmbH.

Samsung Heavy Industries, a unit of Samsung Group, said the German concern has an option for another ship, with the final deci-

sion expected within a month. The two ships already ordered are due to be delivered at the end of 1993.

Bender Shipbuilding Awarded Modification Contracts For Two Vessels

Bender Shipbuilding & Repair Co., Inc., has been awarded contracts for Ship Enhancement Features modifications on the S.S. California and S.S. Santa Ana. Both vessels are 565-foot cargo ships.

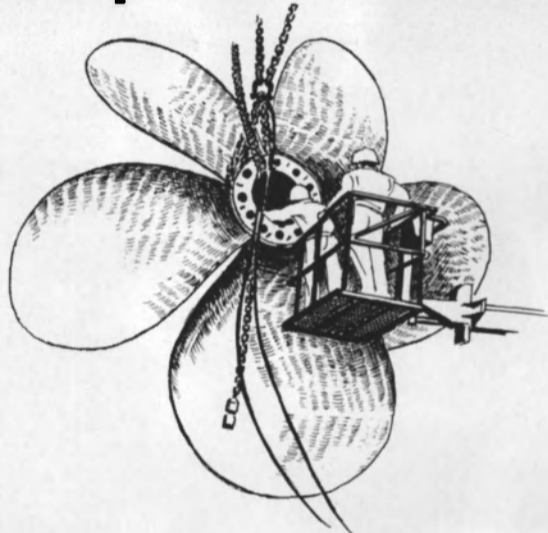
The combined work on the two vessels is expected to take about 200 days, employing about 75 workers.

Bender is a full-service shipyard that has built, converted and repaired vessels for commercial and governmental owners and operators for over 70 years.

For more information describing the facilities and services provided by Bender Shipbuilding,

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New York State Requests Proposals For New Ferry Service

New York Governor **Mario M. Cuomo** recently announced that a request for proposals (RFP) has been issued to begin new high-speed ferry service in and around New York City.

The bidding process, which is being jointly conducted by the New York State Urban Development Corporation and the New York City Department of Transportation, is expected to be completed within eight months. New service could begin by the end of next year. Possible ferry routes include Staten Island to midtown Manhattan, and routes between downtown or midtown Manhattan and the Brooklyn Army Terminal, Hunters Point in Queens, Ferry Point Park in the Bronx, Nyack, Yonkers and Rye Playland in Westchester County, and Tappan Beach in Nassau County.

The project is intended to compliment the existing regional transportation network, reduce automobile congestion and provide an economic foundation for establishing a shipbuilding facility within the state.

Through the governor's High-Speed Ferry Task Force, a number of state and city entities have collaborated on the effort to bring the service to New York City over the past year. In April, the State Urban Development Corporation, together with the Port Authority of New York & New Jersey, the State Transportation

Department, the State Thruway Authority, the State Metropolitan Transportation Authority and the City of New York, held a presubmission conference at the World Trade Center attended by more than 70 interested firms.

Since the conference, the state and city worked together to assemble essential information for ferry operators. Today's RFP provides ferry operators with extensive demographic and market data detailing possible routes and potential ridership. The state and city are prepared to help operators secure environmental permits and approvals; make available certain suitable parcels as potential docking and terminal sites; coordinate mass transit connections; and help operators gain additional assistance from government sources.

One of the key evaluation criteria during the selection process will be maximum investment by the private sector. Federal funds have been obtained to advance the Staten Island to midtown Manhattan route.

For details and a copy of the RFP contact: **Anna Fong**, Program Coordinator, Economic Development, New York State Executive Chamber, Two World Trade Center, 57th Floor, New York, N.Y. 10047; tel: (212)417-2136; fax: (212) 417-4709.

Sealift Program Now On Fast Track

\$4 to \$5 Billion Potential For U.S. Shipyards And Suppliers

20 to 25 Ships To Be Converted Or Constructed

The Navy recently issued two requests for proposals (RFP) involving the sealift program. One RFP invited proposals for a ship design and conversion contract. The other invited proposals for supplying class standard cargo access equipment for sealift ships. The full details can be obtained by contacting the Navy officials identified at the end of this article.

There will be multiple fixed-price awards made for the design/conversion contract. The price for Phase I work is not to exceed \$400,000. Navy reserves the right to award a contract for Phase II at a 90-day point, rather than wait for the scheduled 180 day completion period of Phase I. Shipyards must have a letter of intent with a shipowner able to provide the ship for conversion.

At press time, Maritime Reporter learned that the Phase II RFP for new construction sealift ships was likely to be issued in early October. The RFP will basically be a performance specification allowing alternative ways to meet Navy requirements. Nine shipyards participated in Phase I of the new construction design work. At least seven of these yards will likely bid for Phase II.

The conversion RFP was placed before the Phase II construction RFP primarily to channel work quickly to shipyards. There has been growing pressure to help the shipyards, who are experiencing a deteriorating workload situation. The Army has also been pressuring to get some additional ships more quickly than the construction program would provide.

Earlier, the Deputy Secretary of Defense called for the sealift program to be given "pilot program status." This would allow a more commercial-like procurement procedure to be used. However, pilot program status requires legislation and it is still unclear as to whether sealift will be placed in this status.

The Navy RFP contacts are: Ship Designs

and Conversions, Ms. **Bourbeau, Sharie**, SEA 02224, Naval Sea Systems Command, 2531 National Center Bldg. 3, Washington, D.C. 20362-5160; tel: (703) 602-1926. . . Class Standard Cargo Access Equipment, **PELOQUIN, CHRIS S.**, LT, SC, USNR, Naval Sea Systems Command, Code SEA 02224P, Department of the Navy, Washington, D.C. 20362-5160; tel: (703) 602-1926.

Qatar, Mobil Project Includes Over \$2 Billion For LNG Tankers

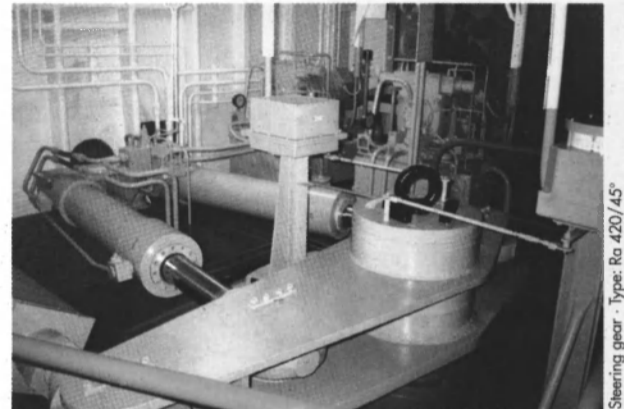
Qatar General Petroleum Corp. will be investing more than \$2 billion in new LNG tankers as a part of two multibillion dollar projects between Qatar and Mobil Corporation, projects to produce liquefied natural gas in the Persian Gulf.

Total cost of the two projects, including the cost of the new LNG tankers, is estimated to exceed \$18 billion, for the production and distribution of LNG from Qatar's North Field. Other participants in the Qatar gas project are Total, the French oil company, Mitsui & Co. of Tokyo and Marubeni Corp. of Osaka, Japan.

It is expected successful bidders will be awarded contracts by the end of the year and contracts will be sealed by the first quarter of 1993. Qatar expects to receive the new vessels between 1996 and 2000.

Both Qatar LNG projects are to be at Ras Laffan, a new complex. Plans for the first Qatar gas projects call for the operation to eventually output between four and six million tons of LNG per year. Estimates for the second project exceed 10 million tons output per year.

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Early Warning System For Hull Damage Introduced By IACS

The International Association of Classification Societies (IACS) has developed the Early Warning Scheme (EWS) to help ensure that serious hull damage is detected and practical countermeasures are formulated.

Initially the system will be geared to cover bulk carriers and oil tankers by compiling hull damage information received by all IACS member societies, which class about 95 percent of the world's tanker and bulk carrier fleets over 20,000 dwt.

IACS set up the Working Party on Hull Damages in response to statistical evidence which showed that age and maintenance are important factors in the likelihood of tankers and bulk carriers suffering

either hull or machinery damage. One of the major contributions to damages and hull failures occurring in bulk carriers is corrosion. IACS has reportedly accepted the Working Party's recommendations for more stringent surveys and using protective coatings in cargo holds.

These new findings, now adopted as IACS Unified Requirements, will be implemented as a matter of urgency by all IACS societies as part of

their classification rules.

For more information and literature detailing the new rules,

Circle 18 on Reader Service Card

Port Of Tacoma Plans To Develop Up To Four Container Terminals

The Port of Tacoma has announced that it may develop up to four new container terminals. This is the result of a \$200 million dredging project and the removal of a bridge at the port.

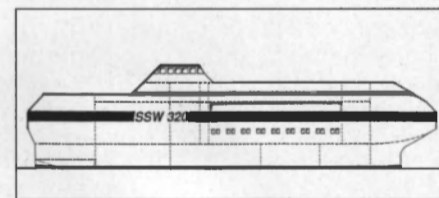
The dredging on the Blair Waterway is scheduled to begin in the early summer of 1993 and is expected to open over 200 acres of waterfront property for development. The dredging is expected to take about nine months to complete. The port plans to move breakbulk and vehicle terminals in order to make room for the new container terminals.

The port says that it has about \$164 million of the \$177 million needed to build a bypass highway around the port which would alleviate the volume on the Blair Bridge. The Blair Bridge is expected to be removed in January of 1995 in order to allow the new terminals to be opened for use.

High-Speed SWATH Vessel Developed By Schichau Seebeckwerft

The German shipyard, Schichau Seebeckwerft AG, has developed a new type of SWATH vessel. The yard claims that the new design features high propulsion efficiency.

The two vessels which are currently being developed are a 34-meter passenger ferry and a 55-meter car ferry. The yard is also presently studying the possibility of building a 100-meter jumbo ferry.



New SWATH vessel designed by Schichau Seebeckwerft

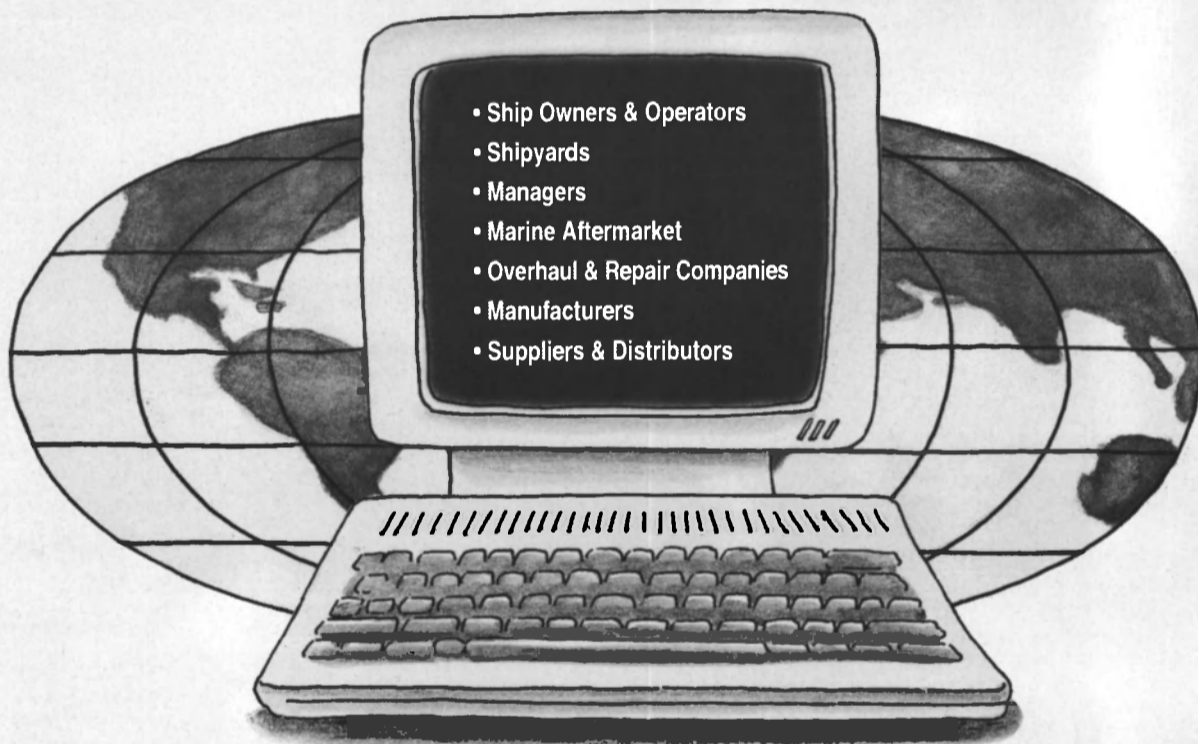
The smaller ferry has a capacity to carry up to 350 passengers and is powered by gas turbines driving CP propellers. The vessel is reported to be able to operate in seas up to sea state five. The larger ferry can accommodate about 450 passengers, 105 cars and 60 tons of fuel and stores. Anticipated full load service speed is 35 knots. The vessel is driven by two CP propellers, each geared to a 10 MW gas turbine.

Schichau Seebeckwerft is a member of the Vulkan Group in Bremen, Germany.

For more information detailing the new SWATH vessel design from Schichau Seebeckwerft,

Circle 12 on Reader Service Card

The Global Marine Parts Department...



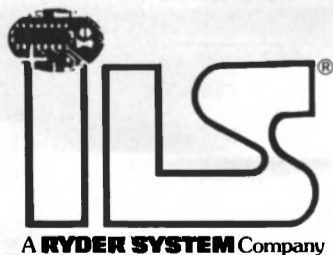
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Workboats Northwest Spill Response Vessel Serving Hawaiian Islands

The 36-foot "Nakue," built by Workboats Northwest, Inc., is reported to be one of the fastest oil spill response vessels in the Hawaiian Islands, according to Marine Logistics president **Gordon Smith**. Marine Logistics purchased the boat last year and has since been using it for a variety of services.



The Nakue in service in the Hawaiian Islands.

The vessel is powered by twin Detroit Diesel 6V53T engines, each developing 350 hp at 2,800 rpm. The engines power propellers through Twin Disc 506 1.58:1 reduction gears.

The Nakue is 36 feet long with a breadth of 13 feet and is built of 1/4-inch 5086 marine grade aluminum.

Workboats Northwest is also building a 41-foot fast response vessel for San Pedro Offshore of California. It will be powered by two Detroit Diesel 6V53TI, 400-hp, 2,800-rpm engines.

For more information about Workboats Northwest's oil response vessels,

Circle 19 on Reader Service Card

AHI To Jumboize Two Offshore Work Barges For \$1.92 Million

Arab Heavy Industries Ltd (AHI) has received a contract to jumboize two offshore work barges for Subtec Middle East. The \$1.92 million contract includes repairs to widen the barges.

AHI recently completed three repair jobs which totaled about \$3.7 million. The yard repaired Super Barge 10 which suffered bottom damage in the Red Sea, and the supply vessel Scorpio del Golfo received life extension repairs.

AHI is a ship repair and fabrication yard located in United Arab Emirates and managed by Keppel Shipyard of Singapore.

For more information describing the services and facilities provided by AHI,

Circle 22 on Reader Service Card

Washburn & Doughty Awarded Contract To Build Ferry For State Of Maine

Washburn & Doughty Shipyard of East Boothbay, Maine, has been awarded the contract for a third 130-foot ferry to be built for the State of Maine Department of Transportation.

The vessel was designed by Rodney E. Lay Associates and will be 130 feet long, 36 feet wide and have a draft of 10 feet. The vessel will have a CAT 3408 driving a Rice four-blade nibral propeller through

a twin disc 516 reduction gear. Shafting is by Aquamet with steering provided by Tenfjord. Power will be provided by three Detroit Diesel 30-kW generators. Cruising speed is expected to be 12 knots.

The first passenger/auto ferry, the Captain Henry Lee, was delivered in April 1992. The second vessel is currently under construction and delivery is scheduled for February 1993.

The first ferry is providing year-round service on the Bass Harbor/Swan's Island Frenchboro route. The other ferries will serve Vinalhaven and North Haven Islands.

For more information about the services and facilities provided by Washburn & Doughty,

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Circle 274 on Reader Service Card

Boats & Barges



Vessel built by Hike Metal shown during delivery voyage.

Hike Metal Delivers Fisheries Patrol Vessel To Canadian Government

Hike Metal Products Ltd., Wheatley, Ont., recently delivered a 95.1-foot fisheries patrol vessel to the Canadian Government. Upon completion the vessel was moved to Sidney, British Columbia, where it will be put into service. The delivery voyage took six weeks to complete because it had to leave Lake Erie, go down the St. Lawrence Seaway, down the East Coast of the United States, through the Panama Canal and up the West Coast. The vessel reportedly spent over 800 hours in transit.

The vessel is 95.1 feet long, has a breadth of 28.9 feet and a draft of about 11 feet. Design speed is 12 knots.

The vessel was built for the Department of Fisheries & Oceans, Canada, and is powered by one Caterpillar 3512 TA diesel engine driving a Heimdal three-blade C.P. propeller through a Heimdal C.P. reduction gear and shafting system. Auxiliary power is provided by two Caterpillar 3306 TA 90-kW engines. Engine controls and monitoring systems were supplied by PMC.

Other major suppliers were EVAC, Dampa, West Coast Manly Closure, Stork Werkspoor, International Paints Ltd., Zodiac, HIAB, Jastram/Aqua Signal and Jastram/Carlisle & Finch.

Electronics were supplied by Raytheon, JRC, Westmar, Anschutz, Furuno, Comnav, Sailor and Motorola.

The steel-hulled, aluminum-superstructured vessel was classed ABS Maltese Cross 100 A1.

For more information on the facilities and services of Hike Metal,

Circle 119 on Reader Service Card

Equipment List Fisheries Patrol Vessel

Main engine.....	Caterpillar
Auxiliaries.....	Caterpillar
Reduction gear.....	Heimdal
Steering.....	Teneflor
Engine controls.....	PMC
Sanitation System.....	EVAC
Ceilings.....	Dampa
Exterior doors/hatches.....West Coast Manly Closure
HVAC.....	Stork Werkspoor
Coatings.....	International
RIB.....	Zodiac
Deck Crane.....	HIAB
Lighting.....	Jastram/Aqua Signal
Searchlights.....	Jastram/Carlisle & Finch
Radars.....	Raytheon
Echo sounder.....	JRC
INS.....	JRC
Sonar.....	Westmar
Gyrocompass.....	Anschutz
GPS.....	Raytheon
Weather Fax.....	Furuno
Autopilot.....	Comnav
VHF radiotelephone.....	Motorola
VHF radiotelephone.....	Sailor

Detyens Shipyard Awarded Deactivation And Repair Contract

Detyens Shipyard Inc., of Mount Pleasant, S.C., has been awarded a contract worth \$3,199,882 for deactivation and repair work aboard the Ready Reserve Fleet breakbulk vessel SS Chalmers. The work is expected to be completed within 90 calendar days.

Maritime Reporter/Engineering News

Runyan Shipyard Names Senior Management Team

The president of a group of companies which includes Runyan Shipyard, Inc., of Pensacola, Fla., **Ronald C. Rasmus**, has announced the appointment of its senior management team at Runyan Shipyard.

John L. Leonard was named vice president, production and engineering. Mr. Leonard previously served as production manager at Jacksonville shipyard and vice president, production, for Runyan Machine & Boiler Works, Inc. and Desco Marine of St. Augustine, Fla.

Fred Y. Martin was named vice president, business development and estimating. Mr. Martin has served in numerous positions at various companies in the Gulf of Mexico. He was most recently the director of estimating at Bender Shipbuilding and Repair Co., Inc. He also has worked for Fredeman Shipyard, Gulf & Intercoastal Shipbuilding, Zigler Shipyard, Equitable Shipyards and Ingalls Shipbuilding.

The new Runyan Shipyard complex with its machine shops and three marine railways encompasses more than 15 acres on the north bank of Bayou Chico.

Also to be known as Runship, the new facility will revitalize and expand Runyan's traditional ship repair and machine shop businesses to include new vessel and barge construction, and a new marine industrial park for various specialized repair businesses which support the U.S. Navy in Pensacola.

For more information,

Circle 73 on Reader Service Card

Double Hull Rule Issued By U.S. Coast Guard

The U.S. Coast Guard has issued an interim final rule which regulates the construction of double hull oil tankers after June 1990 and provides a 25-year phase-out schedule for existing single hull tankers operating in U.S. waters. The rule applies to domestic, as well as foreign vessels which transport oil in U.S. waters.

Andrew B. Card Jr., Secretary of Transportation, said that the rule represents a major initiative by the government to reduce oil pollution. He also noted that double hull vessels are expected to reduce U.S. oil spills by more than two million gallons each year.

The rule, required by the Oil Pollution Act of 1990 (OPA90), sets minimum requirements for the space between the two hulls and defines the phase-out schedule. The provision requiring a second steel hull between the oil cargo and the water will significantly reduce the amount of oil spilled during a collision or grounding.

The phase-out schedule for existing single hull oil tankers will begin in 1995 and requires that these vessels be retrofitted with a double hull if they are to continue operating in

U.S. waters.

Older, larger vessels will be required to comply with the rule first, while smaller vessels have until the year 2015 to either be retrofitted or retired.

For more information, contact: **Steve Shapiro** at (202) 267-1181 or write to: U.S. Coast Guard Headquarters, Commandant G-MVI-2, 2100 Second St. S.W., Washington, D.C. 20593-0001.

Cascade General Awarded \$3,162,294 Deactivation Contract

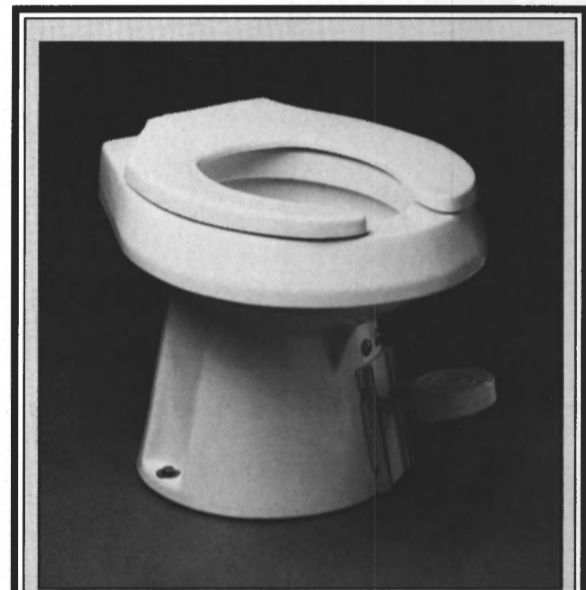
A contract worth \$3,162,294 has been awarded to Cascade General, Inc., Portland, Ore., by the Maritime Administration for deactiva-

tion work aboard the RRF breakbulk vessel SS Cape Bon.

MarAd maintains a select group of RRF cargo ships to meet surge sealift needs in the early stages of military contingency operations. During Operation Desert Shield and Desert Storm, MarAd activated 79 of its 96 RRF vessels.

The work will include repairs necessary to meet classification specifications and regulations.

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Circle 211 on Reader Service Card

Drewry Reports Steady Growth In Reefer Market Over Next Five Years

In a recent report published by Drewry Shipping Consultants, it was indicated that there may be steady growth over the next five years in the reefer market.

The report stated that the reefer market may grow to about 46.7 million tons by the year 1995 and will

continue to expand to year 2000 to over 50 million tons.

An increase of about 8.5 percent has been predicted which could bring totals to about 55 million tons by the year 2005. This level would be about 33 percent more than all reefer imports in 1989 throughout the world.

In 1989 about 64 percent of all reefer goods were shipped by sea and Drewry predicts this total to increase to 75 percent by 2005. If this increase should occur, Drewry indicated that there could be an

increase in the size and capacity of reefer vessels to accommodate the expanding shipments of reefer goods.

NASSCO To Accelerate Commercial Ship Repair Effort

With the R.J. Pfeiffer being the only commercial ship delivered in the U.S. this year, NASSCO recently

turned its marketing efforts and shipyard resources to commercial ship repair.



The Viking Serenade is one of the nine commercial ships repaired at NASSCO in the past 12 months.

During the past year, NASSCO has repaired nine commercial ships, which is the first time in eight years that the yard has pursued non-military repair work. Included in the repairs were four tankers and a cruise ship.

NASSCO is one of the only shipyards remaining on the West Coast which is capable of building large, oceangoing vessels. According to **Richard Grothen**, vice president of repair, this asset gives the yard an advantage over those who specialize solely in repair work.

Mr. Grothen said, "First, we have large berthing and crane capacity, allowing us to bring in ships quickly and conduct virtually any repair in the shortest time possible." NASSCO operates a 621-foot floating dry dock, maintains a 1,000-foot graving dock and has eight piers available for dockside repairs. Ten cranes operate in the yard, with lifting capacities up to 165 tons.

Mr. Grothen also stated that the repair workforce can be augmented with the 600 people who are involved in building new ships at the yard. NASSCO's current workforce consists of about 3,000, and is building three AOE-class fast combat support ships for the U.S. Navy.

At the present time about 80 to 90 percent of all repair work performed at the yard is for the U.S. Navy. NASSCO hopes to maintain these repair levels, as well as increasing commercial repair so that it can make up about 50 percent of a larger repair effort.

NASSCO is a private, management/employee-owned corporation located in San Diego, Calif.

For more information on the repair and shipbuilding capabilities of NASSCO,

Circle 122 on Reader Service Card

Norfolk Shipbuilding Awarded \$4,205,855 Deactivation Contract

Norfolk Shipbuilding and Dry-docking Corp., of Norfolk, Va., has been awarded a \$4,205,855 contract for the deactivation and lay-up of the Ready Reserve RO/RO vessel SS Cape Diamond. The work is expected to be completed within 120 calendar days.

Maritime Reporter/Engineering News



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Circle 285 on Reader Service Card

Alfa-Laval Introduces New Series Of Solids-Retaining Separators

Following the introduction of its high-capacity Alcap range of FOPX and MMPX centrifugal separators for fuel and lube oils, Alfa-Laval has focused on upgrading the performance of its line of solid-bowl, or solids-retaining, separators, designated the MMB 300 series.

The MMB 300 series, which is intended to partially replace the company's earlier MAB 200 models, is designed for cleaning of distillate fuel oils, light MDO, lubricating oils for trunk diesel engines operating on true distillates and light MDO, lubricating oils for steam and gas turbines as well as lubricating and hydraulic oils for hydroelectric power stations.

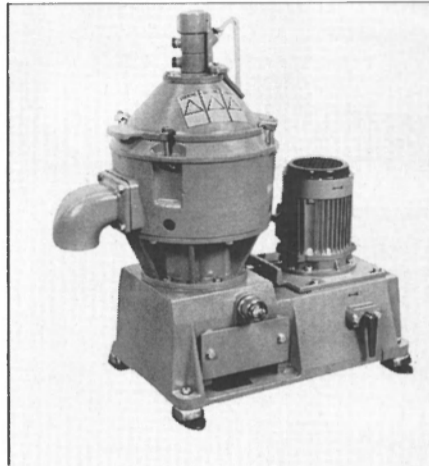
The two new models, the MMB 304 and the MMB 305, feature the

compact design of the company's MMPX 303 and 304. The new separators have a larger sludge holding space in the periphery of the bowl and incorporate paring-disc discharge of the clean oil. The two new models are basically identical in design with different throughput capacities.

The larger sludge space extends the operating period between manual cleaning of the bowl. The paring-disc feature eliminates the requirement for a downstream pump. The built-on drive motor and gear drive of the MAB line has been replaced with a separate frame-mounted motor and belt drive.

Optional equipment for the new models from Alfa-Laval includes a MAWA 40 water seal alarm to moni-

tor the pressure in the clean oil outlet. The control unit can be wired to either shut off the feed pump or switch the three-way valve for recirculation of the settling tank, if a loss of pressure is detected. Functions are provided for audio and visual alarm.



Alfa-Laval's new compact solids-retaining MMB separator series feature a large sludge holding space.

The MMB separators are designed for installation as a complete system which includes the MAWA water seal alarm, starter, heater, pumps, valves, piping and other essential equipment.

For more information on the new MMB solids-retaining separators or any other Alfa-Laval product,

Circle 116 on Reader Service Card

Australia To Spend About \$50.6 Million On New Port

Australia has reported that it plans to spend about \$50.6 million to construct a new port in Darwin. The new port would be capable of handling 500,000 containers each year.

At the present time the port handles about 1,400 vessels each year and turns over about 766,600 tons of cargo.

Plans call for the project to take about four years. The new port will also provide service for Timor Sea offshore oil and gas activities.

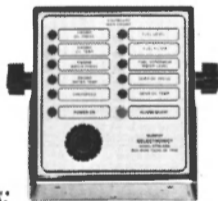
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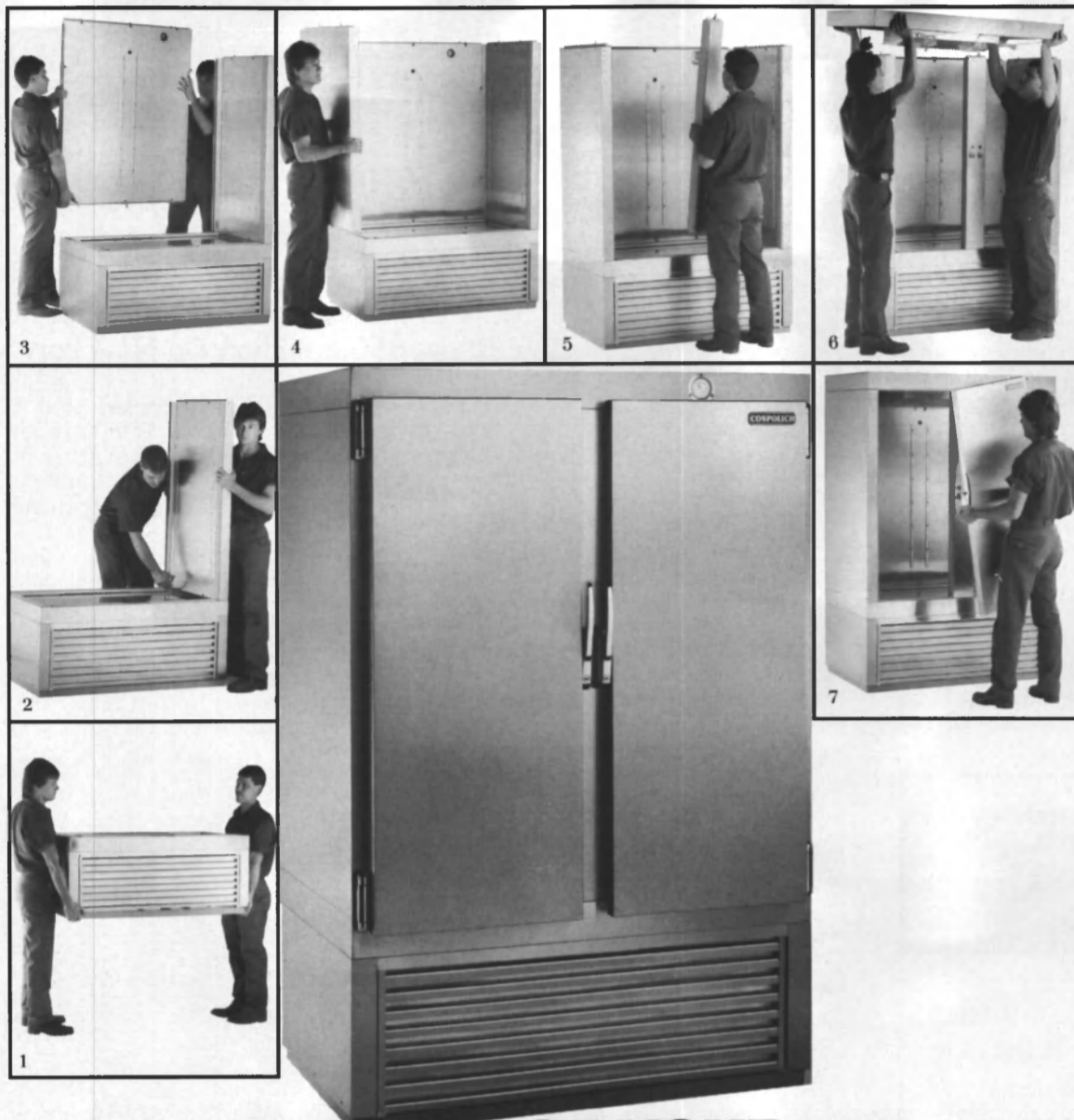
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ASK Opens New Marine Repair Facility In Portsmouth, Va.

Alexander, Starr & Kersey, Inc. (ASK), North Kingstown, R.I., has opened a new repair facility to serve government and commercial marine clients in the Virginia Tidewater area. This operation, located on Victory Boulevard in Portsmouth, Va., represents a major addition to ASK's broad capabilities in marine engineering and technical support services.

The Portsmouth site encompasses more than four acres of facilities and equipment to conduct "down-river" ship repair activities as well as on-site machine shop and fabrication projects for both the marine and industrial sectors. Large structural and complex piping fabrications are well within the capabilities of yard personnel. ASK's new machine shop is currently performing several diverse inspection, equipment repair and rebuild tasks, including: winch refurbishment; pneumatic/hydraulic valve actuator overhauls; and steam turbine non-abrasive cleaning and non-destructive inspections.

Key management appointments at ASK, Portsmouth, include **Thomas J. Pakula**, general manager, and **Alter W. Leary**, production manager.

Alexander, Starr & Kersey's other services include: developing shipboard planned maintenance systems; vibration analysis and balancing of rotating equipment; thermography; underwater surveys; voyage repairs; and vessel husbanding, including lay-up and activation.

For more free information detailing ASK's new Portsmouth facility and other services,

Circle 25 on Reader Service Card

Norwegian Companies Form Joint Venture To Serve Marine Industry

Five independent Norwegian companies have formed a joint venture called "Team Quality" to provide their customers in the ship building and off-shore industries with a comprehensive equipment supply service.

The member companies are: GF Marine A/S; Jensen & Rhoden; Jets Vacuum A/S; Moland Automation A/S; and Teknotherm A/S. The extensive experience that each company has gained in supporting the Norwegian ship building industry is brought together to supply a wide range of integrated equipment that includes: HVAC, refrigeration, vacuum drainage, automation and control systems.

To assure that their customers receive the most advanced equipment and technology available, the integrated package is drawn from Team Quality members own production together with high quality components from external sources. Team Quality promises secure delivery, installation and extensive operational testing, competitive prices and contract terms that meet all international standards. All installations are supported with comprehensive documentation, training courses and on-site instruction.

To receive additional free information about Team Quality from GF Marine A/S,

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Robertson Disc Navigation is the Electronic Chart Display & Information System (ECDIS) which has been proven where it counts - at Sea.

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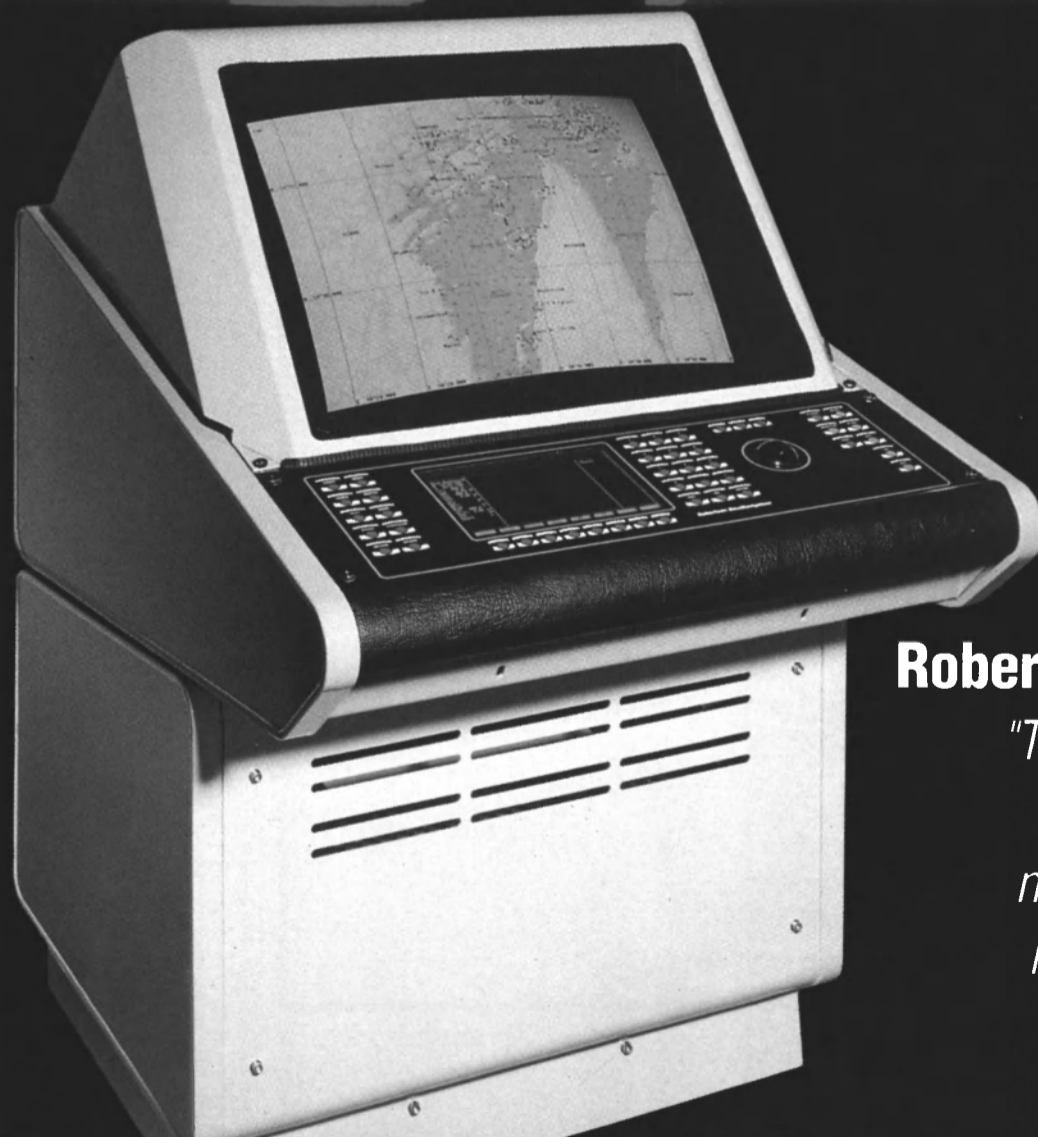
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Marine Cellular Antennas Available From Morad

Morad Electronics Corporation, Seattle, Wash., has announced the availability of its UHF marine cellular antennas.

Morad UHF 800HD antennas work for a variety of marine cellular

applications. Constructed mostly of stainless steel and anodized aluminum, they are built to resist corrosion and breakage in severe environments, such as salt, wind, moisture and ice.

Morad cellular antennas are used by the Washington State Ferries and have also been purchased for marine use by Cellular One, one of the world's largest cellular companies.

The company's antennas are reasonably priced and are available throughout North America at authorized Morad dealers.

To receive additional free information about Morad Electronics' UHF marine antennas,

Circle 53 on Reader Service Card

Stevens Technical Services Awarded Contract Worth \$2,395,270

Stevens Technical Services, of Brooklyn, N.Y., has been awarded a contract worth \$2,395,270 for the deactivation and lay-up of the Ready Reserve seabarge SS Cape May.

FMC OK's Atlantic Pact, But Promises To Keep TAA Under Careful Scrutiny

A controversial rate-setting and capacity-cutting agreement between 12 containership lines involved in the North Atlantic trade, known as the Trans-Atlantic Agreement (TAA), will be allowed by the Federal Maritime Commission (FMC) to pass into effect.

The FMC had threatened to go to court to block passage of the TAA on the grounds that some of the agreement's terms violated shipping laws by restricting competition. However, **Christopher L. Koch**, chairman of the commission, stated that the TAA will be the "most scrutinized and monitored" agreement in the agency's history and did not rule out a future court challenge if the agreement produces "unreasonable rate actions or service reductions."

A controversial feature of the TAA calls for a 20 percent reduction in westbound Atlantic ship capacity over a minimum of two years in an effort to stabilize rates.

While carriers emphasize the necessity of rate stabilization in the volatile trade, shippers argue that capacity-reduction plans are discriminatory, market-distorting devices that violate anti-trust laws.

Potential Of Cuban Cruise Market Explored

It is reported that most of the cruise lines based in Florida have already begun planning for the day when a change in Cuba's leadership will end the U.S. imposed economic embargo and allow passengers to travel freely between the two countries.

Havana, Cuba is only 220 miles from Miami, making the route ideal for three- and four-day cruises.

Market Scope, Inc., an independent research firm, recently completed a two-year study on Cuba's prospects as a cruise destination and forecast that 1.2 million people will make the trip annually within five years of renewed ties with the U.S.

The study indicated that after its port infrastructure had been repaired and new terminals added, 1.8 million cruise ship and 600,000 ferry passengers would travel to Cuba each year.



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Canada To Build \$8.3 Million Loran Station In Newfoundland

The Canadian government recently announced its plans to construct an \$8.3 million Loran-C station at Comfort Cove, Newfoundland.

The new station will be operated as part of the "Labrador Sea Chain"

and will provide an important navigational safety service to vessels on the east coast into the 21st century.

The Loran station will consist of a 721.8-foot transmitting antenna and a 2,152.8-square-foot operations building housing a diesel generator power plant, timing and control equipment and the Loran-C transmitter.

The two year project will begin this fall and is scheduled for completion in 1994. In conjunction with

the new Comfort Cove station, the Cape Race Loran-C station is currently undergoing upgrading work.

Bids Requested For Construction Of Hilton's 'Queen Of New Orleans'

Hilton Hotels Corporation and New Orleans Paddlewheels, Inc.,

recently solicited bids for the construction of Hilton's Queen Of New Orleans. The vessel will reportedly be the city of New Orleans' first riverboat casino.

All six of the Louisiana-based shipyards that were originally contacted expressed interest in bidding on the project. The bidders are: Avondale Industries, Inc., New Orleans; Leevac Shipyards, Inc., Jennings; Bender Shipbuilding, New Orleans; McDermott, Inc., Morgan City; Halter/Trinity Marine, New Orleans; and Service Marine Industries, Inc., Morgan City.

Bids on the \$35 million project are due on October 13 and the contract will be awarded one week later. The construction of the Queen Of New Orleans will employ 200 workers and is scheduled to be completed approximately one year after the start of work.

Phillips Awards Kvaerner \$11.8 Million Contract

Phillips Petroleum Company recently awarded a 70-million Norwegian Krone (\$11,767,000) contract to Kvaerner Engineering A/S, a unit of the Norwegian engineering and offshore group Kvaerner A/S, to supply a detailed projection for an eventual lifting of two Phillips oil platforms in the Ekofisk offshore oilfield.

Phillips will use the results of Kvaerner Engineering's projection to decide whether to go ahead with lifting the platforms, which are reportedly sinking into the sea floor. In 1987 Phillips lifted six platforms in the Ekofisk field that were in a similar situation based on detailed specifications also provided by Kvaerner.

The latest contract will occupy 80 engineers until 1994, including specialists from Kvaerner Earl & Wright, a structural steel division within the group's London-based Kvaerner H & G Offshore.

Russians Ask U.S. To Help Scrap Soviet Fleet

A recent visit to Washington, D.C. by senior Russian naval officials was the second attempt by the new republic to obtain U.S. assistance in scrapping up to 600 Russian submarines and surface ships. The first delegation was unable to generate any U.S. interest in the project.

The delegation was led by Admiral Igor Mahonin, vice chief of staff of the Russian navy, who wants to begin scrapping over 80 nuclear attack and ballistic missile submarines containing more than 300 reactors. In eight years the Russians have only been able to decommission eight submarines.

Southwest Marine, San Francisco, Calif., and The Technogrid Group, New York, have proposed a joint ship breaking plan using U.S. equipment and Russian workers. The companies would net an estimated \$1 million per submarine and the Japanese have reportedly already agreed to purchase the Russian scrap metal.



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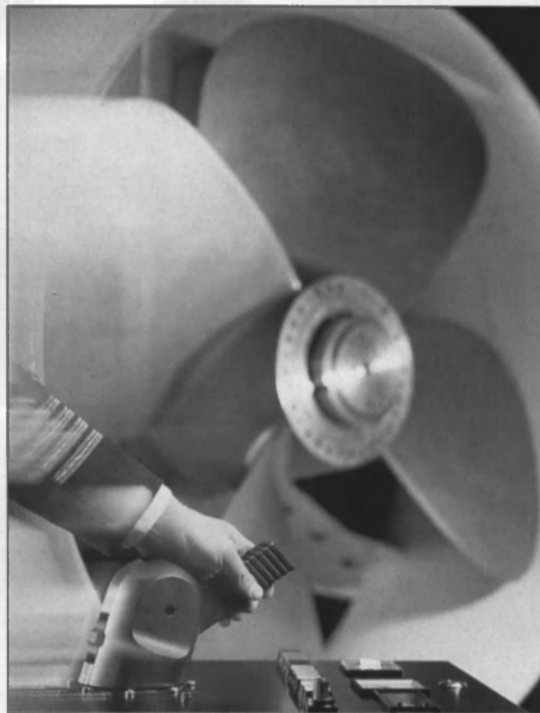
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Circle 30 on Reader Service Card

H-DIL Awarded Repair Contract For Refrigerated General Cargo Vessel

Halifax-Dartmouth Industries Limited (H-DIL) has been awarded the contract for repairs to Joklar HF's refrigerated general cargo vessel, M/V Hofsjokull.

The contract will provide employment for about 40 workers at H-DIL's Halifax shipyard. The repairs will include painting, steel work and tail-end repairs.

The Hofsjokull runs between North American ports and Iceland.

For more information about the facilities and services provided by H-DIL,

Circle 114 on Reader Service Card

Bollinger Christens Two U.S. Navy Patrol Vessels

Bollinger Machine Shop & Shipyard, Inc., Lockport, La., recently christened two patrol vessels for the U.S. Navy Special Warfare Division. The second and third commissioned patrol coastals for the division were christened the PC-2 Tempest and PC-3 Hurricane.



Christening ceremonies held at Bollinger Machine Shop & Shipyard

Congressman **Bob Livingston** from the First District of Louisiana was the keynote speaker. **Bonnie R. Livingston** (PC-2) and **Betsy Cantrell** (PC-3) were the vessels' sponsors.

The two vessels are part of a 13-ship order from the U.S. Navy that will form the Cyclone Class.

For more information about the capabilities, services and facilities provided by Bollinger Machine,

Circle 111 on Reader Service Card

Largest Barge Ever Drydocked At Northwest Marine

The KSC 700, formerly owned by Kaiser Steel Corporation, was recently drydocked in Portland on Dry Dock 4. The barge is the largest to ever be drydocked in Portland.

The KSC 700 is reported to be the second largest barge in the world, with a length of 700 feet and a beam of 182 feet. The barge has been layberthed between assignments at Tongue point, near the mouth of the Columbia River since 1987.

The vessel, now owned by GATX, was overhauled by Northwest Marine, Inc., which also modified the barge's launching ways.

October, 1992

The barge is designed to launch offshore oil facilities such as platforms and modules. The barge's next assignment will be to launch oil equipment in the North Sea for a company located in the Netherlands.

For more information about the services and facilities provided by Northwest Marine,

Circle 83 on Reader Service Card

MarAd Awards \$6.7 Million In RRF Ship Contracts

The U.S. Maritime Administration recently awarded two contracts for the deactivation of Ready Reserve Force (RRF) vessels.

Eastern Technical Enterprises, Inc., Norfolk, Va., received a \$2,585,069 contract for the deacti-

vation and repair of the aviation support ship (T-AVB) Wright. The work is expected to be completed within 70 calendar days.

The second contract, for \$4,135,923, was awarded to Braswell Services Group, Charleston, S.C., for the deactivation and repair of the RRF breakbulk vessel Cape Decision. The work on the vessel is expected to be finished in 120 days.

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Responses are due November 24, 1992

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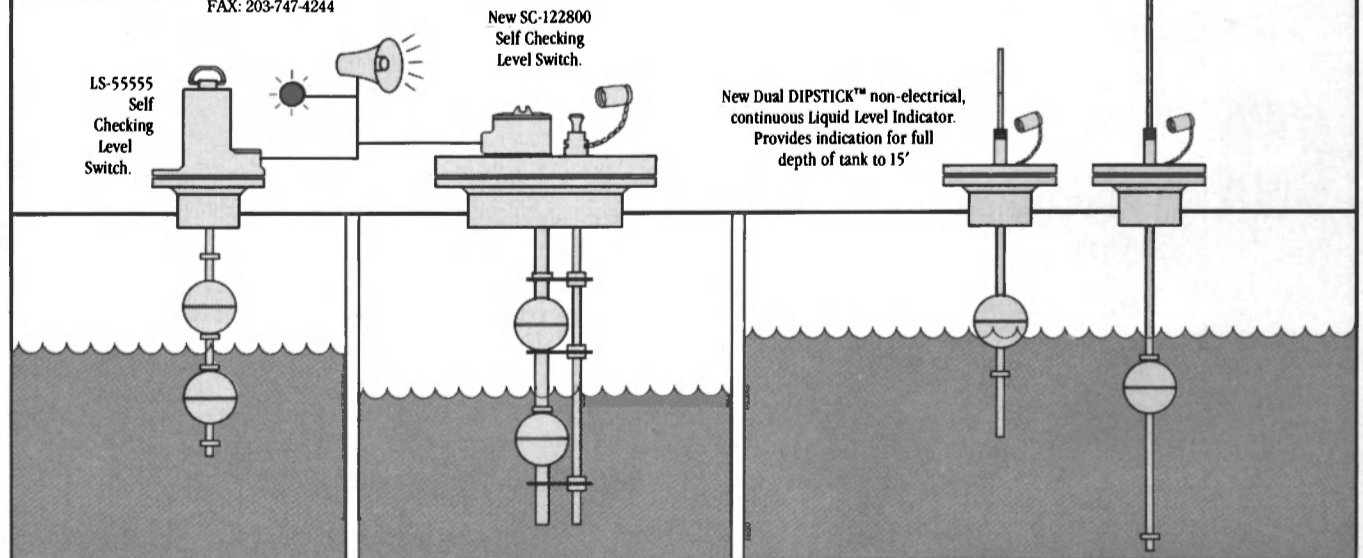
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Nationwide sales and service to the marine industry for more than 35 years!



Imo Industries Inc.
Gems Sensors Division
One Cowles Road
Plainville, CT 06062
203-747-3000
FAX: 203-747-4244



- Expanded line of electrical or non-electrical indicators.
- Helps satisfy Coast Guard regulation for "Tank Barge" and "Tank Ship Liquid Overflow Protection." Also ABS approved.
- Tank contents including vapors completely sealed from atmosphere.
- Stainless steel construction.
- DIPSTICKS™ visible to over 100'.
- Self Checking Level Switches feature high level and overflow alarm points.

Circle 236 on Reader Service Card

Norcontrol Awarded Marine Simulator Contracts

Norcontrol Simulation a.s., Horten, Norway, has been awarded contracts in the U.S. and Russia which total about \$20 million.

One of the largest seaman's unions in the U.S. has ordered nine bridge and engine room simulators for its training schools in Florida

and Ohio. This contract has a value of \$13.5 million.

The Murmansk Shipping Company has ordered a radar-based surveillance system for its port and seaward approaches. This is reported to be the third and largest order that Russian Port Authorities have ever placed with Norcontrol.

For more information,

Circle 66 on Reader Service Card

Rijnhaave To Introduce FMC's ATFI System To P&O Containers

An agreement was signed between Rijnhaave Information Services, Inc., and P&O Container, Ltd., one of the world's largest transportation lines, under which Rijnhaave

will provide software and conversion services to P&O Container as part of the Federal Maritime Commission's (FMC's) Automated Tariff Filing Information (ATFI) system.

Rijnhaave was one of the first automation vendors to be certified by the FMC to submit batch filings for Foreign Commerce Tariffs under ATFI and its software conforms to ATFI standards for tariff filing and corrections.

The fully automated ATFI environment is expected to begin in January 1993 and should be fully completed after one year. Using Rijnhaave's software services, P&O Container Line will be fully integrated into the new ATFI network and will operate with greater efficiency as a result.

P&O Containers is a member of the P&O Group and operates a fleet of more than 100 vessels consisting of containerships, tankers, bulk carriers, cruise liners and passenger/vehicle ferries.

Rijnhaave Information Services is a division of The Rijnhaave Group, a multi-national Netherlands-based holding company specializing in applied information technology.

Underwater Vision System Offered By Blackwater

Blackwater Vision Systems, New Rochelle, N.Y., a division of Hudson River Towing and Salvage, presents an innovative technology which is reported to provide unsurpassed clarity in zero visibility water to topside personnel for a variety of below the surface operations.

Called the Blackhawk, the new underwater vision system is designed to generate real time imaging of any underwater subject matter regardless of bottom conditions, water column clarity or state of turbidity. According to Blackwater Vision, engineers using the system will have the following capabilities: to view and direct underwater work as it is being performed; generate tape or hard print documentation of projects and pre/post repair work; possess a clear viewing field from which computer renderings of the entire subject may be generated; and have the ability to produce exceptional close-ups, with four times magnification power. These characteristics will make the Blackhawk ideal for such missions as: emergency rescue, recovery and salvage missions; on-site structural or weld failure inspections; archaeological exploration and accident investigations.

To receive additional free information on the new Blackhawk underwater imager from Blackwater Vision Systems,

Circle 56 on Reader Service Card

Harbormaster

Outboard Drive Propulsion Systems

50 to 350 HP
models for Boats & Barges

- Efficient mechanical drive
- Completely self-contained
- Economically mount on deck
- Consume minimum deck space
- 360° Steering -- no rudder
- Up to 90° elevation of lower unit



Spare parts and component renovation available for earlier Murray & Tregurtha and Mathewson Harbormaster outboards and bow thrusters

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12924 Farmington Road
Livonia, MI 48150 USA
(813) 425-1080 Fax (313) 425-1850
Circle 232 on Reader Service Card



2960 Airway Avenue, #A-103
Costa Mesa, California 92626
(714) 662-0500

MCA ENGINEERS, INC.

- Naval Architects
 - Marine Engineering
 - Marine Surveying
 - Structural Analysis
 - Structural Design
- Critical Area Inspection Plans Using **FRACTRAC**
- Hull Stress Monitoring Systems - **SASMS**
 - Diesel Engine Diagnostics Using **CARMA** System



Circle 246 on Reader Service Card



GMG SYSTEMS, INC.

KEEPING GOOD COMPANY WITH STRONG PRINCIPALS

SUNFLAME CO., LTD.
Marine Incinerators/Rotary Burners

Ansell Jones
Deck Fittings/Watertight Doors

SMIT OVENS
Inert Gas Generators

DSCI
DIETRICH SYSTEM CONTROLS INC.
Float High Level & Boiler Automation Systems

HENRI SYSTEMS HOLLAND B.V.
Infra-red High Level Alarm Systems

SIGMA
TREATMENT SYSTEMS, INC.
Oily Water Separators

W. T. SEYMOUR LTD.
Tailshafts, Rudder Stocks & Castings



GMG SYSTEMS, INC.
124 South 8th Street
New Hyde Park, New York 11040

ENVIRONMENTAL ENGINEERED PACKAGED SYSTEMS WORLDWIDE

Circle 314 on Reader Service Card

Inmarsat Service

SAVINGS ACROSS THE SEVEN SEAS: THAT'S THE IDB-ADVANTAGE



Better Coverage IDB Mobile serves the seven seas through our network of four coast earth stations covering the IOR through Gwangara, Australia; POR and Atlantic-West through Niles Canyon, California; and Atlantic-East through Staten Island, New York.

Better Price IDB Mobile offers the *best* prices in the Inmarsat system, as low as \$6.84 per minute off-peak with no international landline charges for calls to the U.S., Canada and the United Kingdom. (Calls to other countries are delivered at a flat rate of \$0.85 per minute). Our telex charge in all ocean regions is \$3.85 per minute plus landline.

Better Service In the U.S. you can call *shore-to-ship* via IDB Mobile simply by dialing 1-800-800-8282. Our customer service department (see numbers below) will assist you with scripts to allow you to dial through the voice prompts with a fax or PC. In August, IDB Mobile inaugurates its new IOR service from Gwangara, Australia, which will allow customers to access IDB Mobile in any ocean region via LES ID 13-1 octal or LES ID 11-1 decimal.

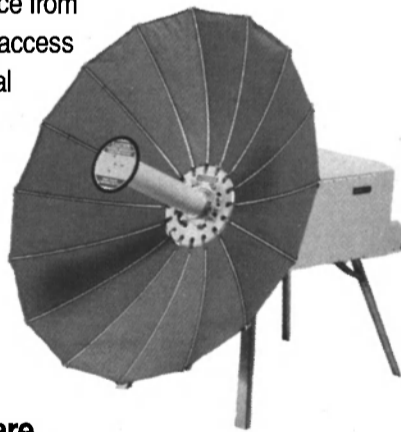
Better Added Values In addition to supporting all commercial electronic mail services, IDB Mobile distributes and administers SprintMail service to maritime and aeronautical users. One local call allows you to send messages and data files; off-peak hours save you even more!

One-Stop Shopping, Service and Hardware

IDB Mobile leads the industry in land mobile installations in Russia, the Commonwealth, and other remote locations. Through an agreement with MORSVIAZSPUTNIK, IDB Mobile can arrange PTT licenses, provide SES ID numbers and supply portable Satcom equipment in a matter of days.



IDB Mobile
introduces global
pricing—the same low price
available in all four
ocean regions.



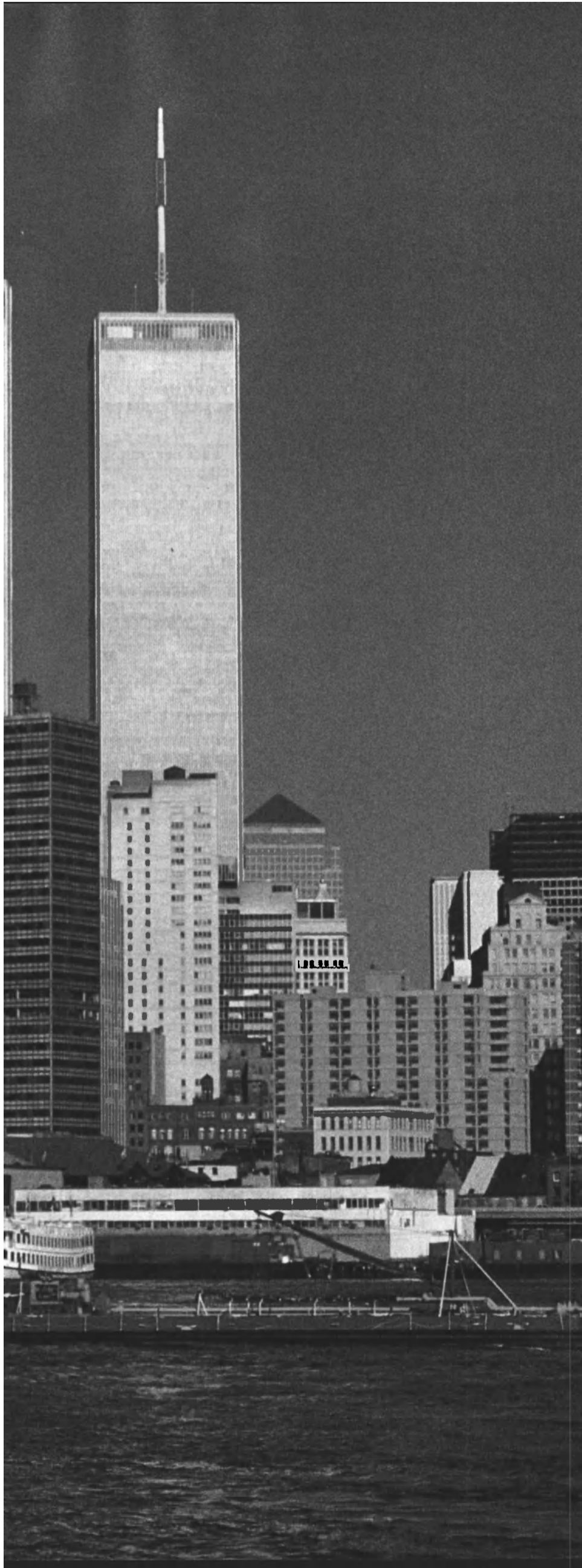
1-800-432-2376

1-301-590-7074

FAX 1-301-590-7063 TELEX 7403050

Circle 235 on Reader Service Card





SNAME 92

Preview

1992 Annual Meeting & 11th Annual International Maritime Exposition

New York, October 28-31

The SNAME Annual Meeting and International Maritime Exposition will once again boast a full-slate of activities, including an exhibition hall featuring more than 100 companies from around the world, the presentation of 16 technical papers and an array of afternoon and evening social functions.

Coordinated by the Society of Naval Architects & Marine Engineers (SNAME), the annual meeting and exposition is scheduled for October 28-31 at the New York Hilton in New York City.

Located in Americas Hall I and II, the exposition will be showcasing more than 100 companies providing a forum to meet and mingle with fellow marine industry personnel. Exhibitors from North America and Europe will display marine products and services including diesel engine sales and repair, ship and boat construction, maintenance and repair, navigation and communication technology, valves and piping, lifesaving equipment, controls and control systems, deck machinery and cargo handling equipment, and vessel design and engineering services. (Please see following pages for exhibitor list and listing of intended exhibits.)

Again, the technical sessions will run concurrently with the exposition. The papers committee, under the guidance of chairman **Jack W. Abbott**, has selected 16 papers covering an array of subject matters to comprise the technical program scheduled for Thursday and Friday, October 28 and 29.

The first two papers, scheduled to be delivered in the Trianon Ballroom from 9:45 a.m. till noon on Thursday, focus on hydrodynamic and propulsion design concepts for tuna seiners and studies on propeller cavitation using a large cavitation tunnel, respectively.

At the same time in the Mercury

Ballroom, two papers, one discussing the design procedures for buckling-dominated graphite/epoxy pressure hulls, the other covering plastic design methods for icebreaker shell plating, will be presented.

Following the morning session is the President's Luncheon, where awards will be presented and the president of SNAME, **Ronald K. Kiss**, will address attendees. The annual Business Session follows lunch at 2 p.m., and the agenda for members in attendance includes election of the new president, a report of the elections that took place at the council meeting, and consideration of proposed amendments and bylaws.

Starting up again at 2:30 p.m., papers five and six, covering dynamic load approach in tanker design and evaluations for safety for double hull girder with transverseless system, will be presented in the Trianon Ballroom.

Concurrently, a paper on D-series systematic experiments on twin-screw displacement ships and a paper on the performance of ice-capable hull forms on open water are scheduled to be presented in the Mercury Ballroom.

Friday morning six papers in all are scheduled for presentation. Scheduled for the Trianon Ballroom starting at 8:30 a.m. are three papers on icebreakers, including the U.S. Coast Guard Polar Class, the Canadian R-Class, and propulsion performance trials on the MV Terry Fox and MV Ikaluk, Canadian ASPPR Arctic Class IV icebreakers.

At the same time in the Mercury Ballroom, the three papers to be presented include: hard chine vs. round bottom, comparing stability in waves on small displacement ships; new generator diesels for Sea-Land's Atlantic Class Vessels; and environmental considerations concerning medium-speed engines in marine

applications.

The final two papers, one covering the fundamentals of submarine concept design and the other discussing commercial cargo ships for sealift in the year 2000, are slated to be presented at 1:30 and 2:45 p.m., respectively, in the Trianon Ballroom.

On Friday night the black-tie or dress uniform annual banquet is scheduled for 7:30 p.m. in the Grand Ballroom. The banquet will feature presentation of the Taylor Medal to **Justin E. Kerwin**, for notable achievement in naval architecture; the Land Medal to **Edward J. Campbell**, for outstanding accomplishment in the marine field; and the Davidson Medal to **William C. Webster**.

Apart from the meeting and exposition, programs have been established for those attendees extending their stay or those who wish to explore New York City. Two tour/lunches, one encompassing SoHo, Greenwich Village, and an Artist's loft and lunch, the other a visit to the Cloisters and lunch, are scheduled for Thursday and Friday, October 29-30, respectively. On Saturday October 31 at 8:30 p.m. there will be a black tie dinner dance in the Grand Ballroom, featuring the Al Raymond Orchestra and an award-winning ballroom dance team.

Fitness minded attendees should consider either the walking program of Central Park scheduled for 10 a.m. Saturday morning, or the N.Y. Hilton's Plus One Fitness Center.

Additional details about the SNAME Annual Meeting, including registration and attendance information, can be obtained from SNAME by contacting them at: SNAME Headquarters, 601 Pavonia Ave., Jersey City, N.J. 07306; (201) 798-4800; FAX: (201) 798-4975.

(continued on page 30)

1992 SNAME -- A Preview
(continued)

**SNAME Events:
Technical Sessions &
Social Programs**

Thursday, October 29

Trianon Ballroom

9:45 a.m.—"Hydrodynamic and

Propulsion Design Concepts of Tuna Seiners" by **Douglas S. Dirks** and **Gary M. Hetherington**.

11 a.m.—"Correlation Studies on Propeller Cavitation Making Use of a Large Cavitation Tunnel" by **Jurgen Friesch, C. Johannsen,** and **Hans G. Payer**.

Mercury Ballroom

9:45 a.m.—"Analytical Design Procedures for Buckling-Dominated

Graphite/Epoxy Pressure Hulls" by **Thomas G. Perry, Craig D. Douglass** and **James J. Gorman**.

11 a.m.—"Plastic Design Method for Icebreaker Shell Plating Subjected to Measured Ice Loads" by **James St. John, Peter V. Minnick** and **Rubin Sheinberg**.

West Ballroom

noon—President's Luncheon with general reception in West Ballroom

Foyer

2 p.m.—Business Session

Trianon Ballroom

2:30 p.m.—"Dynamic Load Approach in Tanker Design" by **Donald Liu, Jack Spencer, T. Itoch, S. Dawachi** and **K. Shigematsu**.

3:45 p.m.—"Deterministic and Probabilistic Evaluations of Safety for A New Double Hull Girder with Transverseless System" by **Jeom K. Paik, Hyon S. Bong, Man S. Kim,** **Sung K. Han** and **Doe H. Kim**.

Mercury Ballroom

2:30 p.m.—"D-Series Systematic Experiments with Models of Fast Twin-Screw Displacement Ships" by **Alfred M. Kracht** and **Alfred Jacobsen**.

3:45 p.m.—"The Performance of a Systematic Series of Ice-Capable Hull Forms in Open Water" by **Casey J. Moton, Peter B. Zahn, Roger H. Compton, Lawrence Leibman, Peter G. Noble, Bruce C. Nehrling, Mark Dabell, Nancy L. Anderson** and **Andrew R. Kondracki**.

Friday, October 30

Trianon Ballroom

8:30 a.m.—"Eight Years of Performance Measurements Aboard USCG POLAR Class Icebreakers," by **Richard Voelker, Frederick Seibold, Ian Glen** and **Ian Bayly**.

9:45 a.m.—"Full Scale Trials in Level Ice with Canadian R-Class Icebreaker" by **F.M. Williams, D. Spencer, S.T. Mathews** and **Ian Bayly**.

11 a.m.—"Resistance and Propulsive Performance Trials of the MV Terry Fox and MV Ikaluk in Level Ice" by **Bruce Cowper, Robin Browne, Ian Glen** and **Ron Ritch**.

Mercury Ballroom

8:30 a.m.—"Hard Chine Versus Round Bottom—Comparison of Stability in Waves and Seakeeping Performance of Small Displacement Ships" by **Andrew Zborowski** and **Hui-Shen Chu**.

9:45 a.m.—"Re-Engining on the Run: New Generator Diesels for Sealand's Atlantic Class Vesels" by **Hugh Stephen Rynn** and **Rod Vulovic**.

11 a.m.—"Environmental Considerations Concerning Medium-Speed Engines in Marine Applications" by **Goran Hellen**.

Trianon Ballroom

1:30 p.m.—"Fundamentals of Submarine Concept Design" by **Harry A. Jackson**.

2:45 p.m.—"A Commercial Cargo Ship for Sealift in the Year 2000" by **Charles B. Cherrix** and **Marc P. Lasky**.

Grand Ballroom

7:30 p.m.—Annual Banquet (black tie or dress uniform). General reception at 6:30 p.m. in the Grand Ball-

Maritime Reporter/Engineering News

**MacGREGOR
NAVIRE**

MARINE SERVICES
MARINE CARGO ACCESS
MARINE HYDRAULICS
MacGREGOR NAVIRE
MARINE CRANES / ELEVATORS
MARINE CONSULTING
MARINE REFRIGERATION

The Group

Circle 249 on Reader Service Card

room Foyer.

1992 International Maritime Exposition

Exhibitors

Aalborg Cserv International
ABB Turbocharger Co.
Alexander, Starr & Kersey Inc.
Allied Marine Crane
Allied Marine Services, Inc.
American Bureau of Shipping
American Safety Technologies
American United Marine Corp.
Ameron
Anchor Marine East Corp.
Anschuetz of America
Apollo International Corp.
Appleton Marine, Inc.
Atlantic Marine, Inc.
B.F. Goodrich
Beaird Industries, Inc.
Cae-Link & Cae-Electronics
Canadian Consulate General
Carderock Div., Naval Surface
Caterpillar Inc.
Centrico
Coastdesign Inc.
CTI Industries, Inc.
Davit International, Inc.
Deutsch Metal Components
Dex-O-Tex Div. Crossfield Products
Encon Management
Envirovac, Inc.
Fibergrate Corporation
Frank Mohn Houston, Inc.
Furuno U.S.A., Inc.
Geka, Inc.
Gerard Technology Associates
Gilkes, Inc.
Golten Marine Company
Henschel Inc.
Herbert Engineering Corp
Ian-Conrad Bergan Inc.
Inorganic Coatings, Inc.
International Marine Software Associates
Inventory Locator Service, Inc.
Kopcke International (USA) Inc.
Krupp MaK Diesel, Inc.
Leistriz Corp.
Leslie Controls, Inc.
Loctite Luminescent Systems, Inc.
M. Rosenblatt & Son, Inc.
MacGregor-Navire
Mackay Communication, Inc.
MAN B&W Diesel
Marine Management Systems (MMS)
Maritime Reporter
Marserv/Tenfjord/Cunningham Marine
McNab Inc.
Metritape, Inc.
Midland Manufacturing Corp.
MMC International Corp.
Nautical Technology Corp.
New York Shipyard Corp
Newport News Shipbuilding
NMP Corp.
Nor-Tech (U.S.A.), Inc.
Offshore Systems Ltd.
Plastic Pilings, Inc.
Raytheon Marine Co.
Robertson Marine Systems
Saab Tank Control
Schat-Watercraft, Inc.
Siemens Electric Limited
Sokkia
Swedish Trade Council
Thordon Bearings, Inc.
UE Systems, Inc.
Ultra Poly, Inc.
Unitor Ships Service
Veson, Inc.
Viatran Corp.
Vibratech Inc.
Viking Fender Co.
Viking Life-Saving Equipment
W.B. Arnold Co., Inc.
Walport USA
Warren Pumps
Wartsila Diesel, Inc.
Wartsila Marine, Inc.
Waukesha Bearings Corp.
Wireless Data Corp.

Exhibitor Information

ABB Turbocharger Co.

Circle 26 on Reader Service Card

Asea Brown Boveri, Inc. (ABB) supplies equipment and services for steam and gas turbine generators, combined cycle and hydro-electric power plants. Exhibiting in booth 54, ABB will highlight its single shaft power train (SSPT).

Allied Marine Crane

Circle 27 on Reader Service Card

A division of Allied Systems Co., Allied Marine Crane designs and manufactures specialized fixed, telescopic and knuckleboom cranes in capacities of two to 75 tons, with emphasis on military, oceanographic and petroleum applications. Exhibiting in booth 102.

American Bureau of Shipping

Circle 98 on Reader Service Card

Since 1862, ABS has provided classification and certification services to the international maritime community. ABS's worldwide network of offices provides service where required. At show will highlight 1992's renewed commitment to quality and service to clients. Exhibiting at booths 354-356.

SIEMENS

Putting the North American fleet on course

As one of the world's leading manufacturers of marine automation and electrical equipment, Siemens can provide the comprehensive answer to all of your system reliability questions.

Siemens delivers on-time project management, integrated system design, local manufacturing and reliable service. This combination makes us your optimum single system vendor for all your on-board electrical needs.

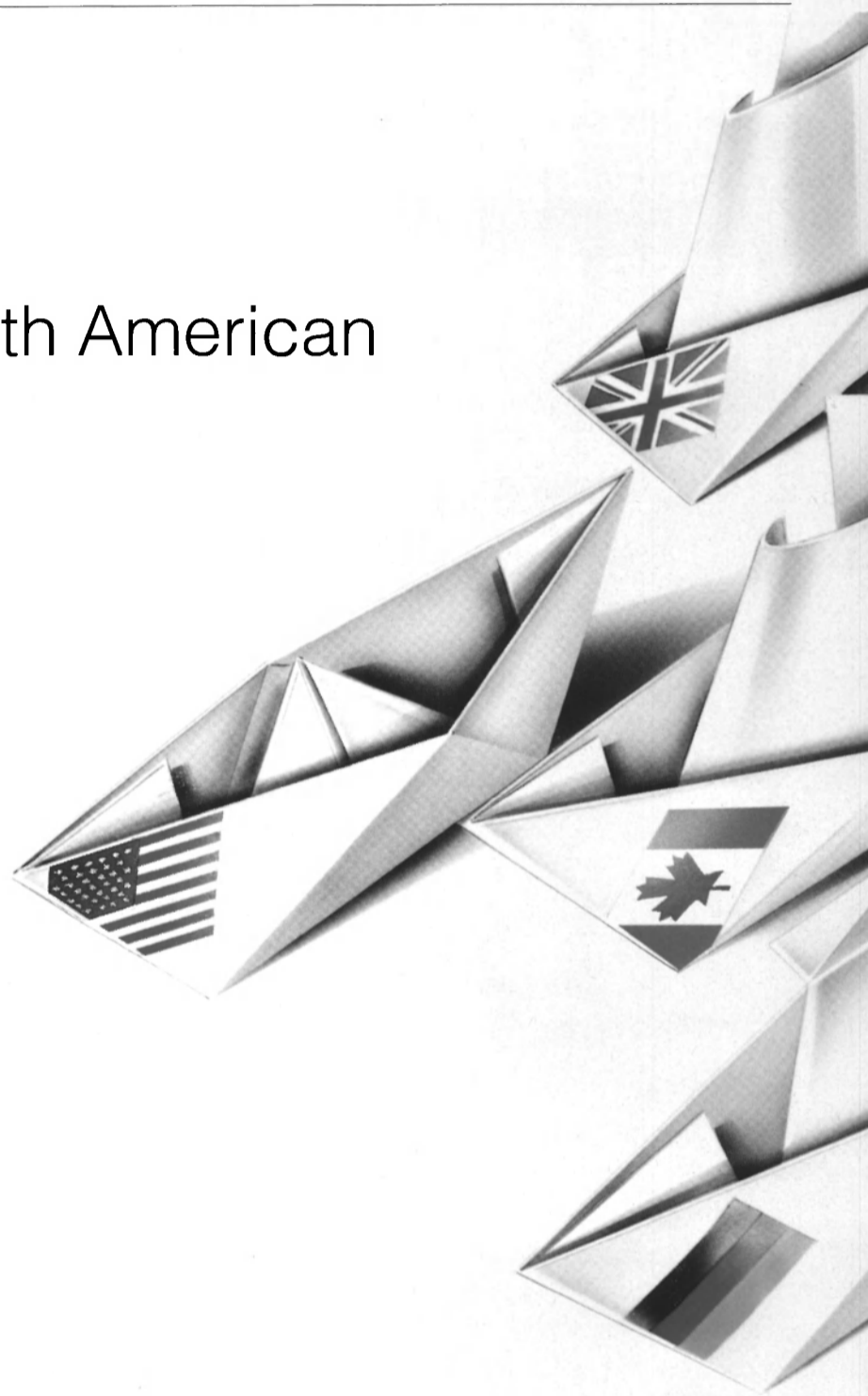


Siemens supplied the electrical system including propulsion, power plant and automation for the mid-life modernization of the Canadian Coast Guard Icebreaker "Louis S. St. Laurent".

For more information, call:
Siemens Marine Systems
Alpharetta, GA,
Tel.: (404) 740-3290 or 3292
Fax: (404) 740-3293

Integrated Electrical Systems from Siemens

Circle 332 on Reader Service Card



1992 SNAME -- A Preview
(continued)

American Safety Technologies

Circle 82 on Reader Service Card
For more than eight decades, American Safety Technology has developed safety systems in response to specific real-world requirements. The company's specialty safety systems meet or exceed DOD, ADA,

USDA and OSHA requirements. At the show will exhibit safety systems including anti-slip coatings, prefabricated safety plates and specialty replacement systems. Will also introduce its new brochure to the commercial marine market. Exhibiting booth 406.

American United Marine Corp.

Circle 28 on Reader Service Card
American United Marine Corp.

provides a comprehensive range of marketing, sales, engineering and technical services to foreign and domestic manufacturers of engineered products and systems in the marine, energy and management/conservation markets. Exhibiting at booths 133-134; 239-241; and 351.

Ameron

Circle 124 on Reader Service Card
Ameron Marine Coatings Division develops, manufactures and

markets environmentally designed, high-performance marine coatings. Ameron offers a full-line of tank linings, underwater hull systems and topside coatings specifically designed not only to provide the highest standards of performance and quality, but also to meet the world's most stringent environmental regulations. Ameron also provides consultation to ensure customer compliance with environmental regulations worldwide. Also at the show will be the Ameron Fiberglass Pipe Division which manufactures Bondstrand corrosion-resistant fiberglass piping systems for shipboard and offshore service in sizes two through 36-inch diameters. Exhibiting at booths 510, 512 and 617.

Anschutz of America

Circle 29 on Reader Service Card
Anschutz supplies key components of the Integrated Bridge Systems sought after by modern ships. Anschutz steering control equipment meets all of the stringent U.S. Coast Guard requirements placed upon electrical steering systems. Anschutz of America, the U.S. arm of the Anschutz organization, and a division of Carl Zeiss, Inc., will be exhibiting autopilots, steering controls and automatic charting tables as well as the well known AMETEK doppler speed log now marketed by EDO. Exhibiting at booths 421 and 423.

Apollo International Corp.

Circle 30 on Reader Service Card
Apollo supplies cargo hose fabricators for oil and chemical hoses for tankers, barges and marine terminals. Tank cleaning machines and auxiliary equipment. It also has full service fabrication testing and service facilities in New York and Houston. The company will highlight its cargo hoses-composite, stainless steel and rubber; as well as tank cleaning machines. Exhibiting at booths 332 and 334.

Atlantic Marine, Inc.

Circle 31 on Reader Service Card
Atlantic Marine Holding Company has full-service shipyard facilities in Jacksonville, Fla. and Mobile, Ala. Mobile repair yard has two drydocks with maximum lifting capacity of 250,000 dwt and 50,000 tons displacement, and 5,000 feet of berthing piers for dockside work. Exhibiting at booth 236.

Beird Industries, Inc.

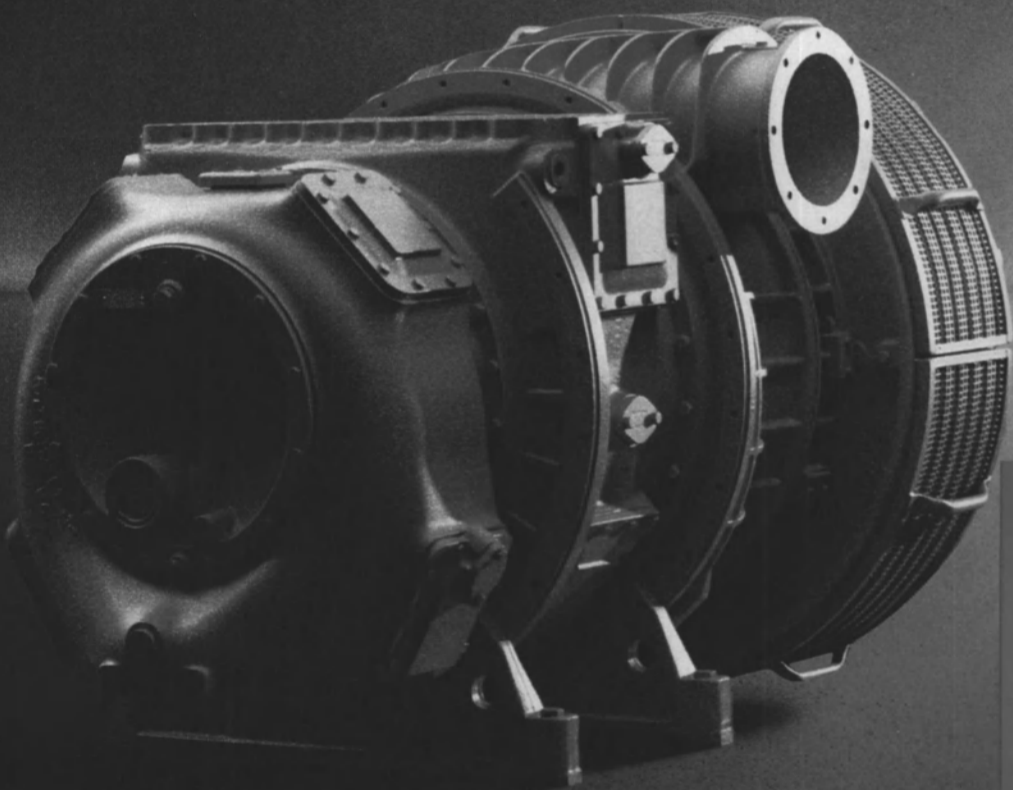
Circle 42 on Reader Service Card
Beird Industries will display MAXIM heat recovery evaporators, custom built heat exchangers, demineralizers and condensers and silencers at the show. Emphasis will be on standard evaporator designs, capability to design and manufacture custom equipment and experience with multi-effect evaporators. Exhibiting at booth 100.

BF Goodrich

Circle 32 on Reader Service Card
BF Goodrich Engineered Polymer Products is a group within the BF Goodrich Aerospace Division. In business more than 100 years, the company provides sonar protection

Maritime Reporter/Engineering News

Asea Brown Boveri service has the speed and skill to keep the ball in the air.



The great majority of diesel engines over 500 kW have BBC turbochargers, so an extraordinarily wide-spread, fast and efficient service organization to spare you nasty surprises will come as no surprise.

From the first (which we were) our aim has been to lead (which we do) in achieving the highest benefits at the lowest costs. And we do it most effectively. It's been proved by experience.

Every year we train over a hundred technicians in providing fast, flawless service at minimum cost. They are based at service centers strategically located all over the world. And backed by a central register containing instant, precise details about your turbocharger. Their job is to keep things running. To keep the ball in the air.

Authorized BBC Turbocharger Service Centers in the USA

ABB Turbocharger Co.
SALES, SERVICE, PARTS, REPAIR
& APPLICATION ENGINEERING
Telephone 908-932-6241
Fax 908-932-6378

Golten Service Co. Inc.
Miami, Florida 305-576-4410
Karl Senner, Inc.
New Orleans, LA 504-469-4000

Ciserv—San Francisco
San Francisco, CA 415-655-7377

Ciserv-Houston
Angleton, TX 409-849-4200

Ciserv-Los Angeles
San Pedro, CA 213-831-1692

Ciserv-Seattle
Tacoma, WA 206-383-4449

ABB TURBOCHARGER CO.
1460 Livingston Ave.
North Brunswick, New Jersey 08902
Telephone 908-932-6241

S.N.A.M.E. Booth #349-350

ABB
ASEA BROWN BOVERI

First for heavy-duty turbochargers.

Circle 298 on Reader Service Card

to the U.S. Navy and NATO nations, with production facilities in Jacksonville, Fla. and Wilmington, N.C. At the show will highlight composite bearings, wear materials of rubber and UHMPE, and Acoustic Rubber. Exhibiting at booth 420.

CAE-Link

Circle 125 on Reader Service Card

The Integrated Platform Management System (IPMS) from CAE Electronics and CAE-Link offers a new era in hull, mechanical, electrical and damage control (HMEDC). The IPMS "glass control room" concept reduces the load of the watchstander; the IPMS computers carry out routine functions of tracing and correlating the condition of the HMEDC system. The system is designed to allow one operator to do all four HMEDC jobs in peacetime cruising. Exhibiting at booth 401.

Caterpillar

Circle 33 on Reader Service Card

Caterpillar is a manufacturer of diesel engines and generator sets. At the show, the company will showcase its line of diesel engines from 80 to 7,000 hp. Exhibiting at booth 414.

Coastdesign, Inc.

Circle 34 on Reader Service Card

Coastdesign Inc. is a publisher/developer of high-tech marine software for naval architects and shipyards. Since Auto Ship was introduced to the marine industry in 1986, it has become one of the world's most popular PC-based marine software with more than 700 installations in 42 countries. Company will highlight Auto Ship system at the show. Exhibiting booth 516.

Deutsch Metal Components

Circle 35 on Reader Service Card

Deutsch Metal Components manufactures pipe connecting systems for commercial and military shipbuilding/ship repair. At the show, the company will highlight a mechanical method of permanently joining pressure piping. Exhibiting at booths 214 and 216.

Envirovac Inc.

Circle 80 on Reader Service Card

Envirovac is a manufacturer of sewage collection systems for the marine industry. Maximum flushing water consumption is three pints per flush. Small diameter piping can be used with non-sloping lines, vertical lift capabilities can be applied. Envirovac also manufactures the ORCA II line of MSD's, a type II physical/chemical process for vessels which carry 12 to 500 passengers. Exhibiting at booth 103.

Frank Mohn Houston

Circle 36 on Reader Service Card

A subsidiary of Norwegian-based Frank Mohn, the company supplies hydraulic operated pumps, offloading packages and offshore firefighting packages for drill rigs. Will showcase its marine submerged cargo pumps and its offloading and environmental equipment at the show. Exhibiting in booth 519.

Furuno U.S.A., Inc.

Circle 97 on Reader Service Card

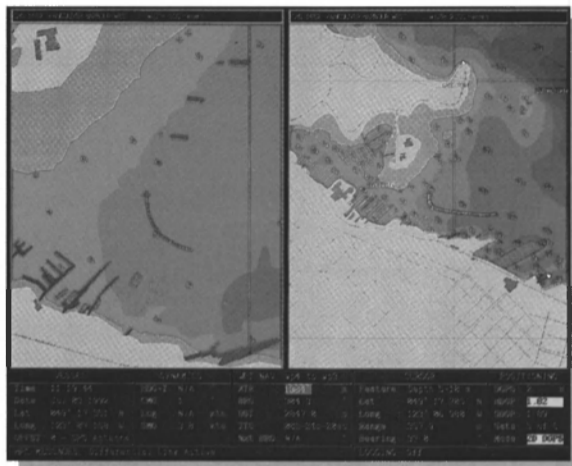
Furuno U.S.A., Inc., a world leader in GMDSS and ARPA radar, is recognized for its marine electronics and roll in developing GMDSS. Furuno will display its full line of GMDSS approved equipment including radiotelephones, digital selective calling systems, distress message controllers and NAVTEX receivers. Exhibiting at booths 415 through 417.

Gerard Technology Associates

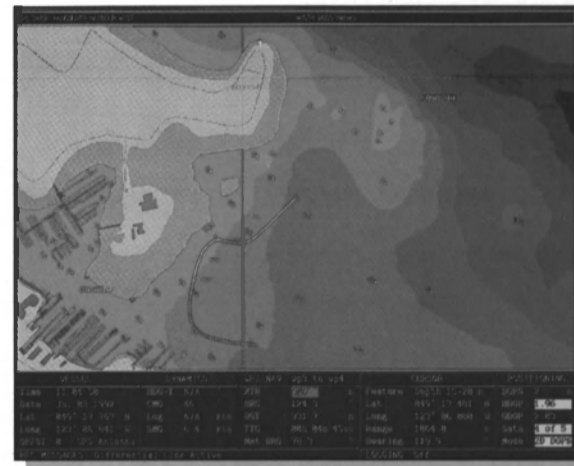
Circle 79 on Reader Service Card

Gerard Technology Associates (GTA) will be joined by Joergen Kyed from its principal in Kvaerner Incineration A/S in Norway, manufacturers of Golar Marine Incinerators. At the show will introduce a new principal, Vianova S.p.A. from Italy, who are designers and manufacturers of automated materials handling and

processing systems for shipbuilders. In addition, information regarding the following products will be available on: Golar Educators; Golar Sliding Hydraulic Watertight Safety Doors; Marine Aluminum Helidecks and Accommodation Ladders; Wagner Steering Gear; Moland Automation Alarm and Monitoring Systems; and HERNIS Closed Circuit Television Systems. Exhibiting at booth 404.



Dual window presentation at different chart scales with vessel track and nav data



Large detailed view of chart section with vessel track, spot soundings, annotations, and nav data

ECPINS

a new concept to safe navigation

Based on more than 10 years of research and tested in over 35 shipboard installations, Offshore Systems Ltd. (OSL) introduces ECPINS (Electronic Chart/Precise Integrated Navigation System) - a new aid to safe navigation and grounding avoidance.

ECPINS, which will comply with all IMO performance standards for ECDIS, is the most advanced, completely integrated, ship's navigation system available to the shipping industry today.

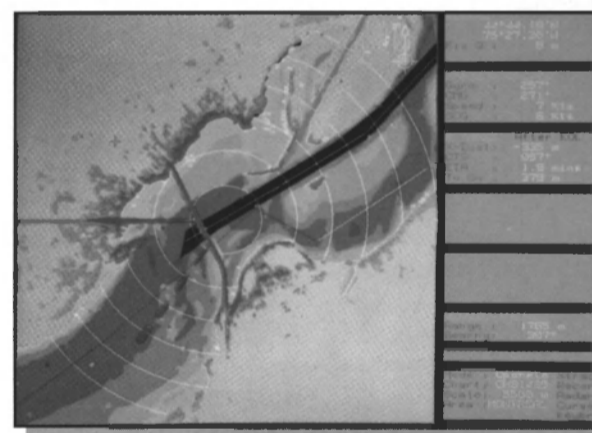


ECPINS console

ECPINS intelligently combines information from a variety of navigation sensors on a high-definition electronic chart display. By providing real-time, "own ship" position data and relationship to potential hazards, ECPINS reduces the workload on the mariner and assists in safe, precise navigation, particularly in confined waters. Coupled with radar image overlay and ARPA target presentation, ECPINS helps the

navigator in collision avoidance and sets new standards for aids to safe, efficient navigation.

ECPINS integrates and continuously checks data from GPS, DGPS, gyro, log, depth sounder, radar, and other navigation sensors to present actual "own ship" position on an authorized nautical vector chart. The information can be viewed in multiple scales on several non-overlapping windows with modes North-Up, Course-Up, Relative Motion and True Motion. For planning or previewing, two different charts also can be shown.



Detailed chart section with radar image overlay, RACON signals and nav data

Both Route Planning and Route Monitoring can easily be carried out. Additional ECPINS display/control stations can be connected to the master workstation on the bridge. Efficient Way-Point Steering is performed in conjunction with the ship's autopilot. ECPINS generates alarms in case of navigation sensor input loss, position error, cross track error, and if the projected ship's heading steers into dangerous waters.

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Please see us at **S.N.A.M.E.** (Oct. 28 to 30) New York Hilton at Booth #419

Circle 258 on Reader Service Card

1992 SNAME -- A Preview
(continued)

Golten Marine Company

Circle 65 on Reader Service Card
Golten Marine Company is part of the Golten Group of Worldwide Companies which has been serving ship owners, underwriters, ship and engine builders, offshore operators, as well as clients in power plants and process and mechanical industries for more than 50 years. Golten is an authorized supplier and repairer for most of the world's major diesel engine manufacturers. Golten shop facilities are capable of handling most any type of machining, planing, boring or milling operation. Exhibiting booth 104.

Henschel ACC

Circle 92 on Reader Service Card
Henschel ACC, the commercial alarm, control and communication department for Henschel Inc. of Newburyport, Mass., will be exhibiting its latest systems. Included in the display is a complete Ship's Control Console with an alarm and monitoring system, control system, and intercommunication systems. Displayed systems are found on the MSRC vessels and the Sulphur Carrier. Exhibiting at Booth 310.

Ian-Conrad Bergan, Inc.

Circle 78 on Reader Service Card
Founded in Norway in 1975, Ian-Conrad Bergan has been in the U.S. since 1980, and specializes in high

level alarm and tank gauging systems. To date, more than 6,000 tanks in demanding service on board tank ships and barges are fitted with Bergan equipment. At the show, the company will display its complete range of level alarms, hydrostatic tank gauging system and the new CargoRadar (microwave) level gauge. Exhibiting at booth 315.

Inventory Locator Services, Inc.

Circle 37 on Reader Service Card
Inventory Locator Service, an independent provider of information, will be providing a live demonstration of its data base services designed to bring buyers and sellers of marine parts and services together, at the show. Suppliers worldwide list their inventories on the ILS database, and buyers can access the information via personal computer with modem. Exhibiting in booth 130.

Krupp MaK Diesel, Inc.

Circle 38 on Reader Service Card
Krupp MaK Diesel supplies main propulsion diesel engines and auxiliary power systems ranging in power from 1,000 hp to 15,000 hp. At the show Krupp MaK will display photographs of its products and provide buyers with literature. Exhibiting booth 422.

Kvaerner Masa Marine

Circle 99 on Reader Service Card
Wartsila Marine, the Vancouver B.C.-based naval architects and marine consultants have changed its

name to reflect the change in ownership of its European parent company, Kvaerner Masa Yards of Finland. The company uses the technology available from it and its parent company to develop creative solutions to marine transportation and engineering problems. Exhibiting at booth 411.

Leistritz Corporation

Circle 139 on Reader Service Card
Leistritz is, and has been for more than 60 years, a leading supplier of screw pumps for engine room service and cargo handling. At the show will exhibit screw pumps for lube oil and fuel oil service. Exhibiting at booth 230.

Leslie Controls Inc.

Circle 39 on Reader Service Card
Leslie Controls Inc. manufactures a wide range of valves controls to control and/or regulate steam and other fluids and gases. At the show the company will highlight duplex strainers, relief valves, reducing valves, diaphragm control valves, ball valves, butterfly valves and instrumentation. Exhibiting in booth 409.

MacGregor-Navire

Circle 40 on Reader Service Card
The MacGregor-Navire booth at the show will emphasize the company's long-term involvement in the design, development and supply of Ro/Ro and container equipment ships. The company's product range extends from semi-automatic con-

tainer fastenings to large stern ramps and associated machinery. Exhibiting at booth 321.

Mackay Communications

Circle 41 on Reader Service Card
Mackay Communications will introduce the new Racal-Decca BridgeMaster Radar at the show. The new 15-inch and 20-inch color/monochrome radar with automatic target tracking, will be shown with the INMARSAT A & C systems. Exhibiting at booth 207.

MAN B&W Diesel, Inc.

Circle 140 on Reader Service Card
MAN B&W Diesel, Inc. will promote its updated two-stroke MC program as well as its new generation of large bore medium speed engines. Featured will be MAN B&W Holeby generator sets. MAN B&W has a complete program of two- and four-stroke diesel engines ranging from 450 to 51,840 kW for marine and stationary applications. Turbo-charger for two- and four-stroke engines, power turbines for turbo-compound systems. Exhibiting at booth 338.

McNab, Inc.

Circle 43 on Reader Service Card
McNab will feature its new Stack Smoke Opacity Monitor, specifically designed for marine used, at the show. These monitors have been used for more than 30 years for ship's diesels, boilers, generators and incinerators. McNab monitors feature a unique lens cleaning system which



ability for quality. From routine maintenance to complex repairs and new construction, TQM provides our

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Whether you need to line a tank or protect a few acres of deck, Amercoat® 385 multi-purpose epoxy coating is the high-performance, cost-effective solution for marine applications.

VOC-compliant Amercoat 385 forms a tough, abrasion-resistant film that is an excellent barrier to corrosion. It adheres strongly to bare steel, coated steel, stainless steel, aluminum, galvanizing, inorganic-zinc silicate coatings and concrete, as well as other substrates. And because Amercoat 385 also adheres to intact old paint and tight rust, it can significantly cut your preparation time and expense.

Highly resistant to most chemicals, Amercoat 385 is ideal for many aggressive environments. As a tanklining, Amercoat 385 is suitable for petroleum fuels, sewage waste, alkaline and salt solutions and a variety of chemical cargoes. It can be immersed in both salt water and fresh water at temperatures up to 140° F.

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For more information about versatile Amercoat 385, contact the Ameron Marine Coatings Division, 245 S. Los Robles Ave., Pasadena, CA. 91101 (818) 683-4000; Fax (818) 682-4060.

See Us at Booth #510 at the SNAME Show

Ameron.

1992 SNAME -- A Preview
(continued)

allows four to five months between cleanings. Other products highlighted: shaft horsepower and torque meters; hull and propeller fouling monitors and oil in water turbidity monitors. Exhibiting at booth 235.

Metritape, Inc.

Circle 44 on Reader Service Card
Metritape offers rugged and reliable level gauging systems, and has for more than 27 years of marine service. Using resistance-tape with no moving parts, it is available in lengths from three- to 100-feet, and provides local or remote indication. Applications for USCG approved Gauging system include fuel oils, sewage, crude oil, product, ballast, draft and all ship service. Exhibiting at booth 403.

Midland Manufacturing Corp.

Circle 96 on Reader Service Card
With 42 years experience in the transportation equipment field, Midland manufactures spill valves, pressure/vacuum valves, liquid level gauges and overfill alarms and tank loading monitors. At the show will feature its new continuous liquid level gauge with an inductive digital sensor and encoder. Exhibiting at booths 232-259.

MMC International Corp.

Circle 101 on Reader Service Card
MMC International Corporation has earned a solid reputation in the maritime industry since it first went into business as the Marine Moisture Control Co. 53 years ago. Products such as its Flexi-Dip series of portable gauging tapes have built that reputation. Displayed will be a new, oxygen-sensing tape that provides a digital readout of the oxygen percentage within the ullage space, permitting an operator to meet USCG regulations. Exhibiting at booths 416-418.

Newport News Shipbuilding

Circle 45 on Reader Service Card
The country's largest privately-owned shipyard, Newport News for more than a century has designed, built, overhauled and repaired a wide variety of ships for the U.S. Navy and commercial customers. Its 1991 sales were \$2.2 billion, and the yard is best known for building the Nimitz-class aircraft carriers, Virginia-class missile cruisers and Los Angeles-class attack submarines. Will showcase its design, construction and repair capacities, as well as its capacity for providing advanced marine instrumentation and communications systems for its customers through subsidiary, Sperry Marine. Exhibiting at booths 116, 118, 120, and 221, 223, 225.

Offshore Systems Ltd.

Circle 64 on Reader Service Card

Since 1977 OSL has designed and manufactured integrated navigation systems, such as PINS 9000, to assist ship operators with safe navigation in confined waters and under difficult weather conditions. At the show the company will exhibit its latest and most advanced version of Electronic Chart/Precise Integrated Navigation Systems (ECPINS), with radar image overlay and grounding avoidance feature. Exhibiting booth 419.

Raytheon Marine Co.

Circle 100 on Reader Service Card
Raytheon Marine Company, a division of Raytheon Company, is dedicated to the manufacture and distribution of the highest quality marine electronics products/services to the worldwide commercial fishing, high seas, recreational boating and government markets. On display at the show will be radar, ARPA, electronic charting systems, VHF's, SATCOM, Loran-C, GPS, autopilot and much more. Exhibiting at booth 221.

Robertson Marine Systems, Inc.

Circle 81 on Reader Service Card
Robertson will exhibit its Disc Navigation System (ECDIS) and the ROBOS Dynamic Positioning System. The Robertson Disc Navigation System is an Electronic Chart Display and Information system. Its modular concepts and choice of 19-, 21- and 25-inch full screen displays

make the ECDIS ideal for integrated bridge and retrofit applications. Exhibiting at booth 237.

Saab Tank Control

Circle 127 on Reader Service Card
Saab Tank Control, under two different owners, has been in business since the late 70s. Saab supplies and services Saab Tank Radar level gauging systems and Gunclean Fixed Tank Cleaning Machines. Two offices, one in New Jersey and one in Houston, feature in-house engineers and a back-up network of sub-contract service engineers. Will be exhibiting, along with the two products mentioned, OMICRON High Level and Overfill Alarms. Exhibiting at booth 106.

Schat-Watercraft

Circle 129 on Reader Service Card
Schat-Watercraft manufactures a comprehensive range of USCG approved lifeboats, rescue boats, work boats, cranes, davits and winches. The crane, davit and winch portion of the Schat-Watercraft product line consists of equipment designed by Schat-Davit Co. The lifeboat and rescue boat portion of the product line is based on Watercraft International designs. Exhibiting at booth 312.

Siemens

Circle 46 on Reader Service Card
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Circle 281 on Reader Service Card

system vendor for North America's fleet. Exhibiting at booths 341 and 343.

Thordon Bearings Inc.

Circle 62 on Reader Service Card
Developed in 1968 by Thomas-Gordon Limited, Thordon elastomeric bearings have become one of the most widely used non-metallic marine bearings in the world. Thordon Bearings Inc. was incorporated in 1990 and manufactures for sale in more than 50 countries. At the show exhibit will focus on a hand crafted operational model displaying the company's environmentally safe Thor-Lube sealed stern tube bearing system. The full range of Thordon bearings will be shown, including the Composite, XL and high pressure Traxl. Exhibiting booth 128.

UE Systems, Inc.

Circle 47 on Reader Service Card
UE Systems will display its Portalevel 1001, a non-invasive level detector. The Portalevel 1001 enables the location of the CO₂ and Halon liquid levels in situ by fire protection companies, industrial fire and safety officers. Applications range from the smallest engine protection system to the largest multi-banked system. Exhibiting at booth 307.

Ultra Poly, Inc.

Circle 48 on Reader Service Card
Ultra Poly will display its Ultra Fend Rub Rails, which are made from UV stabilized ultra high molecular weight polyethylene. Ultra Fend is unbreakable and possesses a low coefficient of friction. Exhibiting at booth 319.

Veson, Inc.

Circle 49 on Reader Service Card
Veson has served the maritime industry for more than 12 years, delivering hundreds of computer systems. Veson has created modular software packages to fulfill shipping offices' needs. The modules cover all office functions and can integrate together to become the Integrated Maritime Office System (IMOS 2000). Veson will exhibit the complete IMOS 2000 system at the show. Exhibiting booth 227.

Viking Fender Co.

Circle 50 on Reader Service Card
Viking Fender Co. is a manufacturer and distributor of marine fendering. It manufactures a complete line of custom and standard bow, stern and side fendering, submarine and barge handling fendering systems, as well as dock, pier and terminal bumpers. Viking is also a distributor of Goodyear Marine Fendering and is the exclusive distributor for "Softlite" foam fenders. Exhibiting at booth 328.

Walport USA

Circle 63 on Reader Service Card
A supplier of film and video entertainment to merchant ships since 1954, the Walport Group today supplies more than 2,000 vessels and oil rigs with full-length feature video movies distributed through a network of 48 exchange depots throughout the world. At the show Walport will exhibit its library of safety and training videos covering such topics as fire fighting, abandonment, accident prevention, pollution and crisis management. Exhibiting at booths 305-309.

Waukesha Bearings Corp.

Circle 95 on Reader Service Card
With more than 40 years of experience in supplying bearings to the marine and commercial markets, Waukesha Bearings is the sole supplier of the main propulsion thrust and journal bearings on the 688 class attack submarine. At the show will exhibit tank safety devices, and personnel will be on hand to discuss customer's specific applications and needs. Exhibiting at booths 201/202.

Wartsila Diesel

Circle 93 on Reader Service Card
Wartsila Diesel Inc. will be displaying the Vasa Series of medium-speed diesel engines suitable for both propulsion and electrical generation. These engines have an output of between 500 and 22,000 bhp and are suitable for operation on heavy fuel oils. In addition to the engines, Wartsila Diesel can offer a complete PROPAC propulsion package including reduction gears and CP propellers. Exhibiting at booth 101.

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1992 SNAME -- A Preview
(continued)

Westfalia/Centrico

Circle 94 on Reader Service Card
Westfalia/Centrico supplies complete fuel treatment systems between settling tank, day tank and diesel engines. Lube oil purification systems are also available. At the show will exhibit information regarding fuel oil and lube oil treatment systems. Exhibiting at booth 301.

Wireless Data Corp.

Circle 131 on Reader Service Card
Wireless Data Corporation continues its 25-year tradition of offering high-quality systems. Formerly Acurex/Autodata, WDC is the supplier of torque test equipment to the U.S. Navy full scale trials branch. At the show WDC will exhibit its model 1602A torsionmeter system through literature and displays. Exhibiting at booth 413.

Geka Thermal Systems

Circle 183 on Reader Service Card

Geka designs and manufactures thermal fluid heaters and heating systems. Built to ASME Section I with USCG and ABS approval. All fabrication done in U.S. Standard designs to 40mm BTU/hr. Can supply waste heat heaters, steam generators, control and pump skids. Exhibiting at booth 358.

Unitor Ships Service

Circle 182 on Reader Service Card

Complete ship service, tank cleaning, refrigeration, etc. Exhibiting at booth 125-127.

Viking Life Saving Equipment
Circle 185 on Reader Service Card

Viking Life Saving Equipment, established in the U.S. since 1982 and Denmark since 1969, will exhibit four- to 50-person inflatable liferafts, inflatable buoyant apparatus, marine escape slide systems, water activated lights, life jackets, immersion suits and fire suits. Exhibiting in booth 233.

Autoflow Receives Excellence Award

Autoflow Products Co. recently received the "Partner in Excellence" award from Captain Ben Maguire and Lt. Lancaster, Philadelphia Naval Shipyard. The award signifies the successful completion of a Navy Manifold contract for the oxygen plant aboard the USS Constellation.



Pictured (right to left): Captain Maguire, Richard Hughes (Autoflow), Nannette Sherman (Autoflow), and Lt. Lancaster.

Autoflow specializes in the manufacture of precision, high-quality flow fuses, flow switches, pressure regulators and valve manifolds. Autoflow's manifolds have been used extensively in both the Navy and Coast Guard, in several applications, which include the Oxygen Plant and Arresting Gear.

For more information on the entire Autoflow product line,

Circle 90 on Reader Service Card

BREG Offers Static Resistant Sorbents

BREG International, manufacturers of environmental products, now carries Static Resistant MATS and ROLLS. These sorbents are specially treated to decrease the likelihood of dangerous sparks from static charge buildup igniting volatile fluids. BREG markets Static Resistant MATS and ROLLS under its Oil Only Sponge line of sorbents. The new sorbents are included in the company's 1992 catalog.

For free information on BREG International's entire product line,

Circle 103 on Reader Service Card



(actual retouched photograph)

Can you spot the largest dry dock in America?

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SHIP REPAIR YARD

Circle 260 on Reader Service Card

Electronic Update

Anschutz Nauto Control System Offers One-Man-Bridge Operation

Anschutz is offering important equipment and systems for economical navigation with the introduction of the Nauto Control Navigation Planning System (NPS).

The company reports that with NPS the entire system can be extended by many important components to a comfortable work station. The work station, the automatic plotting table Nautoplot D and the GPS receiver Nautostar are linked via a data manager.

With this type of work station the company reports that it is possible for easy-to operate route planning with comparison of the ship's desired and actual positions; digital, adaptive and economical track moni-

toring; as well as representation and recording of all relevant navigational data.

The Nautocon is an available option which computes the most economical route and speed for the ship based on optimal track control, current environmental conditions and the selected time of arrival.

Anschutz offers its integrated navigation system with such Anschutz products as: the gyro compass Standard 14, Nautocourse, rate-of-turn equipment, magnetic compass with pick-up-sonde; and various repeater compasses, indicators, steering control components form the Nautosteer family, and a radar.

For more information detailing the Nauto Control system from Anschutz,

Circle 70 on Reader Service Card

Navy Could Reduce Sub Scrapping Costs

A recently released General Accounting Office (GAO) report states that the Navy's \$2.7 billion estimated cost of scrapping 100 subs and disposing of another 85 already deactivated subs could be reduced by \$1.1 billion if the vessels were scrapped at Puget Sound Naval Shipyard, Wash., instead of being towed to other yards.

Five of the six Navy nuclear-qualified shipyards are involved in the deactivation program, but all the subs must first go to Puget Sound to have their reactor compartments cut out and shipped whole to the nearby Hanford Nuclear Reservation for disposal. Afterwards the sub sections are welded back together and towed to the other shipyards for dismantling.

The GAO says that by avoiding the towing fees to the other shipyards the Navy could save between \$4.5 million and \$11.5 million per submarine, a total program savings of \$450 million to \$1.1 billion.

Exstar Wins Contract For Ship Sanitation Devices

Exstar International Corporation, Wilmington, N.C., recently received an order for five SaniSystem 630 Marine Sanitation Devices from Baltec, Ltd., for vessels currently under construction for the Bulgarian Shipping Company, Navibulgar.

Exstar manufactures marine sanitation devices for both large and small vessels, as well as Reverse Osmosis Water Purification units for shipboard use.

For free literature on Exstar,

Circle 164 on Reader Service Card

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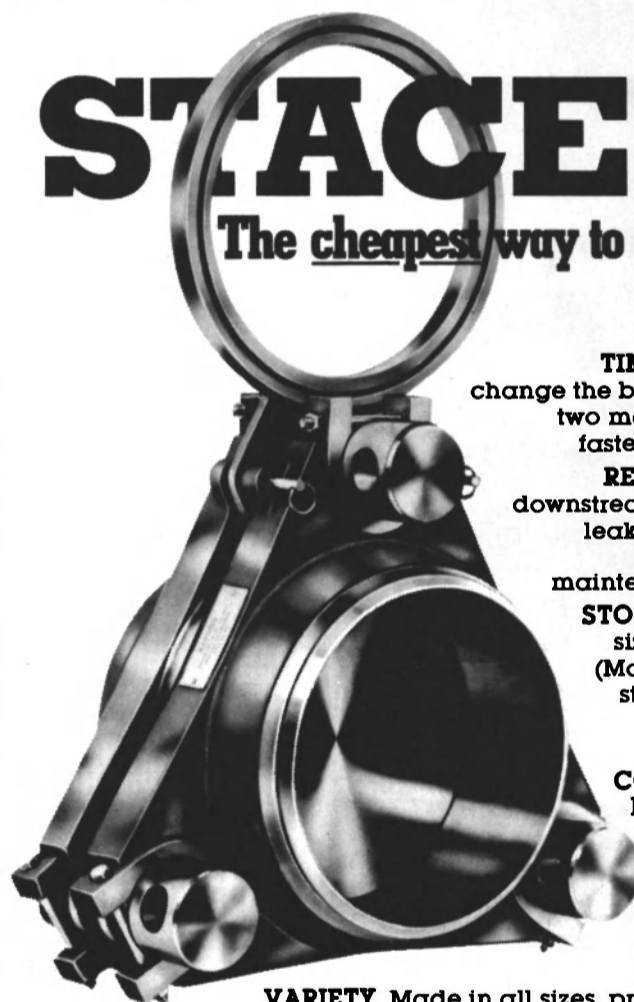
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Circle 218 on Reader Service Card

Offshore Industries To Manufacture Lemvig Lift Systems In USA

Dansk Marinelift ApS and Birch & Krogboe of Denmark, patent holders for the Lemvig Lift, have finalized an agreement with the president of Offshore Industries, Inc., **John Bang**, for the engineering and manufacture of the Lemvig Lift in the United States. **Jeff Gilman**, of Peratrovich, Nottingham & Drage,

Inc., will coordinate engineering.

Lifts will be individually designed to meet the needs of the customer and the site where it will be installed. The Lemvig systems have lifting capabilities from 100 tons to 3,000 tons and up, and are engineered to meet all environmental requirements.

Peratrovich, Nottingham & Drage will provide the entire range of professional engineering services for a heavy haulout facility, including soils and surveys, engineering, in-

spection and construction administration.

For more information on the Lemvig Lift system,

Circle 134 on Reader Service Card

Tidewater Purchases 10 Vessels To Add To Offshore Oil Service Fleet

Tidewater, Inc., New Orleans, La., has announced that its marine divi-

sion purchased 10 vessels for use in its worldwide fleet of offshore oil service vessels. The total purchase was valued at about \$5 million and included eight crew/utility vessels, a 250-foot cargo deck barge and a 125-foot utility vessel.

The eight crew/utility vessels were previously owned by Five Star Marine Service and include a 120-foot vessel, four 110-foot vessels, two 100-foot vessels and one 50-foot vessel. The largest vessel, the Rebecca Tide, and the 110-foot vessels, McClelland Tide and Greer Tide, are capable of handling 50 tons of deck cargo. They are powered by quad GM 12V71TI engines capable of developing 2,020 hp and can carry 59 passengers plus crew.

Two additional 110-foot crewboats, the Nancy Tide and the Kraemer Tide, can handle 50 tons of cargo, as well as transporting 63 passengers plus crew. Both vessels are powered by quad GM 12V71TI engines.

The Lauriano Tide and the Thomas Tide, the 100-foot crewboats, are capable of handling 20 tons of cargo and 59 passengers plus crew. Both vessels are powered by triple GM 12V71TI engines.

The 50-foot crewboat, Whittle Tide, can carry 5 tons of cargo, as well as 18 passengers plus crew. This vessel is powered by twin 3408TA Caterpillar engines.

The 250-foot oceangoing barge will be used in the offshore construction industry and is currently working in the Arabian Gulf.

In addition, Tidewater, along with a joint venture company, purchased a 125-foot utility vessel, the Masco 1, and renamed it the Lamtide 203. The Lamtide 203 has been outfitted with a crane and is presently serving a three-year contract with ARAMCO offshore Saudi Arabia.

Tidewater owns and operates one of the largest fleets of vessels serving the international offshore energy industry. It also owns and operates one of the largest fleets of natural gas and air compressors in the U.S. The company is in the container shipping business, owns a shipyard and has interests in domestic oil and gas operations, real estate and insurance.

For more information on the services provided by Tidewater,

Circle 136 on Reader Service Card

Newport News Awarded \$12 Million In Contracts From U.S. Navy

The Newport News Shipbuilding and Drydocking Company, Newport News, Va., was awarded two contracts from the U.S. Navy totaling \$11.9 million.

Naval Sea Systems Command (NAVSEA) contract N00024-92-C-8626 for \$10.3 million is for the selected restricted availability maintenance of the U.S.S. Bergal and U.S.S. Flying Fish.

The second contract for \$1.6 million, NAVSEA contract N00024-91-C-5359, is for the selected restricted availability of the U.S.S. Sunfish.



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STANDING TALL IN THE BIG APPLE.

NEW SES MULTIPURPOSE FIRE & RESCUE CRAFT ESCORTS LEAD SHIP IN JULY 4TH TALL SAILING SHIPS PARADE.

While celebrating the past, New Yorkers got a view of the future when the first of two Textron Marine Systems' fire and rescue craft sailed up the Hudson River with the tall ships commemorating Columbus' voyage to America.

Built by Textron Marine Systems, the 70-foot craft, named for fire fighter, John P. Devaney, represents a new era in ship and pier fire fighting and harbor rescue. The new boats are the first additions to New York's fireboat fleet in 31 years.

A surface effect ship (SES) design, the craft rides on a cushion of air trapped between flexible bow and stern seals and rigid catamaran-style side hulls. This technology provides high-speed capabilities to respond nearly four times faster than conventional fireboats. Able to operate in extremely shallow water, the new SES craft reduces total fireboat inventory requirements. Other operating costs are kept low through fuel-efficient diesel engines and small crew sizes.



The craft is equipped with five monitors which deliver as much as 5,500 gallons per minute and are remotely operated from inside an enclosed wheelhouse by one crew member, using an automated fire-fighting system. Total crew requirements range from three in the wheelhouse to three to six on deck. Rescue equipment, navigational and communications aids and pumping systems on the new craft all represent the latest in fire-fighting technology.

Like New York, any harbor-based city benefits from swift response across water in emergency situations. Tall ships come and go, but New York City's SES fireboats will lead the way in keeping the harbor in safe hands well into the next century.

TEXTRON Marine Systems

Textron Marine Systems/Division of Textron Inc.

Textron Marine Systems, 6600 Plaza Drive,
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FAX (504) 245-6634. Telex 6711199TMSNOLA

Circle 294 on Reader Service Card

Oceaneering Finalizes Eastport Acquisition

Oceaneering International, Inc., Houston, Texas, recently announced finalizing the acquisition of all of the outstanding capital stock of Eastport International, Inc., Upper Marlboro, Md., in a pooling of interest transaction through an exchange of 860,000 shares of Oceaneering's common stock.

Eastport is a designer, developer and operator of advanced robotic systems and remotely operated vehicles (ROVs). The company employs about 200 people and has annual revenues of approximately \$25 million. Eastport has a well established and successful record of providing deep-ocean search and mapping, inspection, recovery, and ROV development and operations on behalf of a variety of customers, including international telecommuni-

cations companies, the U.S. Navy, and the insurance and oilfield industries.

Oceaneering, together with its affiliate companies, is one of the world's largest underwater services companies.

For more information about the services provided by Oceaneering International,

Circle 52 on Reader Service Card

Singapore's Shipyards Adopt Economic Strategy

In an effort to weather the current shipping downturn while also ensuring its future competitiveness, Singapore's ship repair industry is rapidly moving to upgrade productivity, automate, reduce spending, diversify and expand overseas.

One of the world's largest ship repair industries, Singapore's three major players are Keppel Corporation, with 29 percent of the market, Jurong Shipyard, Ltd., with 27 percent and Sembawang Shipyard, Ltd., with a 25 percent share.

As a result of the Philippine government's forced closing of the U.S. Navy's facility at Subic Bay, Singapore's shipyards are hoping to reinforce their traditional commercial base by securing some of the Navy's displaced shipyard work. Sembawang was recently awarded a multi-million dollar contract to repair the U.S.S. Ingersoll, damaged in a collision off Singapore.

While some experts are not predicting substantial growth in the industry until 1994 or later, such factors as the aging worldwide fleet, rising oil and trade demand and increased environmental tanker regulations are all working in the ship repair industry's favor to ensure future demand.

Oskar Fyrst Named AMPS' Senior Vice President

Automated Marine Propulsion Systems, Inc. (AMPS) of LaPorte, Texas, has announced the appointment of Oskar Fyrst as senior vice president.

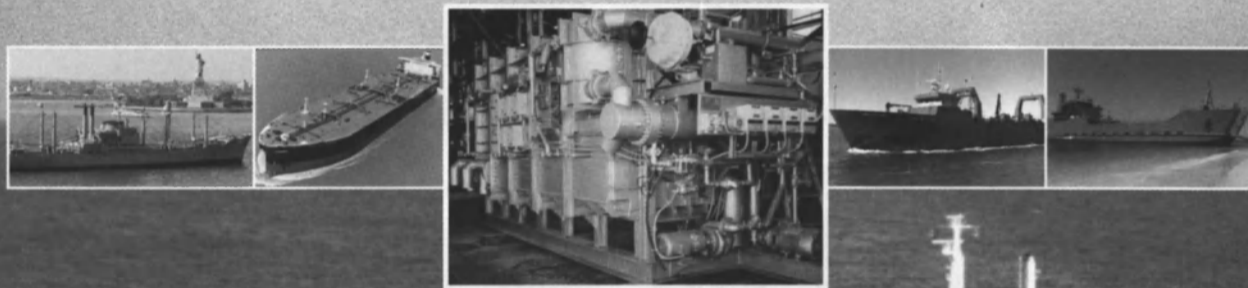


Oskar Fyrst

Mr. Fyrst's background of 25 years in the marine field includes five years as executive vice president with Frank Mohn Houston, Inc., and three years as managing director of Frank Mohn Singapore. He holds a Danish Chief Engineer's license for both steam and diesel ships.

AMPS stated that Mr. Fyrst's experience will be an asset to the company's 24-hour marine repair organization which is internationally known for both its quality of service and for the original design of the Dual Mode Fluid Controlled Injection System (FCIS).

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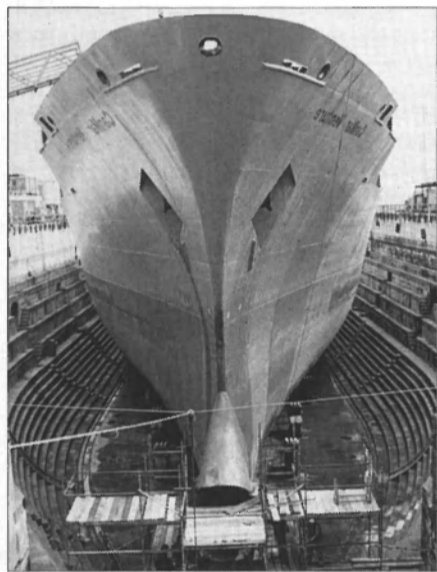
See us at International Maritime Exposition, October 28-30, 1992, New York, NY, Booth No. 100.

Circle 206 on Reader Service Card

Kvaerner Gibraltar Reopens, Appoints ASRYMAR As Rep.

Kvaerner Gibraltar, Ltd., has reopened its ship repair yard after carrying out a substantial investment program to modernize the shipyard and update its facilities. The yard has also appointed ASRYMAR, London, to act as its representative in the U.K. market.

With three drydocks, the largest of which is 902.2 feet by 124.7 feet and able to dock vessels up to 90,000 dwt, the yard is well placed to handle the many vessels of Panamax size which pass through Gibraltar.



The Canmar Venture in one of Kvaerner Gibraltar's three graving docks.

One of the first vessels to enter the refurbished yard was the Canmar Venture, a 17,000-dwt container vessel operated by Canada Maritime Services, Horley, Surrey, U.K. The repairs included renewing close to 16 tons of steel in the ship's bulbous bow.

Top management of Kvaerner Gibraltar will be Gunner Skjelbred, managing director, and Ragnar Weum, commercial manager. The workforce has been built up gradually and arrangements have been made with a number of qualified subcontractors enabling the yard to boost capacity and take on special jobs at short notice.

For more information on the services offered by Kvaerner Gibraltar shipyard,

Circle 11 on Reader Service Card

Japanese New Order Contracts Drop 68 Percent In July

Japanese shipbuilders signed contracts in July to build six ships for export, which represents 175,090 gmt, a 68 percent decline from the 553,200 contracted to be built a year earlier, according to the Japan Ship Exporters' Association.

Ocean's Request To Affiliate With Ocean Duchess Approved

The Maritime Administration (MarAd) has approved a request by Ocean Chemical Carriers, Inc., and Ocean Chemical Transport, Inc., (Ocean) two subsidized tanker companies, to affiliate with Ocean Duchess, Inc.

Ocean currently receives operat-

ing-differential subsidy (ODS) for operation of the M/V Julius Hammer and M/V Frances Hammer, owned by Joe Vaughan. Both companies have also bareboat chartered vessels from Suwannee River Lines, Inc. and Suwannee River Chartering, Inc.

Section 805(a) of the Merchant Marine Act of 1936, as amended, prohibits subsidized operators and their affiliates from participating in domestic shipping activity without

written permission from MarAd.

Ocean Duchess manages the M/V Duchess, and Mr. Vaughan wishes to purchase a controlling interest in the vessel.

A similar waiver was approved by MarAd in 1989, after the applicant demonstrated that the corporate structures of the applicant and its affiliated companies were established in a manner which would prevent any subsidy diversion to the domestic trades.

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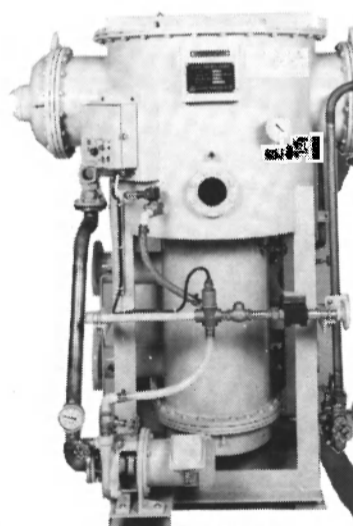
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Circle 325 on Reader Service Card

MacGregor-Navire Specializes In Ro/Ro, Containership Equipment

MacGregor-Navire has a history in the design, development and supply of Ro/Ro and container equipment ships of all types and sizes. The company's product range ex-

tends from semi-automatic container fasteners to large stern ramps and associated machinery.

While the company specializes in the above mentioned areas, other aspects of the company's activities include: hatch covers of all types, cranes and elevators, refrigeration engineering and remote control valve systems for ships carrying liquid cargoes, which complements the company's range of dry-cargo han-

dling and access equipment. In recent years the company has introduced a number of new products for specific applications, that include the G-6 pallet handling crane and the MacGregor Navire Conver-OSR CV-14 semi-automatic twistlocks.

For more information on MacGregor-Navire and its product line,

Circle 51 on Reader Service Card

Hellespont Steamship Commits To NRC

The National Response Corporation (NRC) announced that the Hellespont Steamship Corporation, based in Piraeus, Greece, had agreed in principle to identify NRC for marine spill response coverage in the Gulf of Mexico and the East Coast of the U.S.

Hellespont, represented in London by Papachristidis, Ltd., operates a fleet of 18 tankers calling primarily at U.S. Gulf ports. It is the first foreign tanker group to commit to the NRC system.

"NRC has been very responsive to the special needs and demands of foreign vessel owners and has continually provided practical guidance in coming to terms with the Oil Pollution Act of 1990 (OPA 90)," said Captain Malcolm MacKenzie, safety director for Hellespont.

"By committing to the NRC network, Hellespont has placed a strong vote of confidence in our general strategy and overall capabilities," said Mark Miller, president of NRC.

For free information on NRC and its capabilities,

Circle 57 on Reader Service Card

Sperry Integrated Bridge Used On Destriero

A Sperry Marine Integrated Bridge System was onboard the 67-meter m/y "Destriero" when it recently won the "Blue Riband" for the fastest crossing of the Atlantic Ocean.

In August, the Destriero crossed the Atlantic in a record 58 hours, 34 minutes, 50 seconds, at an average speed of 53.09 knots, without refueling.

The Integrated Bridge System (IBS) features an advanced Sperry Marine Voyage Management System for navigation and command/control, and dual RASCAR radar/ARPA's for traffic surveillance and navigation. Pre-voyage planning and updates were achieved on a Navigation Workstation located behind the front console.

In addition, dual Sperry Marine MK-37E Gyrocompass systems provided reference information for the IBS, and ship to shore communication and navigation data transmission was accomplished using dual Sperry MCS2B Satellite Communication Systems.

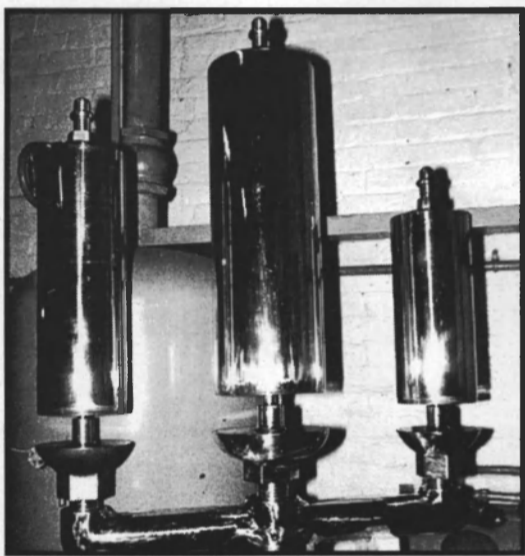
For more information on Sperry equipment,

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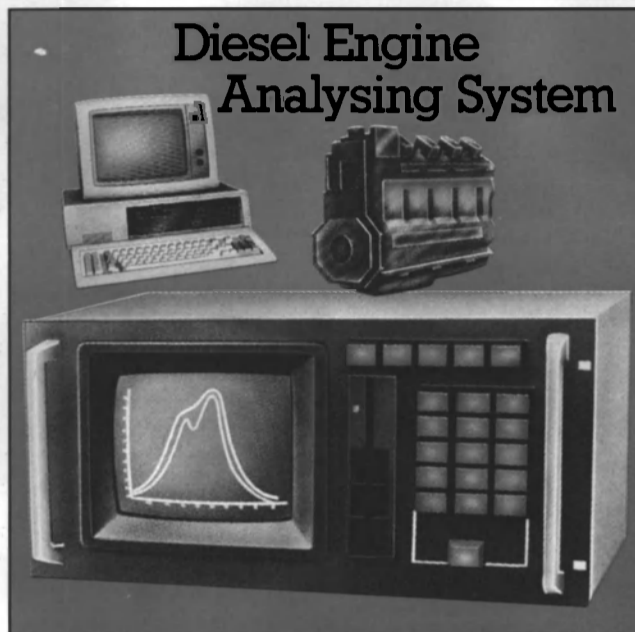
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Autronica MIP calculator NK-5

The Autronica MIP-calculator is a proven diagnostic tool for the operation of diesel engines. Including previous versions more than 800 are installed.

The Diesel-Prof engine analysing system actually compares data against reference data. From the appearing deviations, an engine condition diagnosis is established, with proposals of steps to be taken to repair failures and optimize operation.

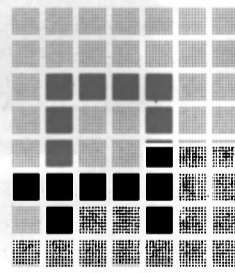
All you need for successful running of the Diesel-Prof program is the following equipment:

- The Autronica MIP-calculator NK-5.
- The Diesel-Prof program diskette.
- Any IBM compatible personal computer (PC).

No previous knowledge in computer operation is necessary to operate the analysing program. Easy instructions are given step by step on the monitoring screen.



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FISH EXPO '92

Largest Commercial Fishing Show Set For Boston, October 15-17

The world's largest commercial fishing trade show, Fish Expo, returns to the east coast and is scheduled to start October 15 at the Bayside Exposition Center in Boston.

Now in its 26th year, the three day exposition offers its commercial fisherman attendees literally hundreds of companies to look at in one exhibition hall, useful demonstrations and educational seminars. The show alternates each year between the east coast and the west coast, with Fish Expo calling Seattle its home in odd numbered years, Boston in even numbered ones.

The show features a huge gathering of marine suppliers, some with low show-only pricing on products such as vessels, supplies, engines, nets, electronics, fishing gear, clothing, processing equipment and other related goods and services. This year's edition will offer an array of

demonstrations of interest to a wide variety of commercial fishermen, including:

- 1. Safety demonstrations, showing how to meet the latest U.S.C.G. requirements;
- 2. Boat building demonstrations, where Lowell's Boat Shop of Amesbury, Mass., shows attendees how a dory is built;
- 3. Net mending demonstrations, a hands on experience in building and mending;
- 4. Tuna fishing demonstrations, with the aid of a life-like 25-foot Great White Shark trophy;
- 5. Certification Program, teaching attendees topics to help comply with new federal safety regulations;
- 6. Pool demonstrations, where fisherman illustrate how to use immersion suits and other survival gear;
- 7. Prizes & Giveaways, win safety-related gear, a scale model of a commercial fishing vessel or a free trip to Fish Expo '93 in Seattle.

Fish Expo will again offer attendees a full compliment of educational seminars to keep them abreast of the latest developments and news. On Thursday, October 15, from 2-3:30 p.m., the "Groundfish Rebuilding Plan" seminar will give the latest details, implications and actions surrounding the stock rebuilding plan. Also during this time, a session entitled "Lobstering Challenges" will offer potential solutions to issues including a new management plan and possible mandatory licenses.

On Friday, October 16 from 8:30 a.m. to 12:30 p.m., a "Safety Training" session will detail procedures and equipment required by the federal vessel safety act. From 11 a.m. to 12:30 p.m., the session "Promoting Skates" will cover catching, marketing and cooking an underutilized species.

From 2-3:30 p.m., "Gear Conflicts" offers possible solutions to the problem of gear entanglement between dragnets and gillnetters. Concurrently at 2-3:30 "Battling for Bluefin" is a discussion concerning the fishery and the fight to preserve it. On Saturday, October 17, the "Safety Training" session from 8:30 a.m. to 12:30 p.m. focuses on firefighting training. From 11 a.m. to 12:30 p.m., "Aquaculture Options" explores the financial opportunities in finfish and shellfish farming. Finally, from 2-3:30 p.m., the "Coast Guard Forum" will feature questions and answers concerning federal fishing regulations, from new vessel safety requirements to enforcement. All seminar information gathered at press time is tentative and subject to change, according to show management.

For more information on Fish Expo '92, contact: National Fisherman Expositions, 5 Milk St., P.O. Box 7437, Portland, Maine 04112-7437. Telephone: (207) 772-3005; Fax: (207) 772-5059; Telex: 322721.

RIO MARE from the Campbell Shipyard is a 257-foot, 1,500-ton capacity Super Pacific Class tuna seiner for Italy.

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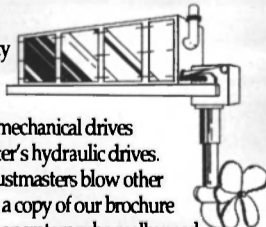
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The Shipbuilders of Spain

Propulsion Update

Kort Propulsion Offers Free Literature Describing PP Jet Propulsion Units

Kort Propulsion Co., Ltd., world famous for the Kort Nozzle Rudders, also markets other popular marine equipment such as PP Jet high-speed pump systems from 200 to 4,000 hp.

These are integrated packages for propulsion and maneuvering. The units consist of a pump, a steering nozzle and a reverse bucket. The pump is of a mixed flow type which draws water from underneath the boat, through an impeller and stator then ejects through a steering nozzle.

PP Jet uses glass reinforced plastic as a major static component for its water jets. The range of jet units are now being built with a mixture of glass fiber, kevlar and carbon fiber. Therefore these units are reported to be corrosion resistant and lightweight. Bronze or stainless steel are used for parts which are in contact with sea water.

PP Jet offers a wide range of

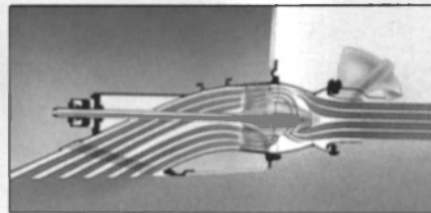
units which can be used aboard a variety of different vessels, ranging from small sports boats to fast ferries. The units can also be made for gasoline or diesel applications.

The P.P. model 65 jet unit is designed specifically for sports boats and small workboats with engines from 60 to 200 horsepower. The boat must weigh a maximum of one ton in order for the unit to operate properly. The weight of the unit is 55 pounds.

The P.P. model 90 and model 90G are intended for commercial or leisure vessels with weights of up to two tons. The P.P. 90 weighs about 132 pounds and the 90G weighs 154 pounds.

The P.P. 115, 140 and 170 models are all designed for commercial uses and for different size vessels, ranging from about 2 tons up to 10 tons.

The model 210, 250 and 300 jet units are also available for larger applications.



PP Jet Propulsion Unit

The engines range from 20 to 4,000 hp for diesel engines with maximum rpm from 6,000 to 1,400.

Some of the features which the water jets provide are oil or water lubricated rear bearing, face seals on larger jets, built-in ducting with shapes to match that of the hull, low water-borne noise capacity, adjustable propellers/duct tip clearance and simple design for ease of maintenance.

For more information about the products supplied by Kort Propulsion,

Circle 105 on Reader Service Card

For more information and a copy of the color brochure from PP Jet,

Circle 3 on Reader Service Card

Jamestown Metal Awarded Contract By McDermott —Named Leading Supplier

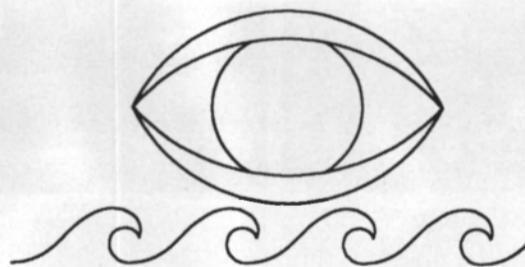
Jamestown Metal Marine Sales, Inc. (JMMS) has announced it was recently awarded a contract by McDermott Shipyards, Inc. to furnish and install the complete interior accommodation and insulation package for a 524-foot, 24,000-dwt molten sulfur carrier.

JMMS was also honored for the second consecutive year by McDermott, being selected as one of their top 10 suppliers for the year 1991. JMMS was selected out of nearly 2,000 vendors for their performance on contracts to furnish and install the complete interior accommodations package on ten naval vessels.

JMMS has been a leader in marine accommodations and interiors for all types of vessels since 1962. Their capabilities include turnkey interiors with engineering, manufacturing and installations for newbuildings, conversions or refurbishments. Products provided include bulkheads, ceilings, doors, furniture, insulation, galley and food service equipment, and modular bathrooms.

For free literature providing complete information on the services and products of JMMS,

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Circle 340 on Reader Service Card

MIL Davie Delivers Refitted HMCS Iroquois

The MIL Davie, Inc., shipyard, in Levis, Quebec, Canada, recently delivered the HMCS Iroquois to the Canadian Navy after completing its full refit and modernization. The destroyer is now equipped with an area air defense capability and modern command facilities.

HMCS Iroquois was drydocked and completely stripped of her major equipment and machinery. The ship's hull and structure were then thoroughly repaired and modified, while her weapons, sensors and communications equipment were replaced or renovated.



HMCS Iroquois during her pre-delivery sea trials.

Some of the destroyer's new equipment includes: a vertical launch standard missile system; a 76 mm gun; a Phalanx Close-In Weapon System; Allison 570KF gas turbines generating 6,400 hp each; an integrated machinery control system; a water displacement fuel system; and new radars.

Under the Canadian Navy's Tribal Class Update and Modernization Project (TRUMP), MIL Davie has received contracts from the TRUMP prime contractor, Litton Systems Canada, Ltd., to modernize all four Tribal Class destroyers, of which HMCS Iroquois is the second. The yard is also building three new frigates for the Canadian Patrol Frigate program.

For additional free information about the services available from MIL Davie's shipyard,

Circle 8 on Reader Service Card

QE2 Repair Contract Won By Blohm & Voss

After receiving temporary hull repairs, the cruise ship Queen Elizabeth the Second (QE2) recently departed General Ship Corporation, Boston, on its way to the Blohm & Voss shipyard, in Hamburg, Germany. The German yard was recently awarded the Cunard Line contract to carry out permanent structural repairs to damage sustained by the QE2 after striking an underwater rock formation off Cape

tion off Cape Cod, Mass., and for the cruise ship's biennial refit.

The QE2 is scheduled to drydock in Hamburg on September 9 and be back in service on October 4. The ship will then return to the German shipyard for a three-week refit on November 20.

The QE2 work is expected to require close to 200 tons of hull steel renewal and 100 to 150 tons of internal steel, plus piping work. It is

reported that the estimated cost for the work is approximately \$30 million.

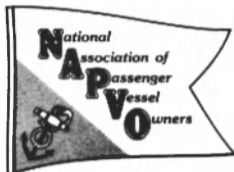
Kvaerner Unit, Sabroe Reach Agreement

Kvaerner Eureka, a unit of the Norwegian Kvaerner A/S, has reached an agreement with Denmark-based Sabroe Refrigeration

which is meant to strengthen the position of the companies as the top world suppliers of fishing industry equipment.

The agreement requires Kvaerner to use Sabroe products for its refrigeration deliveries, while Sabroe must reciprocate by using Kvaerner equipment and pumps for its projects. The agreement also mandates the companies cooperate on new research and technology.

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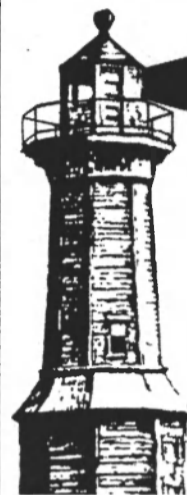
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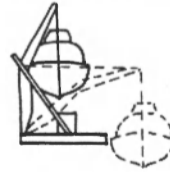
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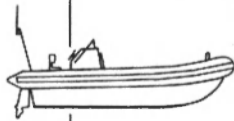
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Circle 331 on Reader Service Card

Westinghouse Acquires Underwater Laser Line Scan Business

Westinghouse Electric Corporation has announced the acquisition of the assets and engineering base for underwater optical laser systems from Spectrum Engineering, Inc. The new name for the business is Westinghouse, Underwater Laser Systems.

The new enterprise is part of the company's Oceanic Division, based in Annapolis, Md. **Edward J. Barakauskas**, formerly engineering manager of the Oceanic Division, is now director of the new enterprise.

The underwater Laser Line Scan System (LLSS) is a recent technology development. Westinghouse says prototype sea trials have shown that LLSS provides improvements in imaging performance over conventional sensors such as television and photo cameras.

For more information about the Laser Line Scan System,

Circle 2 on Reader Service Card

Sea-Land To Move Headquarters In Effort To Reduce Costs

Sea-Land Service Inc. has announced that it is moving its headquarters staff in Edison, N.J., to a different location in northwestern New Jersey in an effort to reduce costs. The new office is expected to be less expensive and smaller.

The move is reported to have been prompted by recent cuts in the company's staff, as well as the present low commercial real estate prices in the area which could help cut lease payments.

The company says it is very likely that it will be choosing another office by the end of the year and be moving into it by early 1993.

Comsat Promotes Kilminster To Assistant General Counsel

Neal Kilminster has been promoted to the position of assistant

general counsel, regulatory matters, for COMSAT Mobile Communications.

In this position, Mr. **Kilminster** will be responsible for the regulatory affairs of COMSAT Mobile Communications, which includes participation in regulatory proceedings with the Federal Communications Commission (FCC). He will also provide legal counsel on regulatory matters to COMSAT's maritime, aeronautical and international land mobile business units.

Mr. **Kilminster** joined COMSAT in 1990 as a general attorney. Prior to joining COMSAT, he was an associate with the Washington, D.C. law firm of Wilmer, Cutler & Pickering for eight years.

Unitor To Design And Supply Refrigeration Systems For Conoco

Unitor AS has been chosen to design and supply the refrigeration systems for Conoco's two new 95,000-dwt double-hulled tankers which are presently under construction at

Korea's Samsung Heavy Industries Co. Ltd.

The new replacement refrigerant, SUVA 134-A, is reported to have an ozone depletion potential of zero in both the onboard air conditioning and provision plants.

The Conoco installations are among the first in the world to have an environmentally friendly refrigeration system.

Each of the tankers will have two separate condensing units, one for the air conditioning and the other for provisions. The air conditioning plant will have a capacity of 235,000 kcal/hr.

Unitor will fabricate the compressors, condensers and control panels according to Conoco/Samsung design specifications at its U.S. company, Unitor Ships Service in Houston, Texas.

Besides newbuilding plants, Unitor can also convert existing plants from other refrigerants to 134-A as part of the company's "Phase-Out" concept.

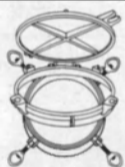
For more information about the SUVA 134-A marine refrigerant system from Unitor,

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PORTLIGHTS



Cornell-Carr Company, Inc., maker of the world's finest marine windows and doors, is now manufacturing a full line of aluminum, bronze and steel portlights. With the aid of an in-house foundry operation we are able to produce a quality product with prompt delivery. Standard sizes are 12, 14 and 16 inches; other sizes are available upon request.



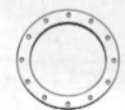
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CC-7136
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CC-7137
Weld-in Fixed Portlight
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CC-7138
Bolt-in Fixed Portlight
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CC-7139
Bolt-in Fixed Portlight
with optional deadlight cover

To order Cornell-Carr portlights specify: drawing number; weld-in or bolt-in; fixed or opening; clear opening size; and material of main frame, lens frame, and cover. Call or write for a free brochure.

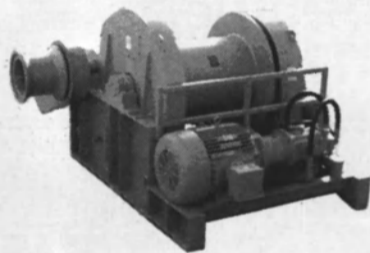
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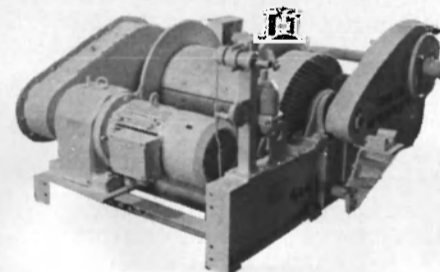
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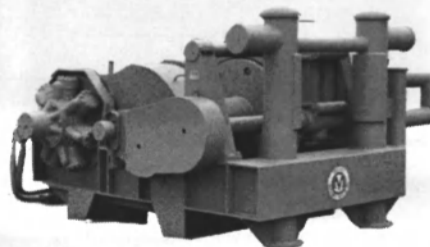
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Circle 247 on Reader Service Card

Kure Shipping Installs Ultra Fog System Aboard Ferry Stena Danica

Kure Shipping AB, of Goteborg, Sweden, has installed the new Ultra Fog sprinkler system aboard the passenger/car ferry M/V Stena Danica. The high-pressure mist system was installed during one of the vessel's voyages between Goteborg, Sweden, and Fredrikshavn, Denmark.

The sprinkler system can be controlled by modern fire and smoke detectors and is reported to use less water than other systems, which minimizes water damage. The system uses about three liters of water per minute by creating a mist, thus using about 1/100 the amount of water ordinarily needed. The system is typically set to activate in less than a minute.

The system consists of 10mm and 6mm lightweight stainless steel pipes. The small dimensions make the system suitable for installation in existing ships.

For more information about the Ultra Fog sprinkler system,

Circle 6 on Reader Service Card

New Superferries Equipped With Teleste Marine Communications System

The new superferries, the Silja Serenade and the Silja Symphony, have been equipped with a Teleste Marine Communications telephone system. Both internal and external phone lines have been installed in each of the 925 passenger cabins. Included in the system are five music channels, a clock and an alarm function. A credit card reader is also provided with each of the passenger telephones.

Some of the features of the system, which are controlled by a central computer, are transmission of call information to the accounting function and registration of the call for billing purposes. The computer also monitors the status of each of the external lines and automatically connects calls using the proper country code.

The company known as Ericsson Marine was bought out by the Finnish Teleste Group, Teleste Oy, in 1990 and renamed Teleste Marine Communications. The company continues to work in the worldwide marine market.

For more information describing the products of Teleste Marine Communications,

Circle 74 on Reader Service Card

Marine Travelift Offers Four-Wheel Drive For Its Mobile Boat Hoists

Marine Travelift has announced that it is now offering four-wheel drive with its mobile boat hoists. Up to 70 different models are available with the four-wheel drive capability.

October, 1992

The direct drive on all wheels eliminates drive chains for most models, increasing reliability and decreasing downtime. Other standard features include "beam forward design," with up to nine feet of power adjustable sling placement at the closed end, and "pivot trunion" design for even better travel over uneven terrain.

For more information describing the four-wheel drive travelifts,

Circle 15 on Reader Service Card

McKesson Joins Art Anderson Associates

Chris B. McKesson has joined Art Anderson Associates, Bremerton, Wash., as a senior naval architect.

Mr. McKesson brings significant expertise in the areas of innovative ship design, new ship development and project management to the company. Before joining Art Anderson

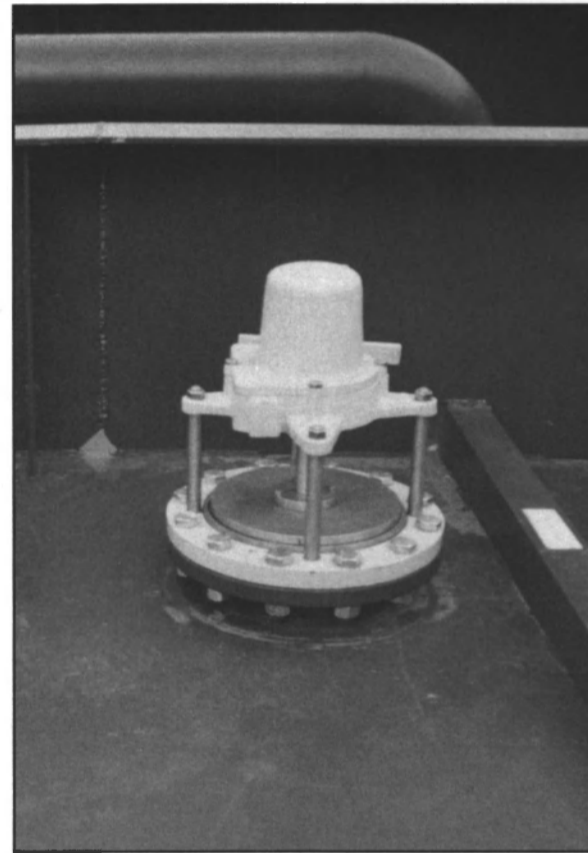
Associates, he worked for several years at the Naval Sea Systems Command (NAVSEA) both as a designer in new vessel projects and as the head of advanced vehicle design.

As a senior naval architect Mr. McKesson will be involved with several new transport projects, as well as sharing in the development of the firm's C-90, low-wake ferry project. He will also participate in the high-speed fast ferry projects for the Puget Sound and San Francisco Bay areas.

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The type SV spill valve, pictured above right, is available in a variety of sizes and material combinations. Operation is completely automatic. The valve features a unique opening mechanism that reduces back pressure after opening. SV valves have been tested and certified as per ASTM-F1271

and thus are qualified for use in vapor control systems in accordance with 46CFR 39.20-9(c).

Gas freeing covers are available with flame screen and flame arrestor inserts for inerted and non-inerted applications. All conform to the latest IMO/SOLAS rules and regulations for purging and gas freeing devices.

Conventional P-V valves and flame screens are also available in a wide variety of materials, sizes and configurations. All are U.S. Coast Guard approved.

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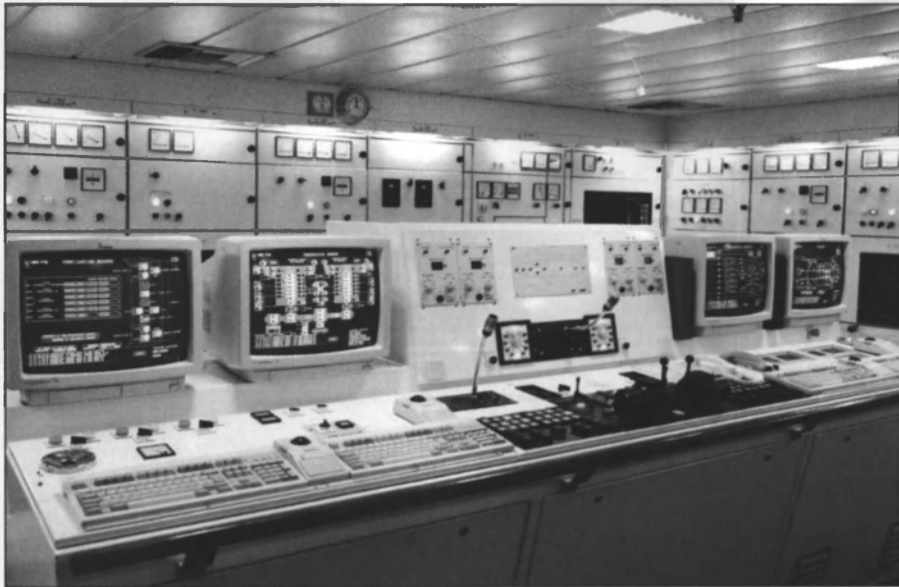
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The Maestro ship automation system from Merlin Gerin

Merlin Gerin Introduces New Ship Automation System

Merlin Gerin has introduced its new ship automation system called Maestro™. The system was made to be integrated on ships in order to provide greater security and operating comfort; higher performance and installation availability; and to reduce personnel and maintenance costs.

The system was designed in cooperation with Telemecanique, its sister company of the Schneider Group. It is based on process sta-

tions, LAN and supervisors from Telemecanique.

Merlin Gerin implemented and marketed all of the system's hardware and software components for Maestro.

Some of the reported advantages of the system include: quick control and display provided by multipurpose work stations suited to marine constraints; dedicated keyboard with an integrated tracker-ball; high resolution VDU; accurate mimic dia-

grams; user friendly access from any work station; LAN redundancy; and the possibility of "fall back" operating mode.

Some of the functions which can be performed by Maestro are alarm and measurement monitoring; power management; main engines monitoring and control; generator sets monitoring and control; auxiliaries management; and fluids management.

Any of the functions can be implemented at the customer's discretion, are connected to the same network and can be operated from different points on the ship, usually from the engine room and the bridge.

The system is customized to meet the client's needs by parameter-setting in the plant or aboard the ship.

For free literature detailing the Maestro ship automation system,

Circle 71 on Reader Service Card

Alan C. McClure Associates Names Scott McClure President

Scott McClure has been named president of Alan C. McClure Associates, Inc. at a recent board of directors meeting.

Mr. McClure joined the firm in 1985 as a naval architect where he was involved with several SWATH designs, FSO and FPSO conversions, and jackup rig conversions to off-

shore production units. In 1987 he was elected to the board of directors.

He has been an active member of SNAME for over 11 years and has served as arrangements coordinator, treasurer, vice chairman and chairman of the Texas Section of SNAME.

Alan C. McClure will remain as chairman of the board and will continue daily involvement with the firm.

Foreign Vessel Granted Permission To Offer Spill Services In San Diego

A waiver of federal maritime law has been approved by the House of Representatives to permit a foreign-built vessel to offer oil spill clean-up services in San Diego harbor.

Under maritime law foreign-owned vessels are prohibited from commerce in U.S. coastal waters according to the Jones Act. The Malaysian-built vessel, the Deliverer, will be equipped with oil spill clean-up equipment.

Ira Richman of San Diego, a licensed captain and a member of the Seafarers International Union, owns the vessel.

The waiver was approved as an amendment to the Maritime Administration Authorization bill which was offered by Randy Cunningham (R-San Diego).

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Maritime Reporter/Engineering News



OUTLOOK FOR REPAIR AND MODERNIZATION OF U.S. NAVY SHIPS

NEW 1993 EDITION

Report No. 7121 — Now Available

IMA has just completed a detailed assessment of the U.S. Navy ship maintenance and modernization market. The new, 181 page report provides details needed for long range planning and market positioning in the annual \$4.2 billion Navy ship repair business. In the report is up-to-date information vital to keeping abreast of the rapidly changing Navy business environment.

* * * * *

CONTENTS

- Sec. 1 - Size and Composition of the Business Base** (12 pp)
Navy downsizing and budget constraints will heighten competition for available work—but naval shipyard closures will channel more overhauls and short term work to the commercial sector.
- Sec. 2 - Geographical Distribution of Business Opportunities** (7 pp)
Two-thirds of the Navy fleet are homeported in five locations—and Navy practice of placing short term jobs in homeport area yards will increasingly distort market competition.
- Sec. 3 - Maintenance and Planning Practices** (9 pp)
Recent maintenance practices have emphasized the use of frequent short duration maintenance periods in place of lengthy overhauls—changing the pattern and availability of work.
- Sec. 4 - Navy Ship Maintenance Schedule** (17 pp)
780 Ship maintenance jobs have been scheduled over the four year period 1990-1993 (a complete breakdown of scheduled maintenance by individual ship is provided in the report).
- Sec. 5 - Composition of Scheduled Maintenance Jobs** (22 pp)
Of the 780 jobs, 90 are overhauls or other long term availabilities, 276 are short term jobs involving drydocking and the balance are short term jobs involving topside work only (details in report).
- Sec. 6 - Work Loading by Homeport** (19 pp)
90 Of the 780 scheduled jobs will be bid or assigned coastwide—the remaining 690 jobs will be reserved for shipyards in homeport areas (complete details by homeport are provided in the report).
- Sec. 7 - Navy Maintenance Available to Commercial Yards** (3 pp)
Of the 157 jobs scheduled in fiscal year 1993, 104 will be open to commercial ship repair yards and the balance will be assigned to naval shipyards (complete details are in the report).
- Sec. 8 - Scheduled MSC Ship Maintenance** (3 pp)
113 Maintenance and repair jobs are scheduled on MSC ships over the next two years (complete details are in the report).
- Sec. 9 - RRF Ship Deactivation and Maintenance Schedule** (4 pp)
173 Deactivation or maintenance jobs are scheduled on ready reserve fleet ships managed by the Maritime Administration (details in report).
- Sec. 10 - Sealift Ship Conversions** (18 pp)
This activity represents the best conversion opportunity for U.S. shipyards over the next 6 to 12 months—with multiple awards planned and up to 8 ships chosen for conversion.
- Sec. 11 - Component Replacement and Ship System Upgrades** (7 pp)
Navy plans to spend \$5.9 billion in fiscal year 1993 for ship support equipment, communications and electronics systems, ordnance support, spares and other components (details in report).
- Sec. 12 - Ship Maintenance Contracts Performed by Commercial Yards** (26 pp)
Details for approximately 1,000 scheduled Navy ship maintenance contracts over the past nine years are provided for each commercial shipyard.
- Sec. 13 - Ship Repair Performed in Navy-owned Facilities** (9 pp)
Naval shipyards and ship repair facilities will perform scheduled work on 97 submarines and 183 surface ships over the four year period 1990-1993 (complete details in the report).
- Sec. 14 - MSC Ship Repair Contracts** (12 pp)
Details for approximately 500 awards for ship repair by MSC over the past eight years are provided—broken down by ship repair firm.
- Sec. 15 - Market Share Analysis** (13 pp)
A statistical summary showing the number of short and long duration jobs and percentage market share for each shipyard—both commercial and public—from 1985 through the third quarter of 1992.

* * * * *

Report No. 7121 is available for \$575. The report will be sent the day the order is received. Purchasers of the report will receive an update in March 1993 as part of the initial purchase price.

To order please contact:

IMA Associates, Inc. - 600 New Hampshire Ave., N.W. - Suite 140 - Washington, DC 20037 USA
Telephone 202-333-8501 - Fax 202-333-8504

Telephone or telefax orders will be accepted

Vourloumis Appointed Marine Marketing Manager For Garmin International

Garmin International, Lanexa, Kan., recently announced the appointment of **John Vourloumis** as marine marketing manager for its marine product line. In this position, **Mr. Vourloumis** will direct all marine marketing and sales programs as well as manage the field sales organization for Garmin marine GPS products throughout the world.



John Vourloumis

Mr. Vourloumis has more than 20 years of experience in the marine

market, both in engineering, and in marketing and sales. Prior to joining Garmin he served as marketing manager of Apelco for nine years. He also spent several years as marketing manager for Cybernet Marine as well as an international sales manager for Raytheon Marine Company.

Garmin International is a designer, manufacturer and marketer of navigation and communication electronics equipment. Garmin's GPS products include the GPS 100 MRN, the GPS 100 EURO, the GPS 50 and the GPS MAP200.

For further information about the products offered by Garmin International,

Circle 7 on Reader Service Card

Bisso Marine Completes Salvage Of Dredge Port Arthur

Bisso Marine Company, Inc. of New Orleans, La., has completed the salvage operation of the dredge Port Arthur on the Mississippi River

at New Orleans. The vessel reportedly listed and sank on its port side.



Raising of Port Arthur by Bisso Marine

The first phase of the operation required the removal of the ladder and gallows frame. Steel salvage straps, one three foot and two four foot, were placed under the vessel and secured to the starboard side so it could be rolled to an upright position. A third Bisso derrick, was then brought to the scene and all three derricks were used to raise the 1,400-ton vessel to the surface.

For further information detailing the services provided by Bisso Marine,

Circle 5 on Reader Service Card

Volvo Penta, OMC Form Joint Venture Company

A definitive agreement between AB Volvo Penta, Volvo Penta North America, Inc., and Outboard Marine Corporation (OMC) has been concluded to form a joint venture company which would produce gasoline stern drive and gasoline inboard marine power systems. The joint venture still must be approved by various governmental authorities before it can be implemented.

The agreement calls for the joint venture to be 60 percent owned by Volvo Penta North America and 40 percent owned by OMC. The jointly-produced marine power systems would be marketed by Volvo Penta to independent boat builders and servicing dealers, worldwide, and would be used in boats manufactured by OMC companies. Units marketed by Volvo Penta would carry Volvo Penta's brand names, while units installed in OMC boats would carry OMC's brand names.

For more information on Volvo Penta,

Circle 138 on Reader Service Card

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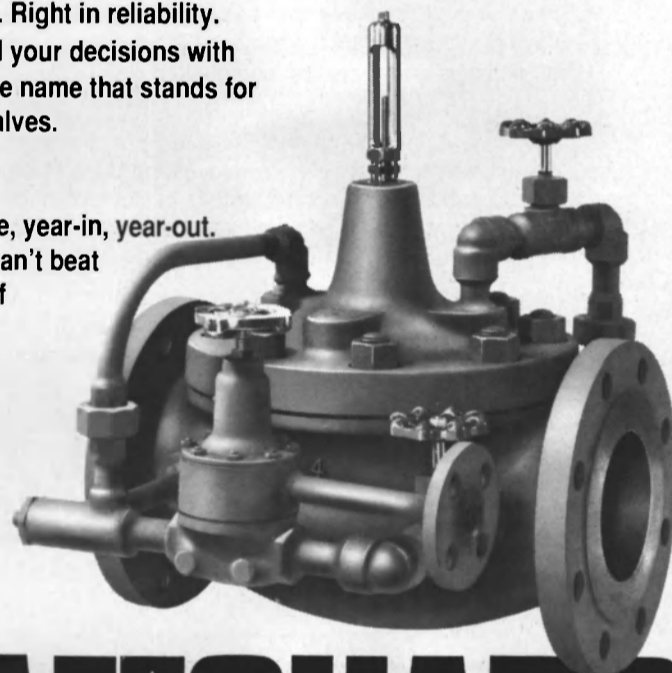
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Circle 214 on Reader Service Card

Maritime Reporter/Engineering News

BP's VLCC Uses Jotun Tin-Free, Self-Polishing Antifouling

BP Shipping has continued its environment-friendly policy by being one of the first operators to use the new Seavictor antifouling from Jotun.

The British Reliance was treated with the new antifouling during its recent drydocking in Singapore. The antifouling is reported to be tin-free and self-polishing.

Jotun also provided its Marathon reinforced-epoxy coating for abrasion-prone areas of the ship's hull, and the Balloxy HB Light treatment was applied to the vessel's ballast tanks.

The coatings were recommended and supplied by Jotun Protective Coatings (JPC), which markets all Jotun marine and industrial protective systems worldwide.

For more information about Jotun's marine coatings,

Circle 20 on Reader Service Card

200 Extra Tons Of Cargo Can Be Carried On Seaway Ships Through November

Due to a two-inch increase in the maximum allowable vessel draft for a ship utilizing the St. Lawrence Seaway, up to 200 additional metric tons of cargo can be carried by eastbound vessels until the end of November.

The maximum draft has been increased from 26 feet, 1 inch to 26 feet, 3 inches after analyzing historical water level data.

Last year one inch was added to the maximum draft a vessel could have and it is hoped that drafts may be deepened further in the future. Every inch of draft in the Seaway is equivalent to 100 metric tons of cargo, which means greater economic benefits for those using the Seaway and the Great Lakes.

This is the fifth draft increase in the Seaway's 33-year history and officials for the Seaway also reported that they expect to be able to continue the draft increase from June to November 1993.

This draft increase does not apply to westbound vessels as they ride lower in the water due to sailing against the current.

Water level data for the Seaway does not permit it to deepen drafts any earlier than May and no later than November.

St. Lawrence Seaway Corp. Demonstrates New Vessel Traffic Technologies

New technological advances have been demonstrated by the St. Lawrence Seaway Corporation's Eisenhower Lock. Among the advances are a new weather display system and the GPS application of the Seaway's vessel and buoy tracking system.

According to Seaway administrator **Stanford E. Parris**, the use of the Global Positioning System and the weather display system will allow vessel traffic controllers easier access to locations of various vessels and existing weather conditions along the seaway.

The Seaway Corporation has indicated that it is planning to incorporate GPS technology into many of its operational projects, including vessel tracking, buoy positioning, ship navigation, sweeping and dredging support, and structural surveying.

Safmarine Updating Fleet Of Reefer Vessels

Safmarine, one of South Africa's largest shipping companies, is presently upgrading its conventional reefer vessel fleet. Two new 514,000 cubic-foot reefer vessels are currently under construction at Gdansk shipyard. The first vessel, the Caribbean Universal, was launched earlier this year and is expected to be put into service by the end of the year.

The contract between Safmarine and Stocznia Gdanska is reported to be worth over \$50 million.

The vessel is designed to store refrigerated cargo in four holds, divided into eight insulated, airtight compartments each having two chambers.

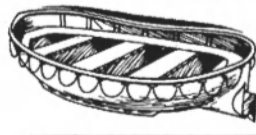
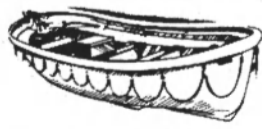
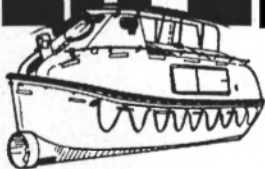
The refrigeration plant is reported to be fully automated. The plant can maintain temperatures between -25 degrees Celsius for frozen commodities and +12 degrees Celsius for bananas.

There is also enough space to store 47 refrigerated containers on deck.

The single-screw vessel is powered by a Sulzer 6RTA62 slow speed engine which has an output of 106 rpm at 11,400kW. Auxiliary power is provided by three medium-speed Sulzer generators each having an output of 1,000kW.

The vessel also has accommodations for 25 crew and officers.

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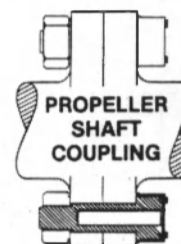
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Circle 308 on Reader Service Card

Southwest Marine Completes Drydocking Of Columbia Star

Southwest Marine recently completed major maintenance on Blue Star Line's (BSL) 555-foot containership, the Columbia Star. The Columbia Star is one of 10 vessels, which BSL operates from the U.S. to Australia, New Zealand and the Pacific Islands.

The drydock work included sandblasting and repainting the hull, refurbishing the vessel's propeller, engine room and boiler system repairs, safety inspections and remodeling passenger cabins. The work was reported to cost over \$1 million and took place at San Francisco's Pier 70.

According to **Carl Hanson**, general manager of Southwest Marine in San Francisco, "The Blue Star contract is an important opportunity for us to get our foot in the door and perform."

Southwest Marine also operates ship repair facilities in San Diego and San Pedro, and is one of the largest shipyards in northern California. Recent defense cutbacks and the diversion of ships since the Persian Gulf war have caused Southwest Marine to seek commercial clients.

For more information about the services and facilities provided by Southwest Marine,

Circle 17 on Reader Service Card

Jaegle Industries Appointed Representative For Veneziani Products

The managing director of Veneziani spa, **Maurizio Ruggi**, has announced the appointment of Jaegle Industries, Inc. as its exclusive distributor in Scandinavia and the United States. Veneziani has been a leader in the paint and coatings industry since 1860 and was one of the first companies to produce antifouling coatings.

Veneziani is a division of Maxfin and is complimented by its sister divisions, Maxmeyer and Duco.

For further information,

Circle 23 on Reader Service Card

AT&T's Global Sentinel Completes Maiden Voyage With Installation Of TPC-4

AT&T's newest cable ship, the Global Sentinel, recently completed its maiden voyage with the installation of TPC-4, one of the first transpacific fiber-optic cable systems to link the U.S. mainland and Canada with Japan. Customer service on the \$373 million system is scheduled for sometime in November.

The Global Sentinel, one of five AT&T-operated cable ships, installed over half of the 9,850-kilometer system. The vessel installed the deep-sea portion of the system in 10 days, averaging cable-laying speeds of seven knots.

This is reported to be the first AT&T ship to use the Sea Plow VII system to install and bury cable at the shore end and continental shelf. Sea Plow VII, the company's newest installation and burial vehicle, can operate at speeds of up to one knot, and bury cable at water depths of 4,593 feet.

With the completion of its first project, the Global Sentinel will soon be loading cable to install HAW-5, a \$156 million system linking the U.S. mainland with Hawaii.

For more information describing the products and services of AT&T,

Circle 61 on Reader Service Card

ZF Friedrichshafen Signs Contract To Acquire Allison Transmission

ZF Friedrichshafen AG has announced that it has signed a contract to acquire the Allison Transmission Division of General Motors. The agreement is contingent upon being approved by the German and U.S. governments.

The new subsidiary will be called the ZF Allison Corporation. Allison's current general manager, **Robert Clark**, will serve as the CEO of ZF Allison.

ZF currently serves the heavy-duty transmission worldwide market and the addition of Allison Transmission will further enhance the company's product range.

For more information,

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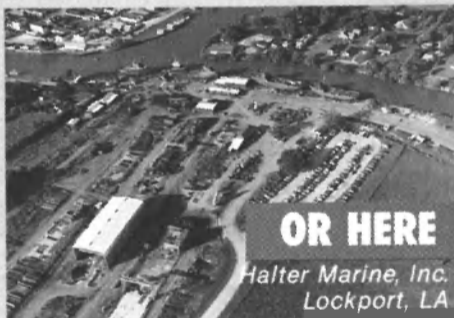
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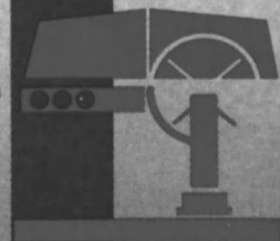
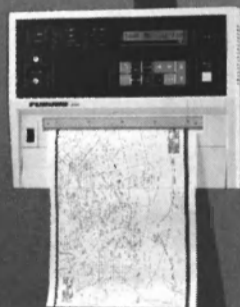
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Launching of MCM-13, Dextrous at Peterson Builders

Peterson Builders Launches MCM-13 For U.S. Navy

Peterson Builders, Inc. (PBI) recently launched the 224-foot wooden MCM-13 mine countermeasure ship at its shipyard in Sturgeon Bay,

Wis. Christened the Dextrous, the ship is the 10th MCM launched at PBI in a series of eleven ships contracted with the U.S. Navy.

The mine countermeasure ships can accommodate a crew of 81, and are the Navy's largest wooden-hulled ships. A wide variety of special skills, equipment and materials are utilized in laminating the ship's major structure from large timbers of Douglass fir, white oak and Alaskan cedar.

The MCM incorporates modern mine countermeasure technology into a specially designed platform, which includes low magnetic signature diesel engines, a precise electronic navigation system, a minehunting and classification sonar, and a mine neutralization system. The ship is 224 feet long, with a beam of 39 feet and a draft of just over 11 feet. The MCM is powered by four diesel engines rated at 600 hp per unit. It is equipped with a 350 hp bow thruster, and electric power is furnished by three 60-hz, 375-kW generators.

Six ships of the MCM-1 Class have been delivered and five remain in various stages of construction.

Vecom Continues Developing 'Environmental Solutions' For Shipping

Vecom USA recently developed a new range of environmentally friendly products called Veclean.

The range of products under the Veclean name is reported to be able to perform cleaning functions in the engine room, as well as some deckside functions. The products under the Veclean prefix are: Veclean Degreaser, Veclean Clearbreak, Veclean Tank, Veclean Carbon, Veclean Electro and Veclean General Purpose.

Vecom also produces Microbe Treat-L, which is a combination of bacterial treatment and cleanser for sanitation systems.

For more information regarding the Veclean product line or other Vecom products,

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Southwest Marine Awarded \$9.68 Million Contract

Southwest Marine, Inc. has been awarded a contract worth \$9,680,046 by the U.S. Military Sealift Command for the drydocking and overhaul of the ammunition ship USNS Kilauea. The vessel works with the U.S. Navy's Seventh Fleet in the Western Pacific and this is reported to be the first time in 10 years that it has been in the U.S.

Most of the overhaul work will be devoted to the underway replenishment winches which will be replaced with winches that conform to U.S. Navy standards. Unrep controls and control booths will also be replaced. The overhaul will be performed by Southwest Marine San Pedro and drydocking will take place in San Diego.

While in drydock, a complete propulsion inspection will be performed, as well as the replacement of a propeller which was damaged when the vessel ran aground during Operation Desert Storm. The hull will be painted and repairs to living spaces will also be performed.

For free literature on services provided by Southwest Marine,

Circle 132 on Reader Service Card

Fourth Jack-Up Rig Delivered To Santa Fe International Corp. By FELS

Far East Levingston Shipbuilding Ltd. (FELS) has completed and delivered its fourth harsh environment jack-up rig built for Santa Fe International Corporation.

Santa Fe presented FELS with a commemorative plaque to show its appreciation of FELS excellent services during the construction of the Magellan.

The Magellan is the third in the Monarch-class series built by FELS for Santa Fe. FELS delivered the monarch in 1987, the Monitor in 1989 and Universe-class Galaxy I rig in 1991 to the same customer.

The Magellan is rated for year-round operations in the severe environmental conditions of the North Sea, in water depths of up to 328 feet and seasonally up to 350 feet.

The rig is also designed to operate in the tender mode by "skidding off" its drilling unit to an adjacent platform or to drill in the cantilever mode with the cantilever extended up to 65 feet from the hull.

Classed by the American Bureau of Shipping, the Magellan complies with the requirements of the United Kingdom Department of Energy and the United States Coast Guard. Its living quarters meet the standards of the Norwegian Maritime Directorate.

Facilities onboard include accommodation for up to 100 personnel and an 83-foot diameter helideck. It is outfitted with three mud pumps, top drive, automatic pipe handling, a high volume state-of-the-art mud

system and has a generating capacity of over 10,000 hp.

FELS is currently building two giant CJ62 harsh environmental jack-up rigs for A.P. Moller of Denmark, a cable ship for Teleglobe Inc. and a semisubmersible production platform for Petrobras of Brazil.

For more information on the services and facilities provided by FELS,

Circle 123 on Reader Service Card

Westport Shipyard To Build Alaskan Tour Boat For Kenai

Kenai Fjord will be among the scenic Alaskan locations that will be visited by a new, 90-foot tour boat to be built by Westport Shipyard, Inc., Westport, Wash. The boat is being built for Kenai Exploration Associates, Inc., according to Westport president, **Randy Rust**.

The 90-foot by 22-foot vessel will be delivered in the spring of 1993. It will be powered by two Detroit Diesel 16V92TA engines.

The boat will be similar to tour boats built this year by Westport for service in Los Angeles Harbor and on Prince William Sound.

For more information on the services and facilities provided by Westport Shipyard,

Circle 142 on Reader Service Card

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SESSION 1 - THE FUTURE OF THE SHIPREPAIR MARKET

Singapore - a perspective on the next decade
C N Watson, Director (Europe), Keppel Corporation, London

Middle East - an alternative to Singapore
E Ware, Chief Executive, Dubai Drydocks Co, UAE

Expansion of facilities in the Middle East
H Frisk, General Manager, ASRY, Bahrain

The Northern European scene
D MacLean, Chairman, A&P Appledore (Tyne), UK

Developments in the Eastern Baltic
K Juchniewicz, Marketing Director, Gdansk S/Y, Poland

The foregoing papers will be debated by a panel of shipowners/ship managers

LUNCH FOR REGISTERED DELEGATES

SESSION 2 - BLOCK BOOKINGS

The Yards View
F Spranger, Commercial Director, Lisnave, Lisbon

The Operators/Owners View
Speaker to be confirmed

SESSION 3 - OPERATIONS

The Shipmanagers View
E Ulving, Managing Director, V Ships Norway AS

Operation of Older Tonnage
L Carlsson, President, Concordia Maritime AB, Gothenburg

Structural problems on bulk carriers and some solutions
D Robinson, Principal Surveyor and B Purtle, Senior Surveyor, Lloyd's Register of Shipping, London

Tankbottom Pitting
R Towers, Marketing Manager, Sigma Coatings, Netherlands

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Circle 210 on Reader Service Card

Damages To Oil Rigs In Gulf Expected To Reach \$100 Million

The Minerals Management Service, of the U.S. Department of the Interior, has estimated that damages to oil rigs in the Gulf of Mexico, as a result of Hurricane Andrew, could reach \$100 million.

The government agency, which regulates offshore oil and gas activity

in the U.S. reported that about 166 of roughly 4,000 gas and oil platforms in the Gulf were damaged.

Study Being Conducted For Boston-Nova Scotia Ferry Service

A study is being conducted to determine whether or not Boston would be a viable port for one end of a passenger-vehicle ferry service to Yarmouth, Nova Scotia.

The marketing director of the Port of Massachusetts says that RCKLines had proposed the \$17 million concept in 1991. The port reportedly agreed to finance the \$10,000 fee to conduct the study.

If this proposal proves to be profitable the port hopes to attract other ferry operators to the route.

Carrier Transicold Receives U.S. DLA Award

Carrier Transicold, of Syracuse,

N.Y., has received the U.S. Defense Logistics Agency (DLA) award for exceeding the Small Disadvantaged Business Subcontracting Quota in 1991.



Shown left to right: Duane VanTassel, Richard Husted, Robert Maher, Col. David Sims, Ralph Vinceguerra, Guy Fauconneau, Charles Rose and Vincent Giordano after presentation of special recognition certificate.

The special recognition certificate was presented by Colonel David Sims of the Syracuse DCASMA office to Carrier Transicold president Guy Fauconneau during a brief ceremony. Ralph Vinceguerra of the DCASMA Syracuse office commended the Carrier Transicold Special Products Group Purchasing Department for the extra effort that it took to achieve this recognition.

Reimann Appointed Vice President Of Security For PRMMI

Charles I. Hiltzheimer, president and CEO of Puerto Rico Marine Management, Inc. (PRMMI) has announced the appointment of Robert T. Reimann to the position of vice president of security.

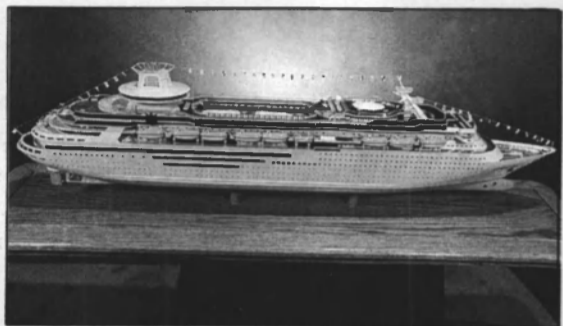
Mr. Reimann, a recently retired rear admiral of the U.S. Navy and a former inspector general of the Navy for the Commander in Chief, U.S. Atlantic Command and U.S. Atlantic Fleet, will be responsible for the planning and implementation of security measures for the protection of all PRMMI installations and personnel in the U.S., Puerto Rico and other Caribbean ports.



Robert T. Reimann

Mr. Reimann spent over 33 years in the Navy, 11 of which he was in command of warships at sea, including a guided missile cruiser. He has also held several important shore commands. As inspector general he was responsible for all Navy investigations into matters of potential fraud, waste and abuse, as well as physical security and procedural compliance.

PRMMI is an operating company of Navieras de Puerto Rico.



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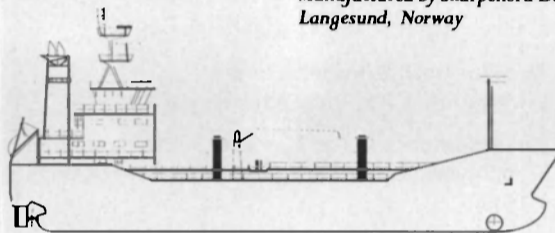
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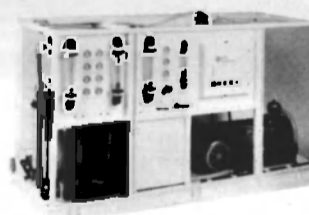
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MSC Accepts Rate Revisions Offered By U.S. Carriers

The U.S. Navy's Military Sealift Command (MSC) has accepted the revised rates offered by 12 U.S.-flag carriers and contract carriers. These rates were accepted under the Container and Shipping Agreements in direct response to RFP N000-33-91-R-2400 acquisition of services from ocean and intermodal sources for the period extending from October 1, 1992, to March 31, 1993.

Over the next six months the U.S. Department of Defense plans to ship about four million tons of cargo in approximately 45,000 to 50,000 containers. According to reports this could mean about \$250 million in revenue to domestic shipping and intermodal industries.

MSC currently has maximum cargo limitations on three trade routes. The three trade routes include the U.S. West Coast to Far East, U.S. East Coast to Europe and U.S. West Coast to Western Mediterranean with no carrier receiving more than 75 percent of all cargo.

Companies which submitted rate revisions, which were accepted, include: Afram Lines (USA) Ltd.; American Auto Carriers; American President Lines, Ltd.; Central Gulf Lines; Crowley Caribbean Transport; Farrell Lines Inc.; Lykes Bros. Steamship Co. Inc.; Marine Carriers, Inc.; Matson Navigation Co., Inc.; Sea Barge Group, Inc.; SeaLand Service, Inc.; and Waterman Steamship Co.

Rauma Yard Launches World's First Multipurpose Icebreaker For FBN

The world's first multipurpose icebreaker, being built for the Finnish National Board of Navigation, has been launched at the Rauma yard of Finnyards. The vessel, christened Fennica, was launched by Finland's Prime Minister **Esko Aho**.

From the time the order was placed until launching has been only 11 months and the yard reports that this is despite the fact that the vessel is of a new design which combines icebreaking capabilities with the characteristics of an oceangoing supply vessel.

The new vessel is 380.6 feet long with a breadth of 85.3 feet. The output of the main engines will be 21 MW. Two Aquamaster stern propeller units will have a shaft power of 7.5 MW each and will give the vessel a bollard pull of about 200 tons. They will also allow the vessel to have the steering characteristics needed for icebreaking and open water. To facilitate offshore work, the vessel is fitted with three transverse bow thrusters and a dynamic positioning system.

Finnyards also has the sistership to the icebreaker, as well as a RO/RO-passenger vessel for France and a minelayer for the Finnish Navy on order.

For more information detailing the

capabilities and services provided by Finnyards,

Circle 112 on Reader Service Card

Halifax-Dartmouth Purchases Shipyard Planning Computer System

Halifax-Dartmouth Industries, Ltd. (H-DIL), of Halifax, Nova Scotia,

has announced the purchase of a comprehensive shipyard planning and cost/schedule control computer system from SPAR Associates of Annapolis, Md. The new system is called the Federal Contract Manager and operates on a PC client/server network. The system will be fully integrated with H-DIL's financial systems.

The system will be used to plan and manage labor and material for both commercial and government

business, as well as all plant overhead activities.

One of the major Canadian contracts scheduled to be managed by the system is the recently awarded Canadian mine countermeasure defense vehicle, which is an eight-year, 12-ship design and manufacturing program.

For more information on the SPAR Associates systems,

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Some new ships with USON-equipment are 11 Arctic tankers for Russian owners, World Prelude, Royal Viking Sun, Seaward, Fantasy, Ecstasy, Athena, Cinderella, Kalypso, Delfin Caravelle, Silja Serenade, Silja Symphony, Sensation and Fascination.

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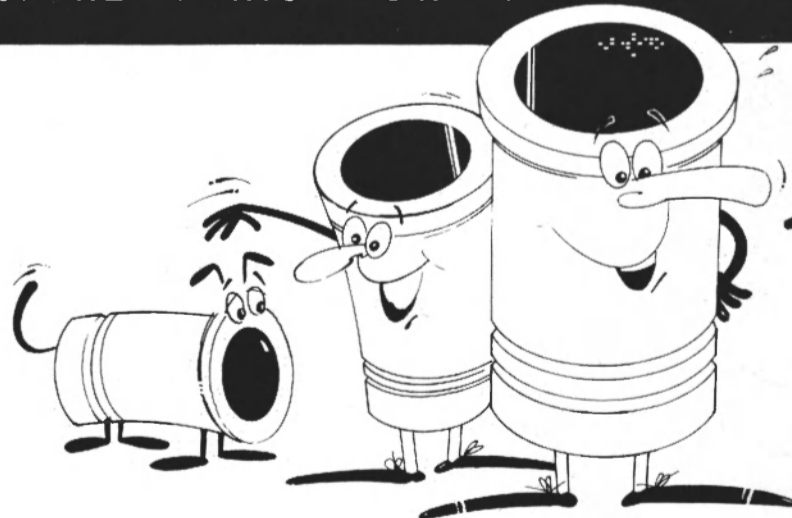
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Devoe Coatings Elects Osmer President And COO

Devoe Coatings Company, a division of Grow Group, Inc., has announced that **Robert H. Osmer** has been elected to the position of president and chief operating officer.

Mr. **Osmer** has been in the marine and corrosion control industries since 1974. His professional career includes operations and senior management positions with several major shipping companies. Prior to his promotion, Mr. **Osmer** held the position of executive vice president and COO for the company.



Robert H. Osmer

Devoe Coatings is a worldwide producer of advanced technology coatings for the marine, industrial and offshore industries.

Grow Group, Inc. is one of the nation's leading producers of specialty coatings and paints.

Wesmar Expands Double Thrust Bow Thruster Line

Western Marine Electronics (Wesmar), Seattle, Wash., has announced that it has added four new models to its double thrust Dual Prop Bow Thruster line. All of the systems are now available in electric or hydraulic for vessels 25 to 140 feet.



Wesmar's new Double Thrust bow thruster.

Wesmar developed the Dual Prop Counter Rotating design to specifically address the problems of the larger yachts needing greater thrust but lacking space for extremely large bow thruster tubes. Luxury yacht owners have claimed that these thrusters give their vessels greater maneuverability in windy conditions, something which is particularly important during tight docking maneuvers.

For more information and literature describing Wesmar's products,

Circle 85 on Reader Service Card

New World Shipping To Serve Passenger, Gaming Vessel Industry

New World Shipping has announced that it is extending its services to include the cruise/gaming industry.

Among the services the company plans to provide are ship management and operations, technical services, planning, development, new construction, engineering, budget preparation and management, maintenance and repair programs, supervision and development of vessel and office personnel. The company will also offer purchasing management of consumables, stores, materials and heavy spares.

New World Shipping is a joint venture between International Marine Consultants (IMC) and Sembawang Johnson Management Pte Ltd. (SEMJOM).

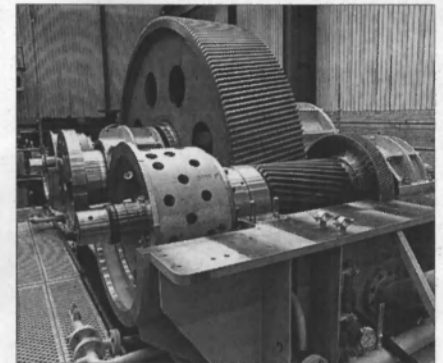
For more information detailing the services provided by New World Shipping,

Circle 14 on Reader Service Card

Schelde Gears Ordered For Tankers Being Built By Kvaerner Masa-Yard

Schelde Gears of Vlissingen is providing the transmissions for two advanced crude oil/products tankers, the Futura and Natura, which are presently under construction at

Kvaerner Masa-Yard in Turku for Neste OY, the Finnish state-owned oil company.



Schelde reduction gears under construction for Kvaerner Masa-Yard.

Both vessels will have double hulls and a dwt of 91,000. The double hulls are reported to be standard practice in Neste tankers.

Machinery aboard the Futura consists of twin Wartsila Vasa 6R46 engines of 5,430 kW MCR each at 450 rpm, with Schelde combining and reduction gears to provide 70 rpm at the 8.2m diameter cp propeller. This has been designed to meet LRS Ice Class IC.

The ship is intended to operate with unattended machinery spaces and a comprehensive outfit of monitors and alarms will be fitted to the transmission.

For literature describing the complete line of equipment offered by Schelde Gears,

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Jastram Introduces Independent Steering Control System

Jastram Engineering, a manufacturer of marine hydraulic steering, has introduced a unique electronic control system for precise, accurate and fully independent control of twin steering gears. Vessels with multiple rudder arrangements such as catamarans, workboats and commercial tankers will benefit from

this system. Hydraulic or mechanical linkage between rudders is not required.

Each rudder or set of rudders on the vessel can be electronically controlled by the Jastram full follow-up amplifier system. Rudders can be selected to operate either in a fully synchronized mode (for traditional rudder operation) or independent mode (for modified turning characteristics or dynamic braking).

The system meets all requirements of ABS and the USCG single

failure criteria for steering systems. A double redundancy feature is provided because the vessel can be safely maneuvered by either steering gear, as well as both together.

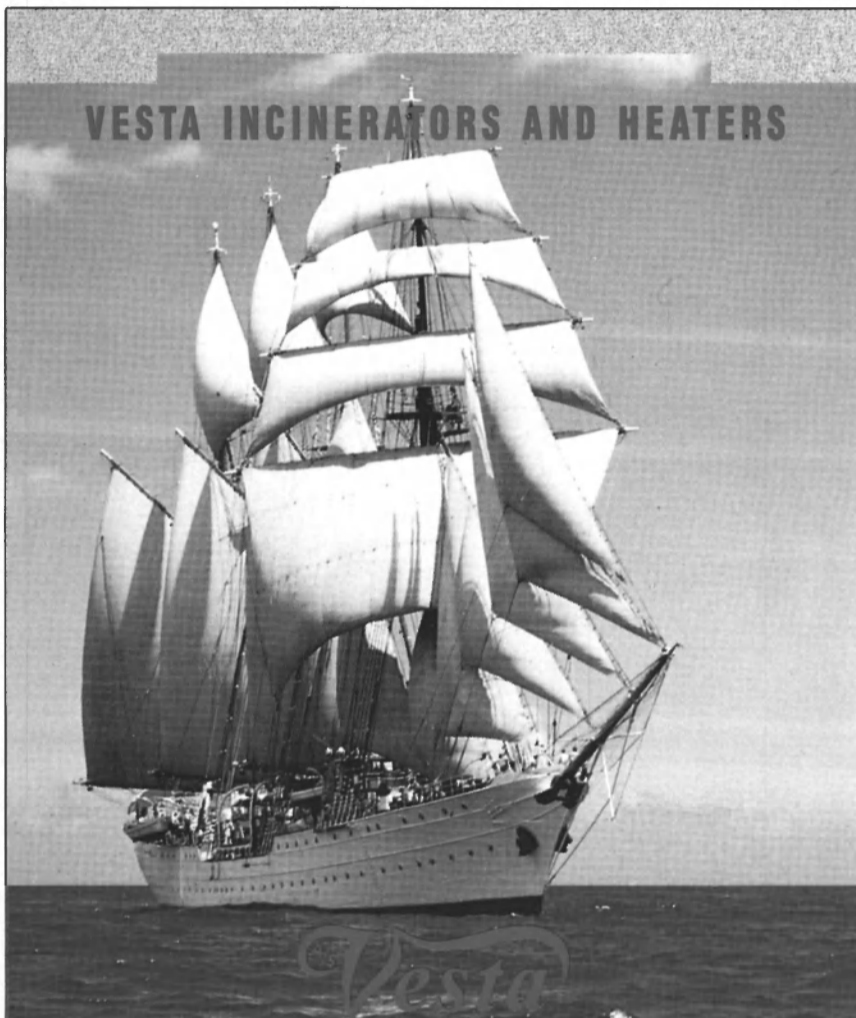
To date Jastram has installed independent control systems on two ice class tugs, a passenger vessel and a patrol boat with catamaran hulls, and a research vessel. The company reports all of these installations continue to perform very well.

Jastram produces four models of

high quality steering gear, each in a range of sizes, for all types of recreational and commercial vessels—offering rudder torque capacity up to 100 tm. Jastram products are designed to meet the standards of the world's major classification societies such as BV, CR, GL, DNV, KR, LR, ZC, etc.

For more information and free literature from Jastram,

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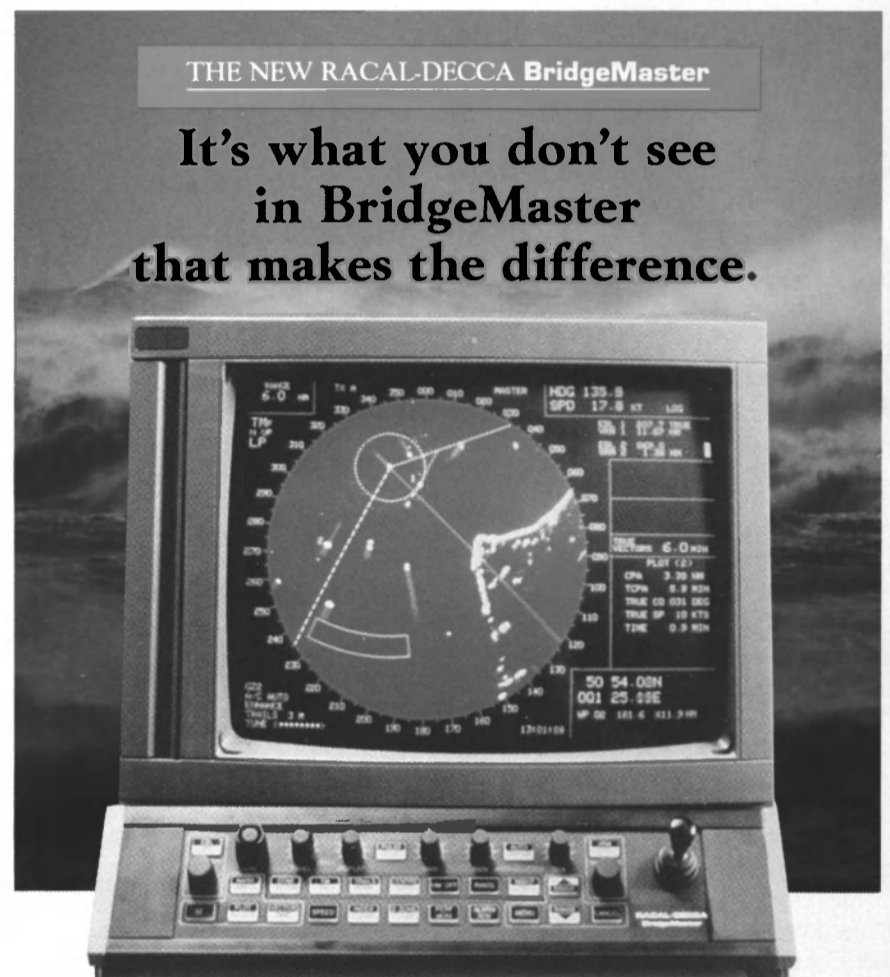
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October, 1992

THE NEW RACAL-DECCA BridgeMaster

**It's what you don't see
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The new Racal-Decca BridgeMaster radars clearly represent a major breakthrough.

The explanation is as plain as day. A processing technique unique to Racal cuts through the clutter caused by rain and waves. You only see enhanced, real targets.

Spurious, misleading images aren't the only things that don't appear on BridgeMaster.

The bolt-on extras that typify the competition are notably absent. Again the reason is simple—they come as standard with BridgeMaster. True motion, azimuth stabilization, navigation interface and electronic plotting with 10 target capacity are all part of the most complete radars on the market.

You can choose from 14 or 20 inch displays (color or mono), 10, 25 or 30 kW X and S Band transceivers and 4, 6, 8 or 12 ft. antennae—all of them conforming to IMO.

And, if that isn't enough, full 20 target autotracking and extensive video-mapping facilities are available as fully integrated options.

To see more on what you don't see (if you see what we mean) see the address below. (Pending FCC approval.)

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Cove Enters Ship Repair And Terminal Business

An affiliate of Cove Shipping Inc., C.T. Realty Terminals, Inc., owns and operates a newly rebuilt marine dock facility located at Choctaw Point near downtown Mobile, Ala.

Cove's new facility includes necessary requirements for a ship at dock such as fresh water, electricity, crane service, telephone hook

ups and compressed air. Several structures make up the facility, including: a 272-foot reinforced concrete pier and a 298-foot compacted pier. The facility can accommodate ships up to about 1,000 feet long with drafts of more than 40 feet, and is built to MarAd standards for ship lay-up and repair.

The company also has an area especially for topside repairs. Cove Technical Service, an affiliated company, reportedly keeps the dock busy

with multimillion dollar repairs, renovations and improvements to Cove's vessels, as well as for other shipowners. This company also performs marine and industrial fabrication, piping, coatings, repairs on turbines, air compressors, pumps, valves, heat exchangers, and provides welding and hydroblasting services. An 11,000-square foot machine shop is also included in the facility.

The facility also has the capabil-

ity to tip vessels to make rudder, stern seal or propeller repairs afloat without the use of a dry dock since the water is deep enough at one of its piers.

Cove Shipping operates three large American-flag tankers.

For more information describing the facilities and services provided by C.T. Realty Terminals,

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Wetherford To Head Hagglands New Service Station

To provide better service for its crane customers, Hagglands Inc. has named **Dave Wetherford** the senior marine engineer for its new service station in Norfolk, Va. Mr. **Wetherford** has been a Hagglands marine and offshore field engineer for more than eight years, and brings more than 20 years of industrial hydraulic experience with him to his new post.

Hagglands has delivered more than 6,000 deck cranes for shipboard use ranging in capacity from two to 120 tons. Hagglands was selected as the crane supplier for the original Sealift program. More than 130 Hagglands designed cranes have been delivered for Fast Sealift Ships, Military Preposition Ships and Tactical Auxiliary Crane Ships.

Hagglands, Inc. offers service support by a dedicated factory trained staff, with service stations conveniently located on the East, West and Gulf Coasts of the United States, and in major ports worldwide. Service is available by calling Hagglands, Inc. marine hotline.

For more information on Hagglands,

Circle 120 on Reader Service Card

Drop In Oil Spills Creates Call For Relaxed Regulations

A report called "Golob's Oil Pollution Bulletin," published by **Richard Golob**, states that the number of oil spills of 10,000 gallons or more in U.S. waters were the lowest in 14 years during 1991 and that none have occurred so far this year. As a result of these statistics the Coast Guard should ease its oil tanker regulations, according to Mr. **Golob**.

Oil industry lobbyists are likely to use the report's findings in their efforts to convince the government to relax legislation aimed at tankers. Industry advocates would particularly like to see double-hulled tanker construction requirements changed to allow for the mid-deck tanker design and other alternatives.

The Coast Guard is preparing a report to Congress that will contain its recommendations on alternative tanker designs that it considers equal to or better than double-hulled tankers.

Maritime Reporter/Engineering News

Only Westfalia's On-Demand Purifying System Removes All the Dirt and Water from your 1010 fuel.

Whether your fuel oil is heavier or lighter than water, only Westfalia's two-stage Unitrol/Secutrol system assures maximum purity even under widely varying feed conditions. Here's why.

On-demand vs timer-controlled de-sludging.

Other oil purification systems are timer-controlled, which means they de-sludge only at pre-set intervals. If heavy seas stir up the "muck" in your fuel tanks, the intervals may be too far apart. Result: dirt gets into your day tank and fuel lines, causing disastrous engine wear... In the Westfalia system, a unique sensor continuously monitors de-sludging intervals, discharging dirt and water only when the sediment-holding compartment is full. So there's no chance for dirt to get into your fuel because of too few de-sludgings — or oil wastage from too-frequent de-sludgings.

And either stage can be operated independently, thus adding even more flexibility.

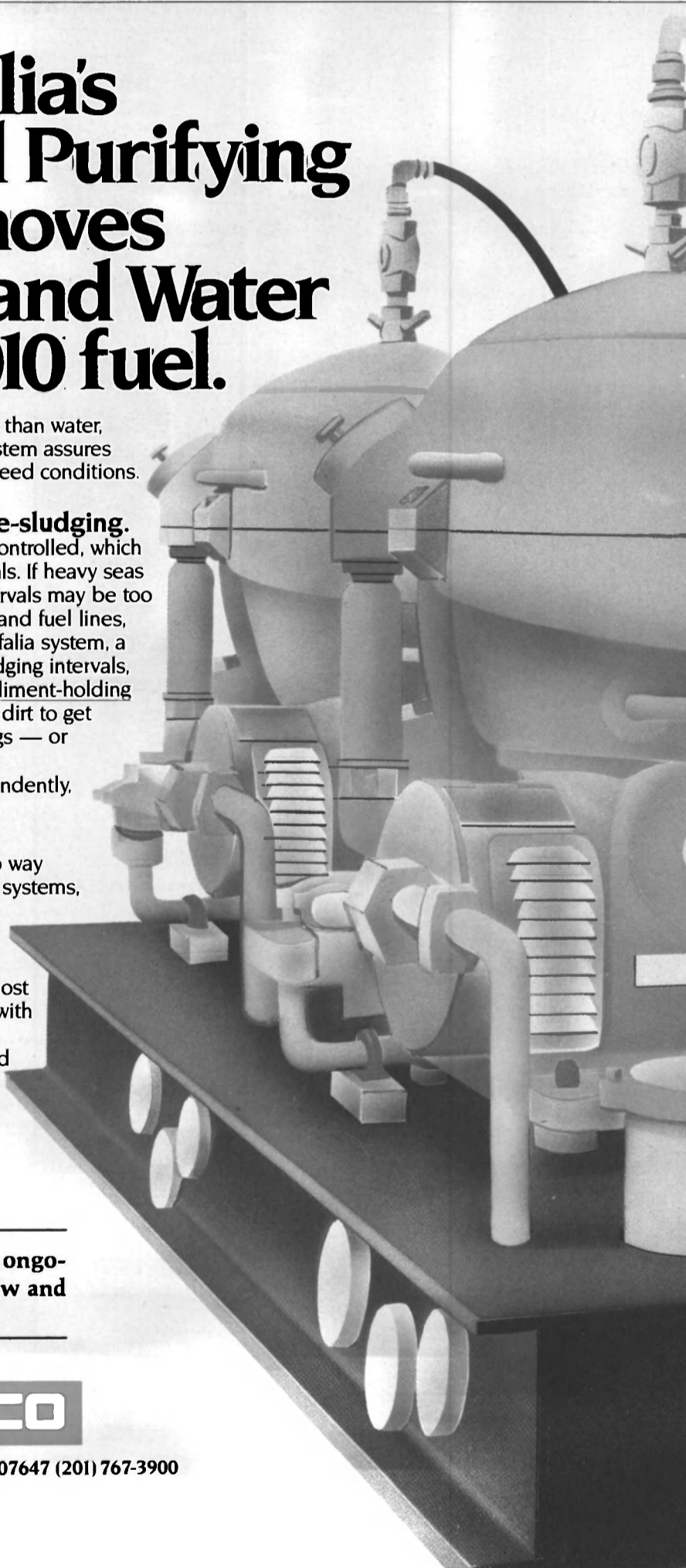
Water in fuel lines.

With Westfalia's unique design, there's no way water can enter the clean fuel line. With other systems, this is a distinct possibility.

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Raytheon Introduces New Radiotelephone Equipment

Raytheon Marine Company is dedicated to manufacturing and distributing the highest quality electronic products and services to the commercial fishing, recreational boating, high seas and government markets.

The three operating brands within Raytheon Marine are Apelco, Autohelm and Raytheon.

The company recently introduced several new units.

Ray-201 and Ray-202 VHF-FM Radios

Raytheon's new Ray-201 and Ray-202 Scanning VHF-FM radiotelephones are built to withstand the toughest conditions. Rugged waterproof housings and shieldings ensure "noise free" operation. Key features on both of the new radios include: all U.S. and international transmit/receive channels, plus 10 weather channels; scanning features which include all-scan, select-scan and a new dual watch mode; five-minute transmit time-out, a power saver which reduces the unit to one watt after five minutes of activity; quick channel select, which works like a car radio in that the user selects five of the most used frequencies to dedicated memory keys; built-in voltmeter; and a transmit modulation bar graph.

The Ray-202 includes several additional benefits such as a powerful 10-watt hailer with fog signal, which

automatically reverts to listen mode to amplify distant or faint sounds, and a built-in scrambler to keep conversations with other Ray-202 units confidential.

Both units feature rotary knobs for channel selection, squelch and volume, and have a large, easy-to-see back lit LCD display to show the current mode and channel in use. Measuring approximately 4.3-inch by 7.6-inch by 3.9-inch, both units feature 25-watts of output.

Ray-105 VHF-FM Radiotelephone

Raytheon's Ray-105 VHF-FM radiotelephone is a waterproof, hand held unit with six watts of power. The unit features select scan; the new dual watch mode which adds the weather channel to standard dual watch for urgent weather updates; 92 receive, 53 transmit and 10 weather channels; and an ultra-sensitive receiver for crisp incoming transmissions.

Three power-saving features include: six-watt output which reduces to one-watt, and further to .1-watt for in-harbor usage; sleep mode reduces power after 60 seconds of inactivity and returns to normal power upon receipt of incoming transmission; and a low battery indicator.

Also included as standard is a wall-mount battery charger, belt clip, hand strap and nylon carrying case. Raytheon Marine Co., a divi-

sion of the Raytheon Company, employs more than 500 people worldwide and is based in Hudson, N.H.

For free information on Raytheon's Ray-201 or 202,

Circle 107 on Reader Service Card

For free information on Raytheon's Ray-105,

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High Torque Outputs And Speed Ranges From Falk Fluid Power Drives

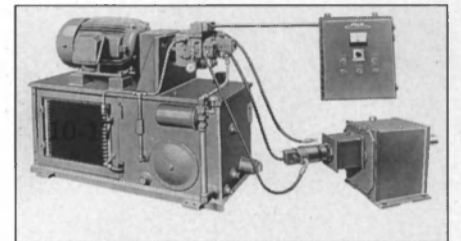
Fluid power drive systems from The Falk Corporation feature a power unit, output unit and control panel packaged together to create optimum performance and long life.

The closed-loop technology of Falk fluid power drives (FPD) provides a compact system with high torque and broad speed range capabilities, the manufacturer claims. Benefits of the Falk FPD systems include: stepless speed control up to 500:1; controlled torque during acceleration, running and deceleration; and regenerative braking.

Falk's standard power unit consists of a support frame for the coupling, connected pump and prime mover.

The frame encloses an oil reservoir and heat exchanger, which can be either air- or water-cooled. Standard drive systems offer from one to 250 hp. In addition, control stations range from simple mechanical to high-performance electric-hydraulic servos.

A filtration system consisting of a suction filter, filter indicator, air breather and filler assembly is designed to keep contaminants out.



Falk fluid power drive systems feature a power unit, output unit and control panel.

Optional accessories for mounting on the power unit include: over temperature, high pressure and low level switches; immersion heaters; and modulating line filters. Modulating valves for water cooled systems and thermostatic switches for air-cooled systems are available.

For more information on Falk fluid power drive systems,

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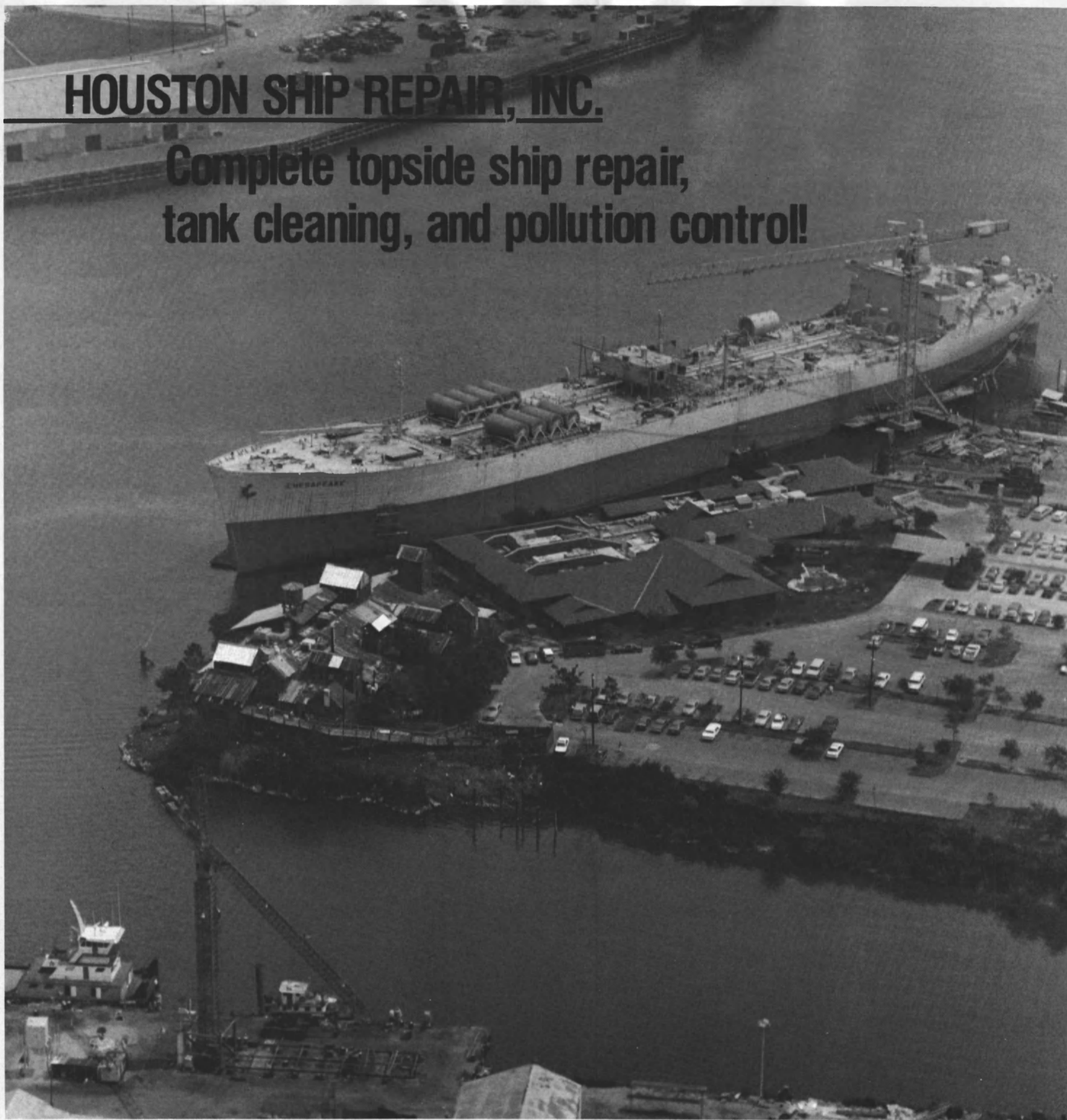
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THE FERRY MARKET

Ferry And Passenger Vessel Service In The U.S.

by James R. McCaul, president, IMA Associates, Inc.

There are currently 5,300 ferries and miscellaneous passenger vessels operating in U.S. waters. They provide commuter ferry service, vehicle transport, river and coastal cruises, sightseeing, dinner cruises, river gambling, crew transport to offshore platforms and charter fishing.

Profile of Existing Fleet

These vessels are as diverse as the services offered. They range in size from ferries with capacity for more than 5,000 passengers, to water taxis equipped to carry only five to ten people. As shown in exhibit one, all but a small percentage of U.S. passenger vessels now in service are under 100 gross tons. Almost a third are under 20 gross tons. Only three percent are 100 gross tons or greater.

U.S. Coast Guard regulations have an impact on the distribution of ves-

sel size. Regulations differ significantly for passenger vessels of 100 gross tons or more versus those under 100 gross tons. The former are called subchapter H vessels, the latter subchapter T vessels. Sub H vessels are subject to relatively stringent safety and crewing regulations which do not apply to sub T vessels. As a result, architects and builders are very creative in designing vessels to be rated just below 100 gross tons.

Exhibit two shows the breakdown of the current fleet in terms of passenger carrying capacity. As indicated, the majority of vessels are designed to carry less than 100 passengers. More than two-thirds are rated below 50 passenger capacity.

Exhibit three provides a breakdown of the existing fleet by year of vessel construction. As shown, almost two-thirds of the fleet is less than 20 years of age. More than one-

EXHIBIT 1 Breakdown of Ferry and Small Passenger Vessel Fleet, by Gross Tonnage

(As of December 31, 1990)

Gross Tonnage	No. of Vessels	Percent of Total
100+	142	3
90 - 99	887 ¹	17
80 - 89	294	6
70 - 79	203	4
60 - 69	226	4
50 - 59	297	6
40 - 49	317	6
30 - 39	437	8
20 - 29	811	15
Under 20	1,673	32
Total	5,287²	100

¹ 472 of the 887 vessels are between 97 and 99 GT.

² Total excludes 102 vessels whose tonnage is unknown.

Source: Based on an analysis of U.S. Coast Guard records.

third is under 10 years. A handful of vessels date from the 1800's.

Recent Vessel Construction Activity

More than 1,900 ferries and small passenger vessels have been built in the U.S. over the past 10 years. This figure includes 1,872 subchapter T and 30 subchapter H vessels. Details are shown in exhibit four.

Exhibit five shows the passenger capacity of recently constructed ferries and passenger vessels. As expected, the 16 subchapter H vessels delivered over the past five years have generally larger passenger capacity than the subchapter T vessels built during this period. One-quarter of newly constructed sub H vessels have a capacity exceeding 1,000 passengers. Two-thirds of the new sub T vessels are designed to carry less than 50 passengers.

There has been a surge of interest in commuter ferries over the past

ten years. Ferry fever has hit cities such as Boston and New York. New ferry services have been popping up left and right in these locations. Other cities such as the District of Columbia, Chicago and Honolulu have looked at establishing commuter ferry service. Even Anchorage has been looking at initiating ferry service across the northern Cook Inlet.

Some current or planned ferry projects include:

- The Alaska Marine Highway System plans to purchase a dual use 350- to 380-foot ferry for operation along the southeast Alaska coastline. Public meetings starting in September are planned to obtain customer input to the vessel design.

- Washington State Ferries continues to proceed with its plan for acquiring three new jumbo ferries. The project is expected to cost around \$210 million and will be financed through state bonds.

- The Intermodal Surface Transportation Efficiency Act of 1991 provides \$14 million for ferry system improvements during the fiscal year. A number of cities are looking at tapping these funds for new ferry acquisitions. The Metropolitan Transportation Commission in Oakland, for example, is looking at utilizing ISTEA funding to purchase two high speed ferries for operation between San Francisco and Port Sonoma.

- A letter of intent has been placed at McDermott by Horizon American Cruises for several 1,000 passenger SWATH cruise vessels. Financing at time of writing had not yet been arranged.

- City of New York will likely replace three Kennedy class ferries in the mid-1990's.

- Cape May-Lewes Ferry is at the early stages of planning to replace two or three passenger vehicle ferries operating across Delaware Bay.

- North Carolina State is planning the replacement of three passenger/vehicle ferries.

Key Players

Among the major public/quasi-public operators are Washington State Ferries, Staten Island Ferry, Alaska Marine Highway, Cape May-Lewes Ferry and Golden Gate Ferries. Major commercial commuter ferry services are provided by companies such as TNT Hydrolines, Arcorp Marine, Bridgeport/Port Jefferson Ferry and Catalina Express.

Among the operators of coastal cruise vessels are Alaska Sightseeing Tours and Clipper Cruise Lines. Major dinner and excursion boat operators are Circle Lines, Red & White Fleet, Spirits Cruises and Hornblower Yachts. The major dinner/casino boat operators are Gateway Clipper, Roberts River Rides and Steamboat Casino River Cruises.

EXHIBIT 2 Breakdown of Ferry and Small Passenger Vessel Fleet, by Passenger Capacity

(As of December 31, 1990)

No. of Passengers	No. of Vessels	Percent of Total
1,500+	16	*
1,000 - 1,499	26 ¹	*
500 - 999	114 ²	2
100 - 499	839	16
50 - 99	729	14
20 - 49	2,523	47
Under 20	1,142	21
Total	5,389	100

* Indicates less than 0.5 percent.

¹ 4 of the 26 vessels are subchapter T designs.

² 77 of the 114 vessels are subchapter T designs.

Source: Based on an analysis of U.S. Coast Guard records.

EXHIBIT 3 Age Breakdown of Ferry and Small Passenger Vessel Fleet

(As of December 31, 1990)

Year Built	No. of Vessels	Percent of Total ¹
1981 - 1990	1,902 ²	35
1971 - 1980	1,688	31
1961 - 1970	913	17
1951 - 1960	442	8
1941 - 1950	262	5
1931 - 1940	77	1
1921 - 1930	59	1
1911 - 1920	17	*
1901 - 1910	10	*
Pre-1901	8	*
Total	5,378	100

* Indicates less than 0.5 percent.

¹ Total excludes 11 vessels whose year of build is unknown.

² 582 of the 1902 vessels were built between 1988 and 1990.

Source: Based on an analysis of U.S. Coast Guard records.

EXHIBIT 4 Ten Year History of Ferry and Small Passenger Vessel Construction

(1981 - 1990)

Year Built	No. of Subchapter H Vessels	No. of Subchapter T Vessels	Total No. of Vessels
1981	4	231	235
1982	2	174	176
1983	3	141	144
1984	2	147	149
1985	3	193	196
1986	4	215	219
1987	3	198	201
1988	2	223	225
1989	4	230	234
1990 ¹	3	120	123

¹ Construction figures for 1990 are incomplete — as some vessels built during the last quarter of the year had not yet been entered into the Coast Guard database.

Source: Based on an analysis of U.S. Coast Guard records.

EXHIBIT 5 Passenger Capacity of Recently Constructed Vessels

(1986 - 1990)

Passenger Capacity	Subchapter H Vessels		Subchapter T Vessels	
	No. of Vessels	% of Total	No. of Vessels	% of Total
Over 1,000	4	25	2	*
600 - 1,000	2	13	4	*
400 - 599			37	4
200 - 399	2	13	45	5
150 - 199	3	19	44	4
100 - 149	2	13	84	9
50 - 99	3	19	119	12
Under 50			651	66
Total	16	100¹	986	100

* Indicates less than 0.5 percent.

¹ Percentages may not add due to rounding.

Source: Based on an analysis of U.S. Coast Guard records.

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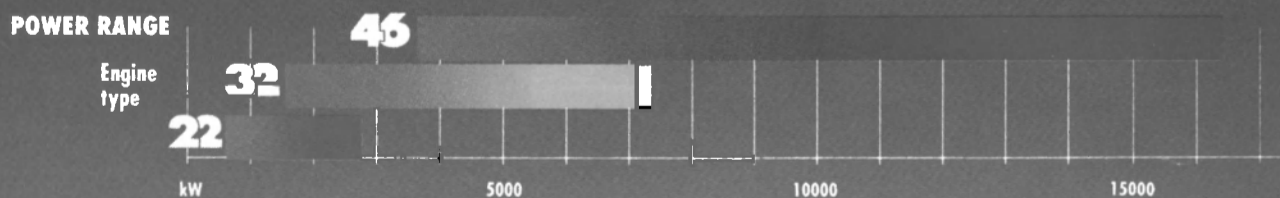
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Large, Fast Ferries In An Emerging Global Market

by Marcus Gibson

The competition is heating up for the lion's share of the huge new global market in big, fast ferries, which some analysts believe could be worth \$1 billion over the next decade.

Currently, the 75-meter long SeaCat workhorses built by International Catamarans in Tasmania have a commanding lead in terms of tested technology and operational experience. Incat's pioneering vessels, all of which are based in Europe, have grabbed a growing slice of the busy English Channel traffic for Hoverspeed, the company owned by U.S. shipping magnate James Sherwood and his giant Sea Containers line.

But now Incat's lead is being threatened. Two Italian yards, Rodriquez Cantieri in Messina and SEC in Viareggio, are both set to complete a high-speed ferry which measures more than 100-meters long, before the end of 1993.

In addition, there are at least 50 competing designs on offer from other European shipbuilders to the

continent's 300-plus ferry companies. The prize at stake is the expanding and truly global market for very large catamarans, water-jet powered vessels and surface-effect ships.

Europe's ferry builders, concentrated in Norway and Italy, expect a flood of orders in the near future, says Alan Blunden, editor of Fast Ferry International. "The dam wall is groaning," he said.

"We are in a similar position as the airlines were with the first Boeing 707s. As soon as one leading operator makes an order the rest will do the same, if only to secure a delivery position."

But the two Italian yards are pressing ahead without buyers. Since Europe's usually conservative shipping companies remain reluctant to be the first to try out new technology, the Italians will use the craft themselves as owner-operators, in effect pre-dating the market.

Italian yard Rodriquez intends to hand over its elegant fast ferry, named Aquastrada, to its Aliscafi

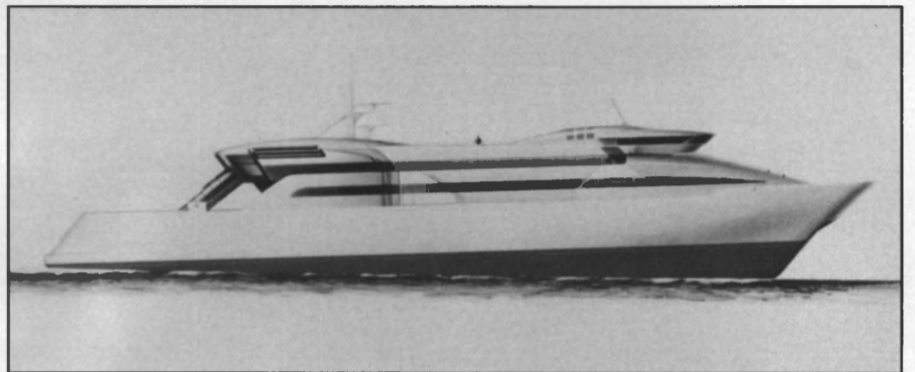
high-speed vessel division on completion.

Rodriquez already operates more than 30 hydrofoils. SEC is to start a joint venture with Italy's state ferry company and put its new flagship on the busy routes to Sardinia in time for the 1994 summer season.

"While the SeaCats can equal conventional hydrofoil speeds of around 35 knots," Mr. Blunden said, "big water-jet craft such as Aquastrada

will achieve 50 knots, even when carrying 750-plus passengers and 200 cars."

Now German shipbuilder Blohm + Voss has entered the fray by promoting its fast ferry prototype, the 60-meter long Corsair600. A spokesman said the company expects an order "within the next six months." With hundreds of ferry routes in Europe, a land mass fractured by elongated peninsulas, deep fjords



A GE LM2500 gas turbine was selected to power the SEC 750 SES ferry from Societa Esercizio Cantieri Shipyard.

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and distant islands, high-speed craft are capable of dominating any route where time-saving is justified.

Potential customers include the UK P&O shipping line, Danish railways' DSO ferry operator, the main Norwegian or Greek island companies, or even Hoverspeed, which introduced SeaCats so successfully on its Dover-Calais routes in July 1991.

The SeaCats' speed factor has proven commercially advantageous. Recently released figures from Hoverspeed show its SeaCats had increased its market share of cross-Channel routes from 12 to 18 percent, mostly at the expense of rival P&O ferries.

This summer, the focus moved to the Mediterranean. Here, the first big fast-ferry operation began on August 1, when an Italian firm launched a twice-daily service between Civitavecchia near Rome and the small Sardinian port of La Caletta, using a SeaCat named "Sardinia Express," on loan from Hoverspeed. Journey time has been cut from eight hours via conventional ferry to 3.5 hours. The new route is very popular; for the first time a return journey has been possible in daylight, opening up a new market for day-trippers.

Fast ferries are not only exciting to watch and travel on, they can be highly profitable. Sardinia Express spokesman Stefano Marinzulich

said "We are making a 10 percent profit on investment, double the rewards for ordinary ferry operators, even though our fares are 35 percent higher." With bigger ferries on the way, operators look optimistically to correspondingly larger profits.

Yet the biggest latent market could be in fast cargo ferries. Finnish shipyard Kvaerner Masa has produced a futuristic design of a pencil-slim cargo vessel, the 225-meter long monohull EuroExpress, aiming to halve journey times on Europe's "sail-boat slow" primary freight routes.

On the busy Travemunde-Helsinki link, a 36-hour haul for ordinary ships, EuroExpress could make the journey in just 18 hours, carrying 2,000 to 3,000 tons of freight at not less than 35 knots.

This means shipping companies on the route will require only two ships instead of four to provide a daily service, reaping massive cost savings for shipping operators in hardware and crews. If and when special dedicated dock facilities have been built, the projected ship's unique side-doors will also halve the unloading-loading time spent in port from 12 hours to six, ensuring rapid turnaround.

Other routes where EuroExpress could reduce freight journey times with daily scheduled services are



This 250 car, 876 passenger ferry from Swath Ocean can attain 36.5 knots.

Oslo-Harwich, Gothenburg-Zeebrugge, Southampton-Santander and Barcelona-Civitavecchia.

Industry analysts suggest Kvaerner Masa will clinch an order for EuroExpress before 1993.

Advanced fast ferry technology, though, takes time to perfect. This summer, a French high-speed catamaran, modified from a former French navy coastal patrol boat, abandoned its Brighton-Dieppe route after only one week because of its inability to cope with bad weather. On top of removing the need for thousands of slow and costly truck journeys on Europe's congested

motorways, the fast cargo-passenger ferry will cut delivery times and certain freight costs to industry. Fast ferries will also serve a vital role in aiding regional policy by linking more closely some of the EC's peripheral, and often poorer, regions with the heart of the community.

But the future apart, International Catamarans will now have to move fast to stay at the forefront of high-speed ferry construction.

And with the Italian ships already well advanced, Incat's working design for a 115-meter Cargo Super Liner may become a reality sooner than later.

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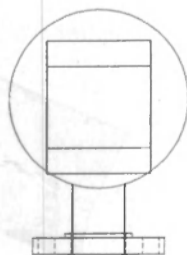
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Washington Chain Delivers 200-Ton Release Hooks To MHI For Use On Barge

Two of among the world's strongest marine release hooks were recently delivered by Seattle, Wash.-based Washington Chain & Supply (WCS), Inc., to Mitsubishi Heavy Industries of Japan for use on a large barge.

Although standard models from Washington Chain's rotary line, introduced in 1990, these 200-ton versions are the largest built so far. Each unit was tested to more than 1.5 times its rated safe working load (SWL) of 200 tons in Washington Chain's certified testing facility, well beyond the ABS standard of 1.3 times SWL. The WCS hooks can be activated manually or remotely by air, hydraulic or mechanical systems and each includes a safety locking

device. All models are explosion proof and UL-approved, and can be certified by ABS, DNV, or Lloyds.

Manufactured at Washington Chain's Seattle plant, the large hooks are made of high-strength, heat-treated alloy steel with all parts hot-spray galvanized prior to final assembly. Models are available in single or multiple configurations.

For more free information,

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Bender Inc. Offers New IRC1500 Electric Monitor

Bender, Inc., of Exton, Pa., has introduced a new dual-purpose product, the IRC1500. By combining the features of their line of sensitive ground fault relays and off-line insulation monitors, any electrical system both on-line and off-line can now be monitored.



Bender, Inc.'s IRC1500 dual-purpose electrical monitoring system.

Active or switched-on feeders and branch circuits can be monitored continuously for ground leakage currents. The set-point covers currents from 10 mega-amp to 10 amp, while a response time from 10 micro seconds to 10 seconds provides for ground-fault coordination.

The insulation resistance to ground of off-line power utilization equipment, such as motors, heaters, etc., is automatically and continuously monitored. Two ranges are provided, the one mega-ohm to 10 mega-ohm range provides fault early warning, while the 100 kilo-ohm to one mega-ohm main alarm range indicates a more severe fault that may warrant disabling the circuit. Both the ground leakage current and the off-line insulation resistance monitor are continuously indicated on LED-chain displays. Output alarm contacts and instrumentation signals are provided for external use.

To receive additional information on Bender, Inc.'s IRC1500 or other product line,

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Young Radiator/Charge-Air Cooler Reduces Emissions

A combination radiator and charge-air cooler, designed to improve exhaust emissions, is now available from Young Radiator Company, Racine, Wisc.

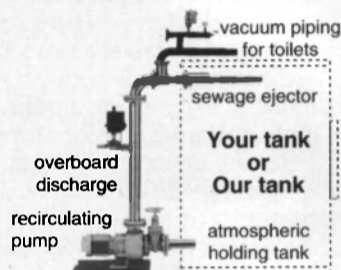
Young combination coolers feature an encased drawn-tank radiator plus a brazed aluminum bar and plate design air-to-air charge-air cooler. The configuration reduces the temperature of charged air going into the turbocharger and improves cylinder combustion. Young reports the result is a reduction in emissions.

For free literature with information on products from Young Radiator Company,

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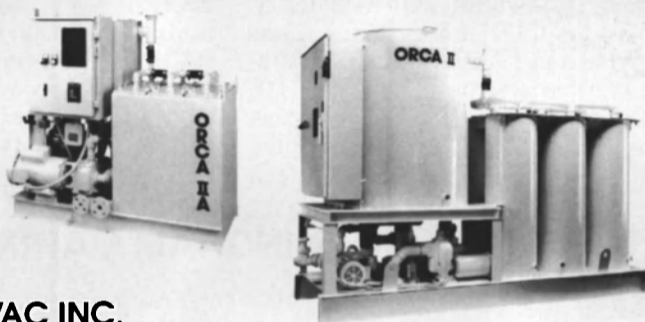
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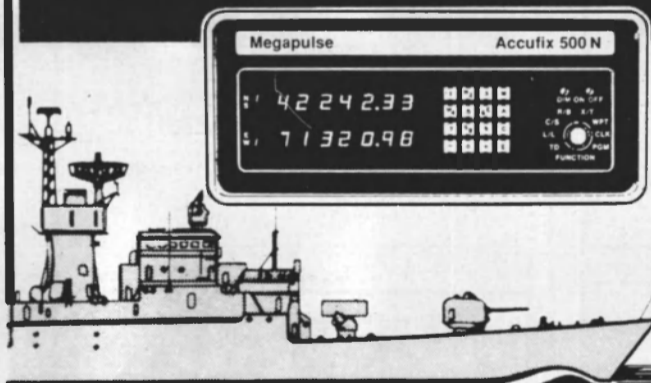
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Robert Strouts Named General Manager Of Raytheon European HQ

Hudson, N.H.-based Raytheon Marine Company's president **Carsten Peters** has announced the appointment of **Robert Strouts** as general manager of the company's European office, known as Raytheon

Marine Sales and Service Company (RMSS), located in Harlow, United Kingdom.

Mr. **Strouts** has overall responsibility for Raytheon Marine Company's European operations, including profit and loss results as well as sales and marketing for the Apelco and Raytheon product lines. Autohelm, which is the third product line within Raytheon Marine Company, is managed indepen-

dently from the company's Portsmouth, U.K. offices.

According to Mr. **Peters**, "**Robert Strouts** has a strong managerial background and has contributed to the growth of Raytheon Marine Company's European business. His management strengths are well suited to the challenges of the future in the fast changing marine industry."

Mr. **Strouts** is replacing Mr.



Robert Strouts

Peters, who recently became president of Raytheon Marine Company. Mr. **Strouts** brings over 20 years of management expertise to his new position, including the last 15 years with Raytheon Company.

General Carl Mundy Jr. Tours Textron Facilities

General **Carl Mundy Jr.**, Commandant of the U.S. Marine Corps, recently visited Textron Marine Systems (TMS), New Orleans, La., to tour its production facilities and to ride on a Landing Craft Air Cushion (LCAC).

The LCAC is the centerpiece of the Marine Corps amphibious forces and played a key role during Desert Storm, including the off-loading of equipment for the Marine landing forces. The LCAC's built by TMS can rapidly transport troops, weapons and equipment from Navy amphibious ships stationed over the horizon to 70 percent of the world's beaches.

To date, Textron has delivered 35 LCACs to the U.S. Navy and in May was awarded a \$181 million contract for 12 additional LCACs. The company is the principle builder of the LCAC.

Textron Marine Systems, a division of Textron Inc., employs 1,100 people. The company is one of the world's leading designers and builders of advanced technology air cushion vehicles and surface effect ships for both military and commercial interests.



General Carl Mundy Jr., USMC Commandant, at the helm of a Textron-built LCAC.

For additional free information about the services available from Textron,

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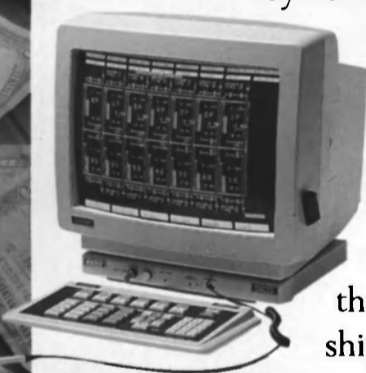
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IMTA Conference To Focus On High Speed And Conventional Craft Ferries

The 17th Annual Conference of the International Marine Transit Association (IMTA), being held for the first time in Hong Kong, will focus on "The Practical Applications of High Speed and Conventional Craft For Ferry Transit," but will also include a review of cruise ferries, port facilities, legislation and vessel control.

Scheduled for October 26-29, 1992 at the Hotel Victoria in Hong Kong, the conference features an array of industry executives discussing some of the industry's hottest topics. The program conference schedule, which includes topics and speakers, is as follows:

Monday, October 26

9:00 a.m.: Information & Registration Desk opens.

2:00 p.m.: (1.) Welcome address by **Edward C.K. Young**, IMTA president. (2.) Ferry to Hong Kong—Their impact on the Present and Future Port; **J.A. Miller**, director of marine, Marine Dept. Hong Kong. (3.) The Challenge of Hong Kong Plus; **G.A. Higginson**, director, the Wharf Ltd, Hong Kong.

3:00 p.m.: SESSION 1

Application of Ferry Systems in Hong Kong; moderator **John J. Kelly**, president, Textron Marine Systems, New Orleans, La. (1.) The Responsibility of a Marine Administration for Operational Safety under the Dynamically Supported Craft Code; **A.C. Pyrke**, deputy director of marine, Marine Department, Hong Kong. (2.) Operations of

Boeing Jetfoil; **David Hill**, executive director, Far East Hydrofoil Co., Hong Kong. (3.) Discovery Bay Ferry Service; **Jeremy C.H. Marriott**, director, Hong Kong Resorts Intl. Ltd., Hong Kong.

4:45 p.m.: SESSION 2

Commuter Ferry Systems; moderator **Jean-Yves Gagnon**, president & CEO, Societe des Traversiers du Quebec, Canada. (1.) Hong Kong Ferry Services in the Year 2000; **Peter Wong J.P.**, president & CEO, Hong Kong Ferry Co. Ltd., Hong Kong. (2.) Double-ended Ferries with Cycloidal Propulsion — Why?; **Rudolf Laucks**, director, ShipTech Div., J.M. Voith GmbH, Germany. 7:00 p.m.: Opening Cocktails and Buffet Dinner onboard HKF harbor cruise ferry.

Tuesday, October 27

9:00 a.m.: SESSION 3

Regulations, Training and Support Systems for High Speed Craft; moderator **Kai Levander**, senior vice president, Kvaerner Masa-Yards, Finland. (1.) Rules and Regulations Covering the Construction and Operation of High Speed Lightcraft; **Eivind Grostad**, senior principal surveyor, Det Norske Veritas Classification A/S. (2.) The Development and Current Use of Night Vision Equipment for High Speed Passenger Craft in Hong Kong; **P.R. Owen**, senior marine officer, Marine Department, Hong Kong. (3.) High Performance Propulsion Systems; technical representative from MTU Motoren-und-Turbinen-Union,

Friedrichshafen GmbH, Germany. 10:45 a.m.: SESSION 4
Ferry Systems and Port Facilities; moderator **William J. Miller Jr.**, former executive director, Delaware River & Bay Authority, USA. (1.) Spanning The Golden Gate—The Bridge and The Ferry System; **Gene Rexrode**, district secretary, Golden Gate Bridge, Highway & Transportation District, San Francisco. (2.) San Francisco Bay Area Ferry Development Project; **Mike Fajans**, principal, Pacific Transit Management Corp., Berkeley, USA. (3.) Experience in the Development of Ferry Terminals; **Stan Kowleski**, principal, K&W International, San Rafael, USA. (4.) Port of Hong Kong; D.A. Taylor Dept of Mech. & Marine Engineering, HK Polytechnic, Hong Kong.

2:30 p.m.: SESSION 5

Harbor Study Tour: Tour of Hong Kong port facilities, ferry operations and terminals.

Wednesday, October 28

9:00 a.m.: Travel to Macau by Boeing Jetfoil

10:15 a.m.: Study and sightseeing coach tour of Macau.

2:00 p.m.: SESSION 6

International Papers on Fast Ferries; moderator **Antonio Correia Alemao** president, Transtejo-Transportes Tejo, Lisbon, Portugal. (1.) Textron C-7 Amphibious Transportation for the 90s; **Frank Higgins**, vice president of support & reliability, Textron Marine Systems, New Orleans. (2.) Building and Operating Fast Catamarans in the Far East; **Kvaerner Fjellstrand**, Finland & Singapore. (3.) The Seaswift Series High Speed SES Ferries of Royal Schelde; **M.J.H. Slegers**, Vlissingen, The Netherlands. (4.) Marinteknik Catamarans & Monohulls; **Kenny Tham**, director,

Marinteknik (Singapore) Pte. Ltd. (5.) Development of an offshore RO/RO Catamaran Service in Australia; **Les Penley**, Sealink, Australia.

Thursday, October 29

9:15 a.m.: SESSION 7

Conventional Ferries and Cruise Ships; moderator **Eric D. Nilsson**, chairman & CEO, Gotland Marine S.P.R.I., Brussels, Belgium. (1.) Can Big Ferries be Fast & Profitable; **Kai Levander**, senior vice president, Kvaerner Masa-Yards, Finland. (2.) Waste Management On-board Ships in the Year 2000; **Jochen Deerberg**, managing director, Deerberg Systems, Oldenburg, Germany. (3.) Exhaust Gas Cleaning for Vessels Operating on Coastal Routes; **Gunnar Ostin**, president, SweFerry Lines AB, Helsingborg, Sweden.

11:00 a.m.: SESSION 8

A Survey of National & International Ferry Policy Issues; moderator **P. Michael Watson**, president, Hornblower Dining Yachts Inc., San Francisco. (1.) Australia; **Stuart Ballantyne**, managing director, ASDMAR Ltd. (2.) Baltic; **Kai Levander**, senior vice president, Kvaerner Masa-Yards, Finland. (3.) Canada; **Jean-Yves Gagnon**, president & CEO, Societe des Traversiers du Quebec. (4.) United States; **R. Scott Tibbs**, president, Gulf Craft, Inc., Patterson, USA. (5.) Hong Kong; **Peter Wong**, president & CEO, Hong Kong Ferry Co. Ltd. 12:30 p.m.: 17th Annual IMTA Luncheon and Meeting at the American Country Club, until 2:30 p.m.

For more information on the IMTA conference, contact: **Annette Schierbeck**, DFDS A/S, 30, Sankt Annae Plads, DK-1295, Copenhagen K, Denmark. Telephone: +45 33 1506300; Fax: +45 33 150923.



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KGW Offers Line Of Steering Gear, Deck And Cargo Handling Equipment

For the first time as an independent company, KGW Schweriner Maschinenbau GmbH, of Schwerin, Germany, is offering the international marine industry an extensive line of ship machinery.

For cargo handling equipment,

KGW produces combination cranes and loading winches, as well as a newly developed container spreader which will go into production later this year.

Ship operating equipment manufactured by the company includes: steering gears; mooring winches; windlasses; anchor and warping capstans; lifeboat cranes; and special winches, such as dredger winches, storage winches, derrick topping winches, etc.

KGW's line of equipment for the fishing industry consists of: trawl winches; auxiliary fishing winches; seine winches; and net winches.

Located in the German state of Mecklenburg-Vorpommern, the 300-employee company has also demonstrated its potential in the fields of environmental technology, such as sewage engineering and lake restoration, as well as steel construction and mechanical engineering.

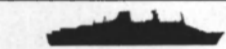
The KGW quality assurance system has been successfully tested by Lloyd's Register Quality Assurance Limited according to DIN ISO 9001 and has been approved by LRQA.

For more information on the services and marine products available from KGW Schweriner Maschinenbau,

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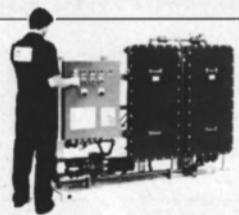
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PROBLEM: adverse operating conditions; NATO compatibility; exacting design criteria.

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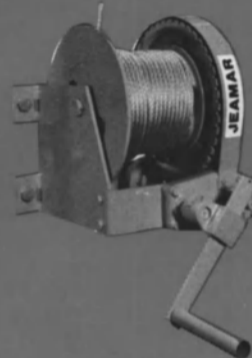
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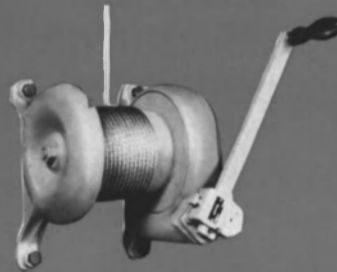


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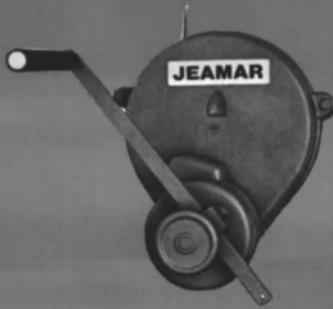
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Goudy And Stevens Delivers Oil Skimmer To Puget Sound Group

Goudy and Stevens recently delivered the 123-foot oil skimmer, Shearwater, to the Clean Sound Cooperative located on Puget Sound.

The vessel was designed by JBF Scientific and is powered by two 906 hp Caterpillar diesels. An Air-Flex power take-off on the front of each engine drives three pumps which provide hydraulic power for the vessel's oil spill recovery system. Hydraulic power for deck equipment is provided by electric pumps when the main engines are not being used.

A four-ton hydraulic boom is used for launching and retrieving two aluminum boom boats.

The bow opens at the waterline and folds back against the hull to expose the oil/water processing system.

According to Clean Sound the new vessel's recovery rate doubles the cooperative's oil spill clean-up capacity.

For further information about the services and facilities provided by Goudy and Stevens,

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Edwards Textile Corp. To Represent Absecon Mills For Cruise Lines

Edwards Textile Corporation has been named the exclusive representative to the cruise ship industry in the U.S. and worldwide for Absecon Mills, Inc.

Absecon is a leading manufacturer of woven upholstery fabrics for commercial applications. The company's manufacturing facilities and corporate headquarters are in Cologne, N.J.

Edwards Textile will offer sampling and support services to cruise industry design professionals. The company's representatives consult on fabric selection, design options, custom variations, pricing, ordering and delivery.

Edwards has duplicated Absecon's library of codes, test methods and specifications covering flame resistance, smoke generation, antimicrobial protection and acoustics. Access to test data is readily available.

For more information about the fabrics made by Absecon Mills,

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RTK Marine Supplies Fast Rescue Craft To Oceaneering International

RTK Marine, Hamworthy, Dorset, U.K., supplied one of their new line of Fast Rescue Craft (FRC) to Oceaneering International Services, Ltd., Aberdeen, Scotland, for use on the Diving Support Vessel Ocean Constructor, which is currently on a long term contract with Shell Nigeria, operating in West Africa.



RTK Marine's Fast Rescue Craft 606.

Though RTK manufactures both gasoline outboard and diesel inboard versions of its' FRC, the diesel powered waterjet version was selected to cover man-overboard incidents on the Ocean Constructor. The major consideration for using waterjets was to protect a victim in the water from being struck by the FRC's outboard propellers.

Power is provided by a Ford diesel engine, turbo charged and rated at 180 hp, coupled to a waterjet from New Zealand. The waterjet has hydraulic controls allowing the FRC 606 to carry out close maneuvering work in heavy seas while using maximum thrust.

For more information about RTK Marine's line of Fast Rescue Craft,

Circle 10 on Reader Service Card

Michigan Wheel Offers Free Literature Describing Products

Michigan Wheel Corporation of Grand Rapids, Mich., is offering free literature describing its pleasure and commercial inboard propellers, fixed and steering nozzles, and the Towmaster™ Rudder System for ducted propellers. Michigan manufactures propellers up through 96 inches in diameter in manganese, bronze, nibral, and various alloys and can arrange manufacture in cast iron and other special alloys.

Michigan Wheel is offering a four-color, 20-page brochure describing its pleasure and commercial inboard propellers. Included in the brochure are specification tables for various propellers, a complete list of distributors with addresses and phone numbers, a propeller material selector guide, an analysis form, and a marine propeller shaft end dimensions table.

The four-color, six-page brochure describing the fixed and steering nozzles manufactured by Michigan Wheel includes a complete description of both systems, a description of

the Kaplan type propeller, suggested tolerances and dimensional data, and facts about construction of the nozzle.

Michigan Wheel's Towmaster™ Rudder System for ducted propellers is designed for uses where increased maneuverability and turning accuracy are needed. The four-color, four-page brochure gives facts about the rudder system such as: increased turning efficiency, in-

creased maneuvering accuracy, increased thrust, less rudder torque, larger propeller diameters, improved flow into the propeller and easy installation. It also offers various reasons for choosing the Towmaster Rudder System.

A price list is also offered for the pleasure and commercial propellers.

For a free copy of the pleasure and commercial inboard propellers brochure,

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For a free copy of the fixed and steering nozzles brochure,

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For a free copy of the Towmaster Rudder System brochure,

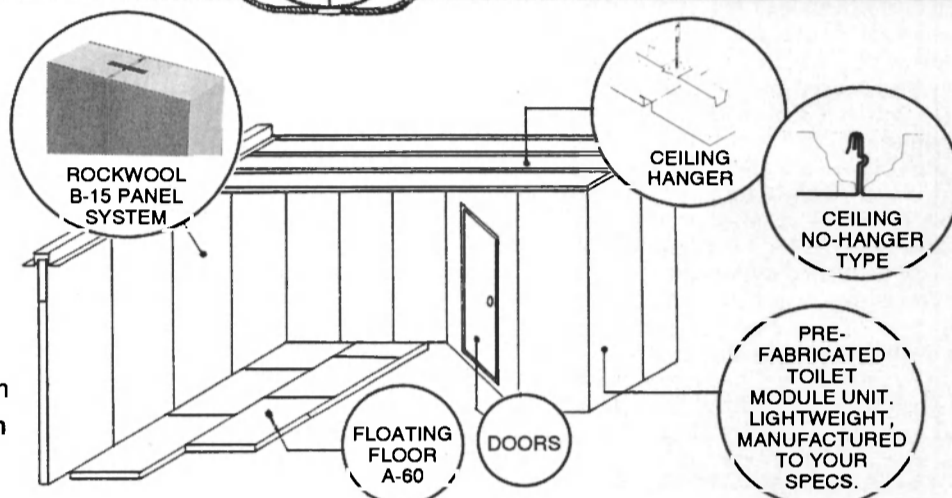
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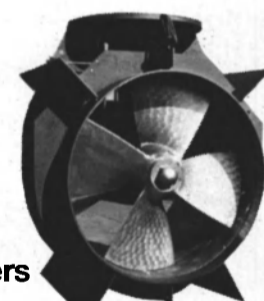
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For Cargo Management A Total System

By Peter P. Lombard

According to the Oil Pollution Act of 1990, tankship owners now have unlimited liability for expenses arising from oil spills. This should be enough to convince owners that the cost of installing the best safeguards is minimal when compared to the alternative high costs that could be incurred for damages.

Safety installation on a tank vessel takes many forms, including double hulls. Another important component is the level of gauging equipment. A complete system will monitor the levels of oil and water in the cargo tanks, as well as the ballast and fuel tanks, at all times. A properly designed system will operate even under conditions of severe trim.

One package installation which provides total cargo management is the Cargomaster system, manufactured and marketed by Skarpenord Data a.s. of Langesund, Norway, and distributed in North America by American United Marine Corp. of Saugus, Mass.

Cargomaster is a closed, fully-integrated and computerized on-line cargo monitoring system of a type approved by all major classification societies. It is designed to be intrinsically safe and to operate in zone 0.

All active components are located inside a central cabinet which is ordinarily located in the cargo control room. Auxiliary monitors and controls can be located in any part of the ship. All cabling for the system is done with a four wire system, eliminating the effects of cable resistance.

Monitoring both liquid levels and vapor pressures, the system has built-in features such as a fixed high-level alarm and two adjustable level alarms which provide extra protection to the

owner. Additionally, information can be transmitted either intermittently or continuously to the owner's offices on shore via satellite hook-up.

Data is acquired through Skarpenord data transducers, which are resistant to all chemicals and liquids that are compatible with incology 625. These measure both pressure and temperature, and, unlike sensors used in other systems, contain no electronics either in the sensor itself or on the deck.

The transducers operate at temperatures of -25 to 125 degrees Celsius, and at over-pressures of five times the full output range. These units, which have no moving parts, are not affected by foam or incrustation and require no cleaning. They are built to withstand the rigors of any type of tank cleaning.

The gauging system is distributed throughout the vessel according to the following plan.

In tanks for cargo, fuel, slop and other service tanks: sensors for reading temperature and pressure, junction boxes and cabling with protection for it such as supports, clamps, and whatever may be necessary for mounting in the tank.

In ballast tanks: sensors for pressure, junction boxes and cabling.

Arrangement for draft: sensors for pressure, junction box, cabling and regulation valve.

Central unit: a working station complete with PC computer and all necessary electronics, 14-inch color monitor, keyboard, printer and modem. Also, a signal and power outlet box and a complete atmospheric pressure arrangement.

Extra work stations, as desired: each contains a PC computer with color monitor and keyboard, fully networked with the central unit.

Additional equipment: a CR-200 level gauging system containing a main panel with four digital displays, each with two lines of 16 characters and a printer for status reports. Also, remote alarm panels with a lamp, buzzer and an alarm reset button can be added and positioned as desired. Local indication units for deck mounting or console mounting are also a part of the total system.

The installation of the equipment described in the above scenarios is designed to provide the following functions:

Continuous monitoring of liquid levels and pressures; inert gas pressure, draft fore, aft and midship; trim and list; cargo manifold pressure; and atmospheric pressure, vapor pressure.

Alarms for high and low liquid levels, high and low temperatures, high and low pressures of inert gas and vapor, high and low volume, density deviation ship/shore, and high and low cargo manifold pressure.

Automatic and continual calculation of weight, with group totals; volume, with group totals; cargo density; ullage corrected for trim and list; and the load/discharge rate.

Interfaces to peripheral equipment, both analog outputs of the various measured parameters to external systems, panel instruments, etc., and digital outputs for alarms, and automatic shutdowns of pumps and valves.

With the system, conversion is provided between all common units, such as: meters-feet; cubic meters-barrels; C Deg - F Deg; Tons-Long-Tons; and Density-specific gravity-API. A fully-integrated loading computer may be implemented as part of the delivery.

At a time when owners are being held responsible for damages caused by accidents at sea or in port, the Cargomaster system provides not only an alarm and shut-down system in case of high or low levels of pressure, liquid level or temperature, but also a continuous monitoring system for all important tank and vessel parameters. These values can be observed at any time at any control unit aboard the vessel.

Peter P. Lombard is the president of American United Marine Corp., an agent for Skarpenord.

For further information and free literature on the cargomaster system by Skarpenord Data a.s.,

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Winninghoff Delivers 50-Foot Work Sled

Winninghoff Boats of Massachusetts was approached to design and build a boat capable of 50 mph speed to carry 24 tons of cargo. The vessel was to have a draft of no more than 2-1/2 feet with a hull which could handle a chop of three to five feet. The original suggested size of the work sled was 44 feet by 14 feet. While the parameters initially seemed incompatible, Winninghoff, with design and engineering assistance from the firm of Woodlin and Marean, proposed a 50-foot by 12-foot vessel with an inverted vee-shaped hull, similar to the Hickman Sea Sled hull form of a generation ago.



Work sled built by Winninghoff Boats.

The work sled has just completed sea trials, and with triple hp OMC Sea Drives the company reports it has proven to be both fast and very maneuverable.

Low wake, high speed, load capacity, stability and easy handling reportedly make this design a desirable, versatile platform.

For more information on the services and capabilities provided by Winninghoff Boats,

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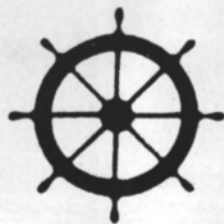
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Anthony Del Gavio
President

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Astican Shipyard Reports Increase In Large Vessel Work

Astican, which is strategically located on the crossroads of the Atlantic's main cargo routes and adjacent to important fishing grounds, is ideally situated to do repair work on both larger commercial ships, as well as fishing vessels.

The installation of a Syncrolift system during the seventies, the largest such installation at this time, has enabled Astican to become one of the most experienced ship lift operators with over 4,000 dockings/undockings to its credit.

The Syncrolift system allows the yard to operate a flexible docking program and an almost permanent drydocking availability. The system also has other operational advantages, including a wide maneuvering and access area around vessels, and movable and accessible cradle blocks making it ideal for bottom plate renewal and lengthenings.

Astican reports the experience achieved with all types of work for shipowners throughout the world, allows the yard to accomplish any kind of repair and/or conversion, re-engining, large steel jobs, insulating, lengthenings, tank treatment, etc.

Although the volume of work carried out on fishing and fish factory vessels is still quite heavy, there has also been an increase in work carried out on other types such as, general cargo vessels, reefers, tankers, passenger ships, all of which represent almost 70 percent of total invoice volume during the first half of 1992. Among these jobs are: blasting and painting more than 15,000 square meters of tanks on the Spanish tanker Nivaria; steel renewal of approximately 300 tons on board the U.S. registered general cargo vessel Galveston Bay; re-engining of a Danish LPG carrier; and extensive general repair work on the Russian general cargo vessel Velizh.

Since privatization three years ago, Astican has paid special attention to a yard maintenance and cleaning program, and a personnel development program, all leading to the "total quality" program being implemented in every area of the company.

The combination of technology and experience, plus the additional advantage of exceptional weather conditions, has placed Astican among the leading European shipyards.

For information and literature on Astican Shipyard,

Circle 128 on Reader Service Card

Marine Design Services Offers Training Course On Drydock Operations

The "Drydock Technology and

October, 1992

Operation" training program will again be offered by Marine Design Services, Inc., Bonita, Calif., from March 1 through 5, 1993, at the Radisson Hotel, Mission Valley, San Diego, Calif.

The course curriculum is structured to cover all technical aspects of drydocking, both commercial and naval ships, and will be directed by

John W. McGruer, Marine Design Services' technical director and a well known figure in the drydock community.

One section of training will be devoted to computer programs available for docking calculations and weight and moment data with hands-on exposure.

The course registration fee is

\$475, which includes all course materials. Block rooms have been set aside at the Radisson Hotel at special rates.

Those interested in attending the program should contact: Marine Design Services, Inc., P.O. Box 928, Bonita, CA 91908, Attn: Training Coordinator. Telephone: (619) 427-4219. Fax: (619) 427-4256.

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Circle 301 on Reader Service Card

Boats & Barges



Oil spill recovery vessel Recovery 1 was built by SEA-FAB and delivered to Clean Coastal Waters.

SEA-FAB Inc. Delivers Two Oil Skim Vessels For Clean Coastal Waters Inc.

SEA-FAB, Inc. delivered two, 100-foot long oil skimmers for Clean Coastal Waters Inc. of Long Beach, Calif. The vessels, which have a beam of 28 feet and a depth of 11 feet, each weigh 98 tons, and are propelled by Caterpillar 3408 main engines, which drive a four-blade bronze propeller.

The oil spill recovery vessels, christened Recovery 1 and Recovery 2, each feature: Wesmar T-50 thrusters and a hydraulic thruster engine; Isuzu C-240 generator engines; twin disc, M4 516 reduction gears, 3:1 with a trolling valve; and a 20kW LIMA generator.

The vessels were designed by Grant and Grant Associates of Wilmington, Calif., and are each equipped with port and starboard doors that direct recovered oil to

Lori Skimmers. Electronic equipment includes: Ray-80 M56758 VHF-Radio and Raynav 580 Ioran; a Furuno 18300 radar; a six-inch Danforth Steel Boat Compass; and Furuno FAP 55 autopilot.

Additional equipment on the vessels include: Mathers MMC engine controls; steering controls, Jastram hydraulic controls; deck machinery, McElroy #7 Seine Winch, Alaskan Crane; shafting, four-inch Aquamet 17; pumps, Barnes/55CCE, Blackmer Hand Pump; and two (per boat) Isuzu QD100/4801 hydraulic power packs. Both vessels are finished with coatings supplied by International Paint Co.

For additional information on the vessel building capabilities of SEA-FAB,

Circle 110 on Reader Service Card

Boats & Barges

Westport Shipyard Delivers 60-Foot, 145-Passenger 'Pacific Spirit'

Westport Shipyard, Inc. of Westport, Wa., recently delivered the M/V Pacific Spirit to Spirit Cruises, which operates a fleet of harbor excursion vessels in the Long Beach and Los Angeles Harbor basins. The 18 by 60-foot vessel, which is certified for 145 passengers in protected waters and 105 passengers in less protected waters, will be used on the firm's route between Long Beach's Shoreline Village and San Pedro's Ports-of-Call, and for special events.

The Pacific Spirit is powered by a pair of 260-hp L6125 Lugger diesel engines from Alaska Diesel Electric of Seattle. Engines drive conventional propellers through Twin Disc MG-6091, 2.49:1 reduction gears.

Controls and instrumentation on

the flying bridge include Mathers MMC propulsion controls, Morse steering, and Lugger meters and alarms. Basic navigation and communications equipment includes Raytheon R 21X Raster Scan Radar. The engine room, which also contains a 12-kw M843N Northern Lights generator, is protected by a Fire Boy Halon 1301 system.

Rather than fixed seats, cabin and topdeck spaces afford space for open seating plans to fit event requirements. A refreshment bar is built into the forward part of the main cabin.

For free literature detailing the boatbuilding capabilities of Westport Shipyard, Inc.,

Circle 121 on Reader Service Card

Maritime Reporter/Engineering News

Use Of Dredging Funds Places Smaller Ports Against Larger Ports

A recent debate between small and large ports over the use of dredging funds and how they should be spent has placed the American Association of Port Authorities (AAPA) in a tight spot. The AAPA represents about 122 public seaports and also acts as a lobbying group. The AAPA supported the development of the Harbor Maintenance Fund in the mid 80s.

At the present time the Port Authority of New York & New Jersey is trying to get the House to pass legislation that would help fund new dredge disposal sites on the same "cost-share" basis as dredging or for complete federal aid through the use of a harbor maintenance tax. The AAPA has indicated that it will back legislation but is backing away from a proposal to use harbor maintenance funds for dredging sites. If the legislation should pass, then appropriations would possibly be considered on a case-by-case basis.

Other ports claim that the legislation could cause federal funds to be stretched out, which would result in fewer dredging projects. Ports are also concerned that using trust funds for disposal sites would essentially deprive the trust of its original mission.

Dredging requirements vary significantly according to the location of each port. For example, the Port of NY & NJ is considering a \$500 million project, New Orleans requires about \$30 to \$40 million each year to keep its main shipping channel open and the Port of Long Beach may only need about \$500,000 each year.

The new stand that the AAPA has taken reportedly is expected to settle any disputes between ports and also preserve a coalition with shippers that have been seeking a tax decrease.

Mexican Government Plans To Privatize Ports

Recent reports indicate that the Mexican government is planning to privatize some of its ports by disbanding Puertos Mexicanos, the state-run port authority. By privatizing ports, it is hoped that efficiency will be improved.

Mexico plans to auction portions of management for some or all of the 11 state-run ports. At the present time it has not been indicated how many ports will be included.

The port privatization is part of a process which began with modernization of the port system and then turning the ports over to the ministry of finance by the ministry of administration.

The improvements have reportedly been spoken about in a positive manner by officials at Lykes Bros. Steamship Co., which recently expanded service into Altamira and Veracruz.

Servicing Wide Variety Of Vessels Is Cascade General's Specialty

Cascade General specializes in repairing a wide variety of ships at the Portland Ship Repair Yard (PSRY).

Cascade's work volume for 1991

is broken down as follows: government vessels, including MSC, MarAd and other public agencies—40 percent; tankers—29 percent; cargo vessels—10 percent; cruise ships—eight percent; and tugs and fishing vessels—13 percent.

Some of the vessels which Cascade General has repaired during recent months include the cruise ship Nieuw Amsterdam; the bulk carrier Pathfinder; the American

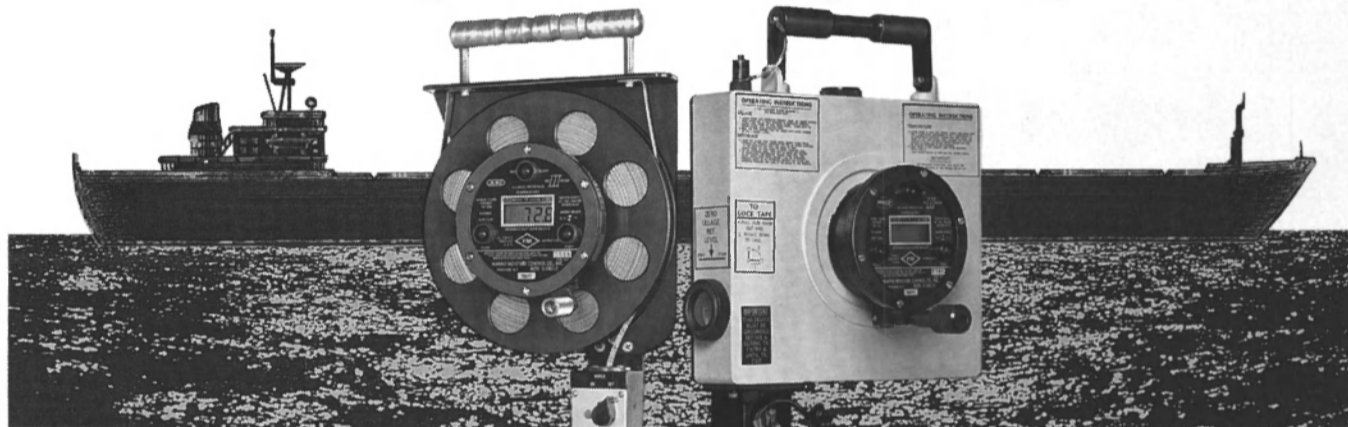
Triumph, a factory trawler/processor; and the Exxon North Slope. Cascade also performed major corrective structural modifications aboard AT&T's new cable ship, the Global Sentinel.

Cascade's wide variety of work allows it to deliver its services to many different customers.

For more free information about Cascade General,

Circle 186 on Reader Service Card

How to get the best possible atmospheric protection during tank gauging.



Each of these MMC Flexi-Dip™ gauging tapes will give you the same accurate measurement of ullage, interface and temperature — and do it quickly in a single tank penetration.

But the Closed model goes even further. It is gas-tight, especially when the vapor valve is open. This meets the stringent requirements of the U.S. Coast Guard for vapor-recovery situations, especially during the loading process.

Both are very simple to use. Ullage and interface indications are audible:

a steady tone when the probe reaches oil and a beep-beep when it senses water. The temperature is shown as a digital LCD readout on the hub. The tapes are marked in feet and inches on one side, metric on the other. (However, with the Closed model, this dual reading feature is not applicable; you must choose one or the other.)

MMC tapes are approved as intrinsically safe by FM, BASEEFA, CSA and SAA, and are also IMO-approved for tankship use.



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Circle 248 on Reader Service Card

Miller Electric Introduces New Precision Intellitig™ Weld Control

Miller Electric Mfg. Co., Appleton, Wis., recently introduced the DC-GTAW, a new microprocessor-based Intellitig™ 4 welding controller. When used with a Miller DC inverter power source, such as an

XMT™ or Maxstar™ the Intellitig 4 control provides: high frequency arc starting, timed gas solenoid control and metering, pulsing, sequencing, sloping, on-screen voltage and amperage metering, and two relay contacts for fixturing. The combination reportedly provides capabilities not available with other power sources in this class of equipment and allows for automated or precise manual TIG welding.

The Intellitig 4 offers easy-to-follow programming formats via a lighted alphanumeric display. Also, depending on the mode selected, the operator can control preflow time, initial start amperage and time, initial slope time, welding current and time, final slope time, final current and time, and postflow time.

Four modes of operation can be selected and they include: auto-

matic, semiautomatic, manual GTAW (TIG), and SMAW (stick). Each of the modes has the optional expanded memory module to give the user a total of four programs per mode, and allows control to combine and link programs.



Intellitig™ 4 welding control

For free literature detailing the new Intellitig 4,

Circle 167 on Reader Service Card

RTK Marine Delivers French Survey Workboat

RTK Marine, of Poole, Dorset, United Kingdom, has recently delivered one of its RTK 607 Workboats to a French survey company operating off the west coast of Africa.

The RTK 607 "Worker" model is 24.9 feet in length overall and is powered by a single Volvo diesel coupled to a waterjet. This propulsion system enables the craft to operate in the shallow waters that are to be surveyed. The RTK 607 Worker is equipped with a special lifting arrangement that allows the craft to be carried aboard its mothership the MV Red Fulmar.

An engine driven generator has been installed to power the survey equipment that will be operated on board the craft and situated in its specially extended cabin.



RTK Marine's 607 Workboat.

RTK Marine has been manufacturing workboats for 25 years and over 1,000 craft are operating around the world in both military and commercial fields.

For more information about RTK Marine's line of workboats,

Circle 163 on Reader Service Card



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Shiprepair & Conversion '92

First Conference and Exhibition Set For Nov. 10-11, London

The first ever Shiprepair & Conversion '92 show set for Olympia, London is touted as a meeting place for professionals involved in all aspects of the ship repair, conversion and maintenance industries on a worldwide basis. The new event has been specifically organized for all of those in the business of keeping existing tonnage in prime condition and operationally attractive to the needs of ship owners.

Scheduled for November 11-12, 1992, the conference and exhibition will feature more than 120 exhibitors and deal with current and future trends within the industry, including: future markets; the ship manager's view; large tankers; geographical developments; specialized repair including cruise refurbishment, gas carriers, etc.; the conversion industry; block bookings; and ship repair and the environment.

Featured adjacent to the conference will be the exhibition hall where repair yards, drydocks and suppliers will promote their facilities, equipment and services.

Besides visiting the exhibitions, attendees, which will be comprised of ship operators, fleet managers, superintendents, surveyors, insurance interests, etc., can attend educational seminars.

The program of events starts Tuesday, November 10 at 9:30 a.m. with session one, "The Future of the Market Seminar." Topics to be covered include: Singapore, a perspective on



the next decade; Middle East, an alternative to Singapore; and Expansion of facilities in the Middle East; the Northern European scene; developments in the Eastern Baltic; and an ending panel discussion including ship operators/manager and the various speakers.

Session two, which starts after

lunch at 2:30 p.m., is entitled "Block Bookings" and will provide attendees with the yards' view and an operators/owners view on the subject. Session three, which starts at 4 p.m. is dubbed "Operations," and includes discussion on tank bottom pitting, structural problems on bulk carriers and operation of older tonnage.

Session four starts at 9:15 a.m. on Wednesday, November 11 and is on "Surveys and Inspections." Session four's discussion will center on life extension and enhanced surveys, the owners/charterers requirements and insurers requirements.

Session five, "Specialized Shiprepair," starts at 11:15 a.m. and will focus on LPG carrier life extension, cruise vessel repair and conversion of existing passenger ferries to meet the new SOLAS stability requirements.

"The Conversion Industry" will be covered in session six, which starts at 2:30 p.m., and covers the benefits and economics of conversion of passenger ferries, how achieving the optimum conversion is not always the most costly solution, and tanker to offshore conversions.

The last session, session seven, which starts at 4:30 p.m., is on "Shiprepair and the Environment," and covers tin-free anti-fouling and their applications, and the EEC view on shipyard discharge.

The exhibition will close at 6 p.m. on November 11.

For additional information on Shiprepair & Conversion '92, contact: BML Business Meetings, Shiprepair & Conversion Secretariat, 2 Station Road, Rickmansworth, Hertfordshire, WD3 1QP, England. Telephone: +44 923 776363; Fax: +44 923 777206; Telex: 924312.

Shiprepair & Conversion '92 Exhibitors

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Brissard Sud Marine
Bristol Channel Shiprepairers
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China Ship Building Corp.

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Dorbyl Marine
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Hellenic Shipyards
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High-Efficiency Cartridges Key To Top Performance In MMC Clarifiers

MMC International Corporation, Inwood, N.Y., reports that top performance in a clarifier-coalescer results from the way MMC units are designed with inexpensive cartridge elements that are simple to remove and replace. This makes it extremely easy for an operator to keep the

clarifier-coalescer functioning at peak efficiency as it removes damage-causing water and solid contaminants present in lube, fuel and hydraulic oil systems.

MMC clarifier-coalescers are built to remove over 99 percent of the free water present in oil in a single pass because of the way the built-in water separator screen acts in conjunction with the filter cartridge. MMC reports that this process also removes 99.9 percent of all solid sub-

stances and the oil that is returned to the system, therefore, does not carry any foreign particles that could cause erosion, corrosion, or otherwise impede the efficiency of the system.

MMC was founded in 1939 and is a major manufacturer of electronic gauging tapes of all kinds, C-L couplings and other speciality products for the marine and other industries.

For free literature from MMC, Circle 160 on Reader Service Card

MAN B&W Diesel Offers Two New Free Brochures

MAN B&W Diesel A/S, of Copenhagen, Denmark, has two free, color brochures available, the 20-page "Two-Stroke MC Engines - Revised S80MC, L42MC, L35MC" (No. 253) and the 26-page "Basic Principles of Ship Propulsion" (No. 254).

The MC Engine brochure provides exceptional detail on the company's line of MC engines, beginning with explanations of the engine's development history and the types of units in the MC engine program.

Through highly detailed photographs, drawings and artists renditions, the construction and design of every major component of the MC engine is fully described in the Main Design Topics section.

The remaining six pages provide power, speed and SFOC main dimensions and dry mass tons data for each type of MC engine.

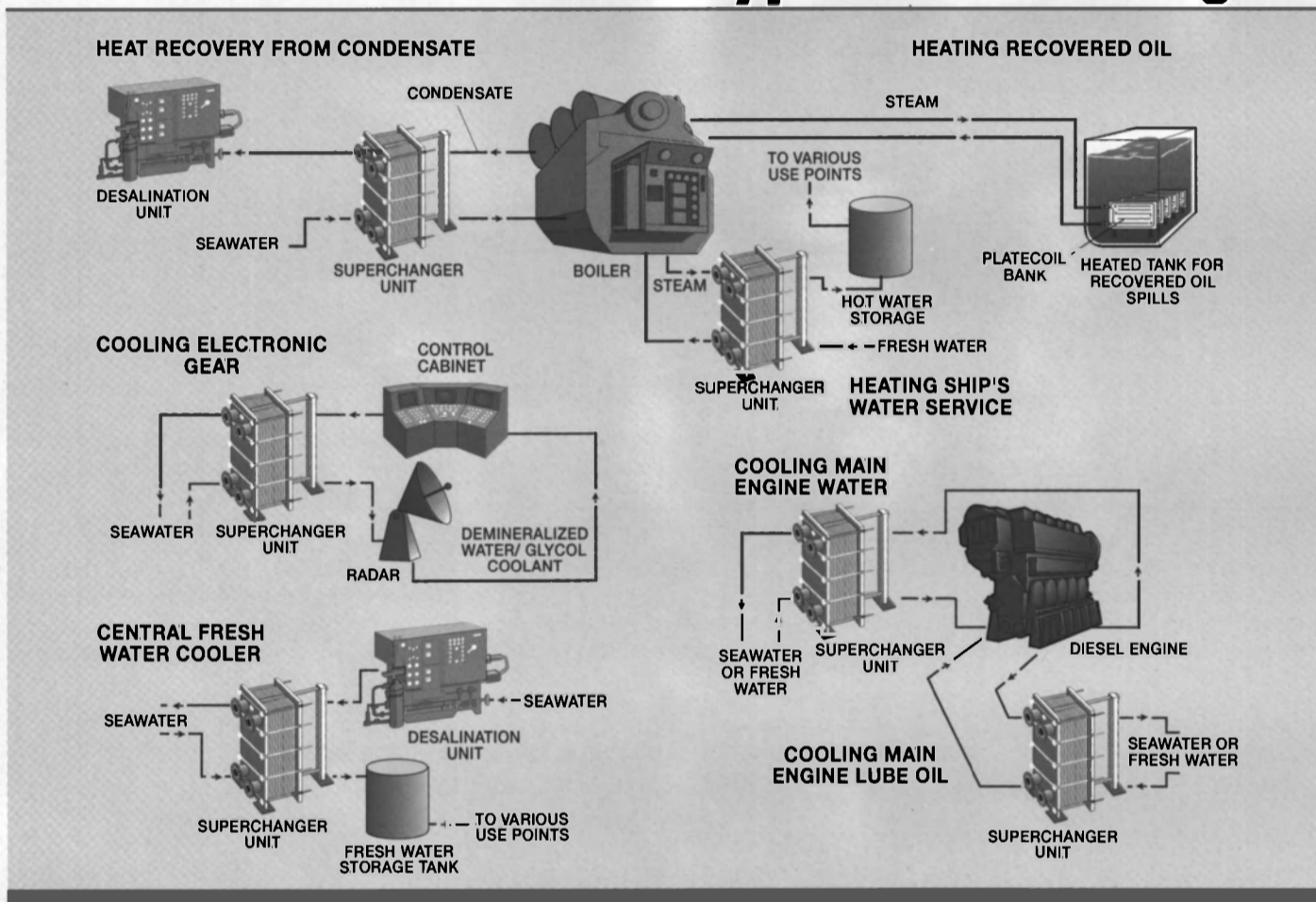
The Basic Principles of Ship Propulsion brochure explains some elementary terms and principles in ship propulsion and design with the assistance of technical graphs, drawings and formulas.

Chapter one provides some basic explanations of ship definitions and hull resistance principles. The second chapter describes propeller propulsion and the last chapter details engine layout and load diagrams.

To receive a free brochure or other information from MAN B&W,

Circle 166 on Reader Service Card

How to Operate More Efficiently At Lower Cost With Tranter Plate-type Heat Exchangers



Naval ships, fleet oilers, commercial containerships, tankers and dredges are successfully finding new ways to operate more efficiently at lower cost, by utilizing Tranter's unsurpassed plate-type heat exchanger technology. Schematics presented here illustrate typical ways they are doing it.

Superchanger® plate and frame heat exchangers are used in a wide variety of shipboard applications—particularly for cooling main engine jacket water and cooling main engine lube oil with fresh water or seawater; cooling the ship's central fresh water; cooling electronic equipment; or recovering heat from condensate. They are far more efficient than tubular systems, and provide heat transfer coefficients from two to five times greater than those achieved by shell and tube units. They also require 10% to 50% less deck space and weigh up to one-sixth less.

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Platecoil® prime surface heat exchangers offer optimum temperature control. A Platecoil bank-in-tank unit provides wide interspaces for effectively passing solids while efficiently heating seawater containing oil from spills.

Platecoil bayonet heaters provide a large amount of efficient primary heating surface in a single unit for maintaining desired temperatures in storage tanks. These heaters help promote convection currents for better heat transfer rates and tank temperature uniformity. Platecoil suction heaters provide immediate heating for pumping oil out of tanks.

Tranter plate-type heat exchangers can be supplied in full compliance with codes and specifications as required by the ABS; the U.S. Coast Guard; shock testing per MIL-S-

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Circle 274 on Reader Service Card

Hagglunds Denison Offers 20-Page Brochure About Its Axial Piston Pumps

Hagglunds Denison is now offering an updated 20-page brochure describing its series PV open loop variable displacement axial piston pumps.

The hydraulic pumps, available in five sizes ranging from 0.88 to 3.78 in 3/rev., are thoroughly explained through the use of schematics and dimensional charts.

Features, benefits and general characteristics are also provided, including a narrative about the product's pressure compensator control feature. The pressure compensator control allows the pump to deliver full volume from the outlet port until the pressure rises to the value set by the control.

A chart of higher speed guidelines for each of the five units, a comparison of solid contamination classification systems, technical data conversions, and specification units are also included.

Hagglunds Denison is a leading manufacturer of hydraulic equipment components and systems for many areas in the industrial field. For a free copy of the brochure,

Circle 168 on Reader Service Card

Propulsion Update



Three LM1600 gas turbines power the Italian high-speed vessel, Destriero, which has a speed capability of more than 60 knots.

GE's "LM" Family Of Gas Turbines Fits Variety of Applications

The "LM" family of aeroderivative gas turbines from GE Marine & Industrial Engines (M&I) was launched in 1974 with the introduction of the LM2500. That unit is M&I's most experienced gas turbine with more than 1,000 engines currently in marine and industrial service. The gas turbines rating has been increased to 32,600 hp with a simple-cycle thermal efficiency in excess of 37 percent. To date, the LM2500 has logged nearly 11 million operating hours.

In addition to its wide acceptance by the U.S. Navy, the LM2500 has been selected by 23 other navies worldwide. Today, 140 LM2500-powered ships are in service in the U.S. Navy. The gas turbine is found on the Spruance class and Kidd class destroyers, the Perry class frigate, Pegasus class hydrofoil, Ticonderoga class cruiser, the Arleigh Burke class destroyer and the AOE-6 Super class support ships.

Internationally, four LM2500 propulsion sets for the new Japanese 673-DDG Aegis destroyer were successfully shore tested recently, and LM2500s were selected for that country's new DDX destroyer program. In general, international navies have used the LM2500 in a broader range of ship classes and

sizes than the U.S. Navy. The engine is often used in a CODOG configuration, particularly when operational requirements dictate a high mobility level. The engines provide sprint capabilities to react to emergencies and conflicts, as evidenced by their use on the German Navy's Class F123 for which engines were ordered, and the MEKO's for the Portuguese, Australian, Hellenic and New Zealand navies. Additionally, Korea chose the LM2500 for its KCX corvette program, and the Royal Thai Navy is using the engine for its two newest frigates.

However, the LM2500 has not been limited to high-speed, lightweight naval operations. It currently powers some of the largest naval ships, including the Italian Navy's Garibaldi aircraft carrier, the Spanish Navy's aircraft carrier Principe de Asturias, and the U.S. Navy's 50,000-ton AOE-6 supply ships.

The LM2500s use is also growing in the commercial shipping arena. For example, the gas turbine was selected for two Italian fast ferry programs, the SEC 750 SES from the Societa Esercizio Cantieri (SEC) Shipyard in Viareggio and the Aquastrada TMV 90 Monohull from Rodriguez Cantieri Navali Shipyard,

two car/passenger ferries which have 37,000 and 54,000 brake horsepower requirements respectively.

Smaller Aeroderivatives

Aside from the LM2500, M&I fills the growing demand for mobility with other "LM" gas turbines. Available in different sizes, the engines are suited for naval applications or to meet the needs of growing markets such as commercial fast ferries, fast cargo ships or high-speed megayachts.

M&I's smallest engine, the LM500, offers its weight as a key benefit. At 2,400 pounds, the engine enhances the speed capability of a vessel with an output comparable to a 24,000-pound diesel engine. This high-performance gas turbine, which has a 32 percent thermal efficiency, has been chosen to power the Foilcat class of high-speed passenger ferries by Kvaerner Fjellstrand currently being tested in Norway. It also is used by Denmark to power its Stanflex 300 Class patrol boats, and by Japan for its OIPG PG Hydrofoil.

The LM1600 provides up to 20,000 hp at 37 percent thermal efficiency. Used in industrial applications since 1988 and marine applications since 1991, three LM1600s were used to power the Italian high-speed vessel, Destriero, which has speed capability of more than 60 knots. Destriero recently won the Blue Riband for the fastest crossing of the Atlantic, a feat accomplished in 58 hours, 34 minutes and 50 seconds at an average speed of 53.09 knots, without refueling.

The LM5000 offers more than 38 percent simple cycle thermal efficiency, and provides up to 55,000 hp. It incorporates many of the same materials and design features of the LM2500.

Finally, M&I's newest gas turbine, the LM6000, is still under production. It will produce more than 57,000 shaft hp with a thermal efficiency of more than 40 percent. The engine will be able to drive its load from either the hot or cold end.

For more information on GE Marine & Industrial Engines complete product line,

Circle 91 on Reader Service Card

Jered Wins \$27 Million ELCAS Contract

Jered Brown Brothers was awarded a contract to design, fabricate and test the Elevated Causeway System (ELCAS) for the Navy Facilities Engineering Command. The value of the contract is approximately \$27 million.

ELCAS is a part of the U.S. Navy's Strategic Sealift Program, and it enables deep-draft supply vessels to unload cargo onto an unimproved beach, and to carry loads up to the weight of a 60-ton main battle tank.

Jered will perform the contract at its new Brunswick, Ga. facility, and will increase its employment up to 150 additional people during the two to three year contract performance period. Jered is part of the Marine Engineering Division of Vickers P.L.C., an international company based in the U.K.

For additional information on Jered Brown Brothers products and services,

Circle 184 on Reader Service Card

NY Passes Long Beach As Nation's No.2 Box Port

The Port of New York and New Jersey has moved to second place among U.S. containerports, with the Port of Los Angeles first and the Port of Long Beach slipping to third.

Long Beach has been in the number two spot since November 1990 when it edged New York/New Jersey out of the slot.

Despite the ongoing competition from warmer weather ports, the New York and New Jersey harbor networks handled 116,035 twenty-foot equivalent unit containers (TEUs) in May 1992, an increase of 17 percent from the same period last year. Los Angeles handled 124,738 TEUs equating to a rise of 13 percent.

Reports attribute the New York/New Jersey Port Authority's success to improved tonnage assessment, reduced payments to the longshoremen's income fund, better intermodal service, more cargo from southern Asia, and an incentive program for shippers.

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87

FMC Wins \$15.7 Million Contract From Navy

FMC Corporation, Naval Systems Division, Minneapolis, Minn., was awarded a \$15.7 million dollar contract from the U.S. Navy to overhaul and repair four shipsets of Mk 26 guided missile launching systems for the U.S.S. Texas, U.S.S. Ticonderoga, U.S.S. Vincennes and the U.S.S. Vally Forge.

APL's Parent To Refinance \$100 Million In Bonds

The parent company of Oakland, Calif.-based American President Lines, American President Companies, is attempting to refinance \$100 million of Merchant Marine bonds in an effort to end the U.S. Maritime Administration's (MarAd's) guarantee of such bonds.

As of June 1992, \$105 million of

the bonds remained outstanding, with \$100 million issued under leveraged leases.

By the end of July the company had issued notices for the redemption of \$5 million of the bonds. During the second quarter of 1992, American President Companies retired \$4 million of the bonds.

The bonds were originally issued to finance part of the company's owned and leverage-leased fleet.

Bisso Reports Setting New Salvage Record

Bisso Marine Company, Inc., of New Orleans, La., has reportedly set a new salvage record for raising the largest line boat on the inland waterway system.

The 7,000 hp M/V Chris Way MacMillan, measuring 220 feet by 45 feet, was raised from 43 feet of water at mile 106.8 A.H.P. on the Mississippi River.

After the D/B Cappy Bisso and D/B Cairo were secured to the wreck the operation was delayed four days due to the threat of Hurricane Andrew. When operations continued, the D/B Lili Bisso and D/B Ajax were also attached to the wreck to distribute the weight on the 1,200 ton hull.

The salvage operation took 12 working days to raise and deliver the vessel afloat at the job site.

For additional information about the services offered by Bisso Marine Company,

Circle 135 on Reader Service Card

NASSCO Awarded \$14.7 Million In Navy Contracts

National Steel and Shipbuilding Company, (NASSCO) San Diego, Calif., received two contracts totaling \$14.7 million from the Naval Sea Systems Command (NAVSEA).

The first contract for \$9.7 million, NAVSEA N00024-92-H-8028, is for the regular overhaul of the U.S.S. Vincennes (CG 49).

NAVSEA contract N62791-92-B-0115, valued at \$5 million, is for the drydocking and phased maintenance availability of the U.S.S. Fort McHenry (LSD 43).

Plan To Revive Dominican Ferry Link Considered By Puerto Rican Investors

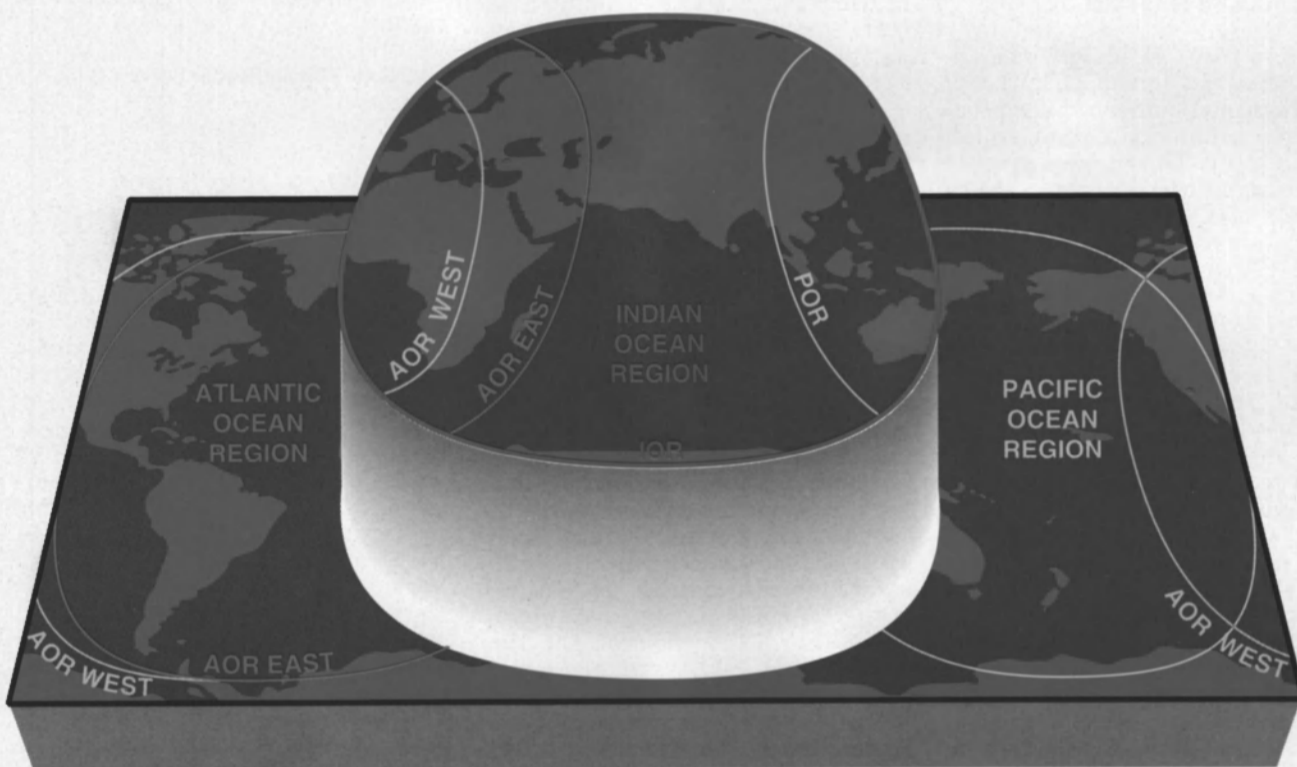
Recent reports indicate that the Dominican Ferries may once again be put into service after being stopped about five years ago by the government. If the service is revived, daily cargo and passenger ferry service would be available from Puerto Rico to the Dominican Republic.

This is the result of eight investors joining together to lease the \$5.5 million Vancouver Princess, which is presently in service in British Columbia. The Vancouver Princess is 431 feet long and can transport up to 985 passengers, 125 cars and 30 forty-foot containers on each voyage.

Plans call for round-trip fares for the seven-hour voyage to be about \$95 per person, with an increase to \$229 for a small car and passenger.

The ferry service will run between Mayaguez, in western Puerto Rico, and San Pedro de Macoris, in the Dominican Republic.

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Mexican Government Sells Three Yards To Private Interests

The Mexican government, guided by the policies of its president, **Carlos Salinas de Gortari**, has sold three of its state-run shipyards on the Pacific Coast to private interests.

The Sidek Group reportedly purchased the yards and delegated the administration of the shipyards to a sub-group, Simec Naval.

The three facilities offer a complete range of services in ship repair and construction capabilities for medium-sized vessels.

The yard at Ensenada, Baja California, Industria Naval de California (Inc.). The yard has a Syncrolift capable of lifting 2,500 tons, as well as ten side-tracking stations. A full range of services is available. This shipyard specializes in servicing tuna seiners, large yachts, dredges and cargo dredges.

Industria Naval del Pacifico (INP), Guaymas, Sonora, has two launching ways which can accommodate vessels up to 25,000 tons. The yard also has the outfitting piers necessary to complete the vessels once they have been launched. This shipyard specializes in servicing tugboats, fishing vessels, yachts and service craft.

Industria Naval de Mazatlan (INM), is located at Mazatlan, Sinaloa. The yard specializes in the construction and repair of fishing vessels and specialty craft for both the national and international markets. The yard has three railways, capable of handling 750 tons of building materials, wet berths and shops, which are capable of performing required services for the marine trades and heavy industry.

A customer service office has been set up in San Diego, Calif., for clients in the U.S.

For more information,

Circle 141 on Reader Service Card

Schichau Seebeckwerft Repairs Seabourn Spirit In Record Time

Schichau Seebeckwerft AG of Germany has completed the repairs aboard the cruise ship Seabourn Spirit. The repairs took about 14 days to complete.

The diesel generator compartment caught fire and badly damaged the vessel's power station. At the time of the fire, the vessel was on her way to Portofino on the Italian Riviera Coast. The vessel was then towed to Genoa where two yard engineer's were waiting to inspect the damage.

The cooperation between the yard, its suppliers, the owners, the representatives and the classification society allowed for the vessel to be repaired in record time. About 60 workers worked in two shifts. Finally, 259 hours after the fire, the first diesel engine was able to be started.

Schichau Seebeckwerft was able to prove that it can perform express-

October, 1992

repair even if it is complicated.

The Seabourn Spirit has since returned to its scheduled voyages.

For more information about the facilities and services provided by Schichau Seebeckwerft,

Circle 109 on Reader Service Card Double-Hull Modification Added To Avondale's Navy Oiler Contract

Avondale Industries, Inc., New

Orleans, La., announced that a contract modification to add double-hulls to the last three T-AO fleet oilers being built by the company was recently approved by the Secretary of the Navy.

While the final value of the contract modification is still being negotiated, \$125 million in funds were already appropriated by the Navy for the additional work. The three T-AO's are the last ships in a series of 16 constructed by Avondale for the Navy, with ten of the fleet oilers

having already been completed and delivered.

By approving the modification, the Navy is voluntarily providing significant protection for the environment against accidental oil spills, allowing the ships to operate in accordance with the Oil Pollution Act of 1990.

Avondale estimates that the double-hull modifications will require 1,200 workers at its peak, which will continue through 1995.

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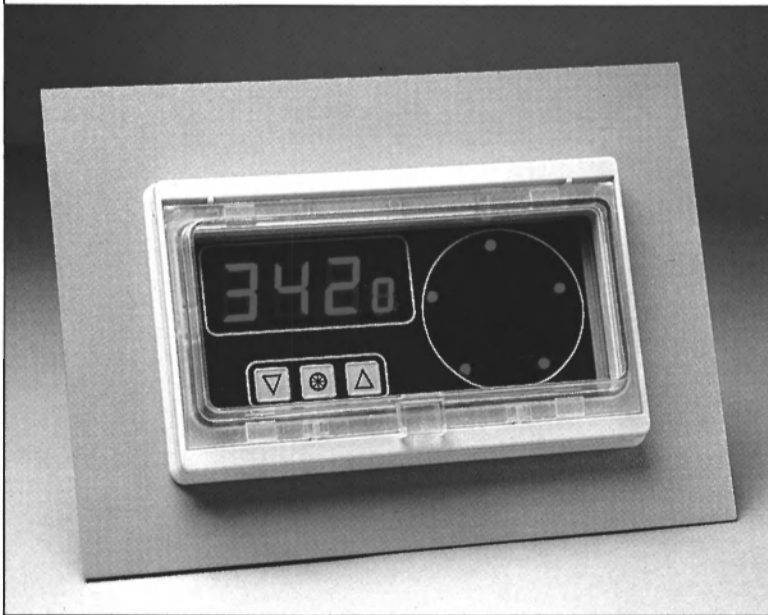


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The LR40/LR60 can now be panel-mounted on the Bridge Wing using a "flip-up" plastic cover. The cover is specified to IP55.

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Circle 254 on Reader Service Card

Walter Machine Offers Free Literature On Line Of Keel Coolers

Walter Machine Company, Inc., Jersey City, N.J., has free literature available fully describing its line of Walter Keel Coolers, a fresh water cooling system for marine engines, generator sets, air-conditioning systems and other equipment.

Using the principle of heat ex-

change, the coolers are mounted on the vessel's outer hull near the keel for protection against grounding. The engine's coolant or "jacketwater" flows through the cooler's tubing where its heat is extracted by the surrounding sea water.

According to the company, their closed-loop system reduces engine maintenance and fuel costs by using only fresh jacketwater as a coolant. The Walter Keel Coolers are available in three models, 19 sizes and

over 200 configurations.

Under the "Walter" name, Walter Machine also manufactures: V-Drives; Clamp-Fit propeller shaft couplings; Safe-Way propeller pullers; heavy duty gearboxes; and custom high-speed speed increasers and reducers.

For additional free information about Walter Machine Company's extensive marine product lines,

Circle 137 on Reader Service Card

Latest Ohio Class Christened At Groton

The U.S. Navy's latest Ohio class ballistic missile nuclear submarine (SSBN), the U.S.S. Nebraska (SSBN 739), was recently christened at General Dynamic's Electric Boat Division, Groton, Conn.

The 18,750-ton U.S.S. Nebraska is 560 feet long and 42 feet wide. The submarine's primary armament consists of 24 Trident II D-5 intercontinental ballistic missiles.

Electric Boat is one of only two shipyards in the nation that is contracted to build nuclear submarines for the U.S. Navy.

Kvaerner-Masa Receives \$58.8 Million Contract To Convert German Ferry

Kvaerner-Masa Yards, Finland, a division of the Norwegian engineering and offshore group Kvaerner A/S, recently announced that it has received an order valued at 350-million Norwegian Krone (\$58,835,000) for the conversion of a train ferry owned by TT-Line of Germany to a car and passenger ferry. The contract also includes an option to convert a second TT-Line train ferry.

The conversion work is scheduled to begin in December this year and will involve the addition of 760 new berths as well as a buffet restaurant, night club, discotheque, children's playroom and shops.

Upon completion, the converted ferry will be placed into the TT-Line service between Travemunde, Germany, and Trelleborg, Sweden.

Korea Gas Awards Joint LNG Contract To Hanjin And Daewoo

The state-owned Korea Gas Corporation recently announced that it has awarded a contract to Hanjin Heavy Industries Company and Daewoo Shipbuilding & Heavy Machinery, Ltd., for the joint construction of the country's third and fourth liquefied natural gas (LNG) carriers.

The contract is arranged so that Hanjin will undertake 65 percent of the shipbuilding work, valued at \$500 million, and Daewoo will complete the remaining 35 percent.

Both ships are scheduled to be delivered to Korea Gas Corp. by the end of 1995.

Metro Machine Wins \$11.6 Million Navy Overhaul Contract

Metro Machine Corporation, Imperial Docks, Norfolk, Va., has been awarded a \$11.6 million contract from the Naval Sea Systems Command (NAVSEA) for the regular overhaul of the Aegis guided missile cruiser U.S.S. Ticonderoga (CG-47).

Maritime Reporter/Engineering News

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10

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Region West (Goonhilly) and the Pacific Ocean Region (Sentosa).

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VIA INMARSAT

MTS '92

"Global Ocean Partnership" Set For Washington, D.C.

The Marine Technology Society show, "MTS '92: Global Ocean Partnership," is a conference and exhibition geared to address major domestic and international ocean issues.

The show, scheduled to open for registration Saturday Oct. 17 and end Thursday Oct. 22 with a golf tournament, will be held at the Washington Sheraton Hotel in Washington, D.C.

The MTS exhibit hall, which will be open from Monday, Oct. 19 through Wednesday, Oct. 21, will feature more than 200 exhibitors displaying a broad spectrum of products and services.

Featuring more than 70 technical sessions and more than 250 papers scheduled to be presented, the MTS technical conference portion attempts to address the educational needs of a variety of professionals. The eight different technical session tracks attendees can follow include: Global Resources; Global Sensing; Global Infrastructure; Global Issues; Global Engineering-1; Global Engineering-2; Fish Behavior & Gear Selectivity Workshop;

and Additional Sessions. The overall technical committee chairperson is **Dr. Sylvia A. Earle**, Deep Ocean Engineering, Inc.

All technical sessions start at 9 a.m. on Monday Oct. 19 and end on Wednesday, Oct. 21 at 5 p.m.

A sampling of the topics to be tackled, and the chairmen for each respective track includes:

Global Resources (Calvert Room): oil spill response technologies, pollution environmental indicators and oil spill damage assessment strategies. Track chairman: **Dr. Rainer Engelhardt**, vice president, R&D, MSRC.

Global Sensing (Woodley Room): physical oceanography, global data sets and their uses, and instrumentation. Track co-chairmen: **Dr. W. Stanley Wilson**, assistant administrator NOAA, National Ocean Service; **Eugene M. Russin**, director, program evaluation NOAA, Office of Ocean and Earth Sciences.

Global Infrastructure (Eisenhow-

er Room): electronic charting, vessel traffic service, and data information services. Track co-chairmen: **Millington Lockwood**, deputy, USGS-NOAA Joint Office for Mapping and Research; **Luther Bivins**, project manager, MRJ, Inc.

Global Issues (Roosevelt Room): marine education, OPA 90 and Marpol regulations, and mitigation and adaption response strategies. Track co-chairmen: **Lee Stevens**, staff director, Council on Ocean Affairs, Joint Oceanographic Institution; **Ms. Lynn Carter Hanson**, special assistant for global change, Graduate School of Oceanography, University of Rhode Island.

Global Engineering-1 (Atrium 1): submersibles, advanced marine vehicles and salvage and diving.

Global Engineering-2 (Kennedy Room): new generation of oceanographic ships and shipyards, new shipboard equipment, and ropes: new developments in design and testing. Tracks co-chairmen: **Richard M. Shamp**, president, ESA, Inc.; **Herbert Herrmann**, deputy assistant, commander for oceans facilities, Naval Facilities Engineering Command.

Additional Sessions (Lania Ste. 1): offshore structures and materials and improving techniques for technology exchange.

Fish Behavior & Gear Selectivity Workshop (Lanai Ste. 2):

groundfish trawling and responsible fishing.

The social schedule for the show will give suppliers and attendees the opportunity to meet in a less formal atmosphere. An Early Bird Reception on Sunday, Oct. 18 in the exhibit hall at the Sheraton Washington Hotel, is at 6:30 p.m.

On Monday Oct. 19 at 5 p.m. the MTS '92 Technology Reception will feature the "World Without Suns" Nikon exhibit, which was sponsored by the National Geographic Society. On Tuesday, Oct. 20 at noon, the President's Award Luncheon will be where MTS administered awards are presented for significant individual and organizational achievement. Tuesday night at 7 p.m. is the MTS '92 Night at the Navy Museum.

The MTS social calendar wraps up with a golf tournament on Thursday, Oct. 22, starting at 8:30 a.m.

For more information on MTS '92, contact: J. Spargo & Associates, Inc., 4400 Fair Lakes Court, Fairfax, Va. 22033. Tel: (703) 631-6200; FAX: (703) 818-9177.

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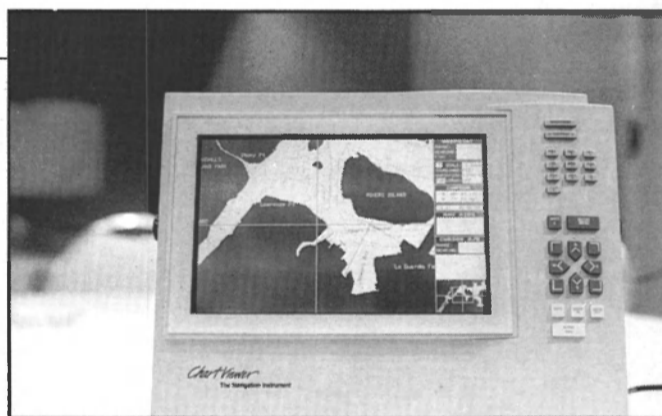


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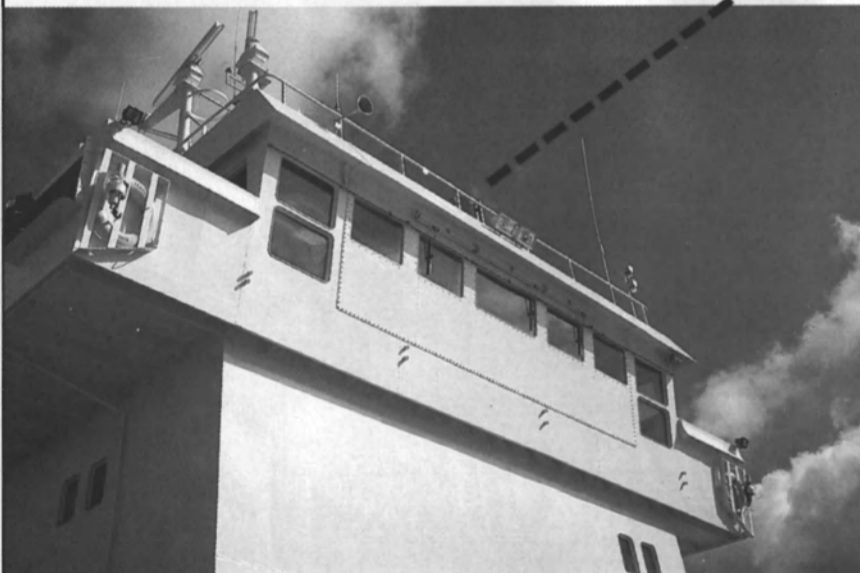
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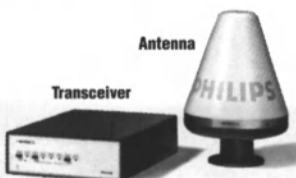
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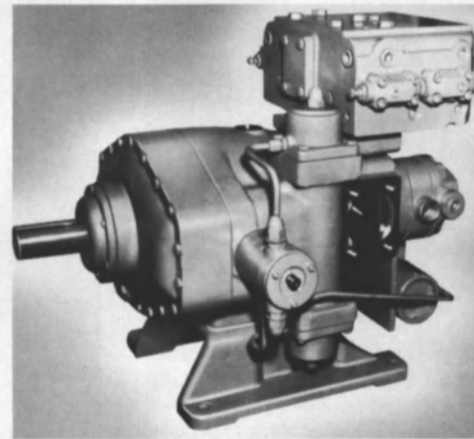
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Cost Engineering and Contract Services departments of Newport News Shipbuilding. From 1975 to 1979 he served as design coordinator for Naval Architecture and Marine Engineering at Sea-Land Service, Inc.

In 1979 Mr. Powell joined Bay Shipbuilding Company of Sturgeon Bay, Wis., where he held several management positions, including executive vice president and general manager.

For free information on the products, services and capabilities of Peterson Builders,

Circle 172 on Reader Service Card

Bremer Vulkan Nets 23 Percent Sales Gain For First Half of '92

Bremer Vulkan Verbund AG announced its group net profit rose 65 percent in the first half to \$20.8 million. Last year's first-half profit totaled \$12.7 million.

But the company said the figures were difficult to compare because of some extraordinary factors, foremost among those factors the recent acquisition of Atlas Elektronik GmbH.

Sales during that period rose 23 percent to \$1.05 billion from \$863 million.

But the company said the figures were difficult to compare because of some extraordinary factors, foremost among those factors the recent acquisition of Atlas Elektronik GmbH.

Peterson Builders Announces Appointment of New Business Development Director

Peterson Builders, Inc. of Sturgeon Bay, Wis., announced that **Allen A. Powell** has joined the company as director of business development. In his new capacity, Powell will be responsible for all marketing activities of the company.

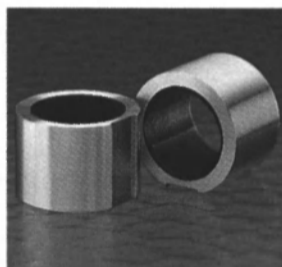
Powell's immediate focus will be to position Peterson Builders to aggressively compete for commercial work in both the marine and non-marine areas.



Allen A. Powell

A graduate of the Newport News Shipbuilding Apprentice School's engineering program, Mr. Powell attended Virginia Polytechnic Institute, majoring in mechanical engineering. From 1968 to 1975 Mr. Powell served in the Engineering,

gressively compete for commercial work in both the marine and non-marine areas.



Some things never change, and the need for propeller shaft bearing system reliability remains one of a shipping owner's highest priorities.

Historically, "operational" stern tube lube oil "consumption" has been

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Four years of carefully monitored performance on early vessels have shown excellent performance, matching lab test predictions. Currently, a complete Thor-Lube system is being fitted to a twin shaft Antarctic ice breaker. These 25 inch, 640 mm bearings will provide reliable pollution-free service for this sophisticated research vessel.

Thor-Lube bearings work with conventional seals and fit the same space as other oil lubricated bearings. Bearings and lubricants are competitively priced and

our systems are designed to replace present oil or open systems or for easy integration into new designs; that means you can now take advantage of fail-safe Thor-Lube for your next project with guaranteed pollution-free lubrication.

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Attn: David Read, General Manager Thordon Bearings

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Boats & Barges

Workboats Northwest Delivers Fire Boat To Bremerton

Bremerton, Wash., home to the Puget Sound Naval Shipyard, has taken delivery of a 26.5-foot by 9.5-foot fireboat built by Workboats Northwest, Inc. The boat was also designed as a floating pumping station and a search and rescue boat.

Basic power for the vessel is provided by 460-cubic-inch, 355 hp Kodiak gasoline engine driving a single 2,500 gpm Berkeley pump. The boat's valving system directs water flow to propulsion and firefighting systems. A relatively shallow-draft vessel, the boat will speed to better than 33 mph with the Berkeley steerable water jet. Bow thrusters, from Workboats Northwest, allow the boat to hold position or maneuver in restricted areas. Bow-mounted fog nozzles provide a heat screen.

The unnamed boat can fight boat, marina and shorefront fires with a bow mounted monitor capable of delivering up to 1,200 gpm.

As a floating pumping station for fighting shorefront fires, water is pumped through an aft hydrant with two 2.5-inch or one five-inch standard "Stortz" connections to supply water to shore-based fire apparatus, or to fill water tenders where landside hydrants are not available. The boat also carries a 20-gallon Class B foam system.

Wheelhouse furnishings include Morse controls, Kodiak engine instrumentation and alarm systems, and such electronic gear as GPS, video sounders, radars, radio-telephones, loud hailers and full fire siren and light systems.

Other boat features include: full



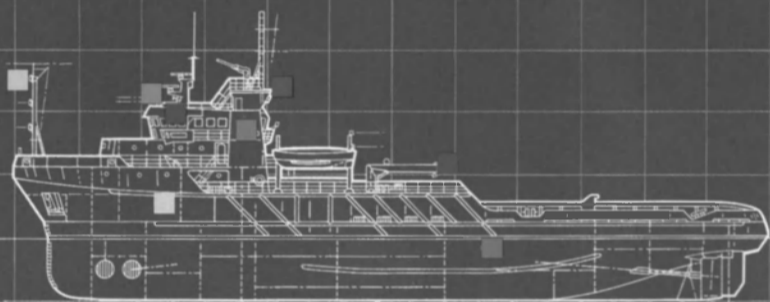
This fire, search and rescue boat from Workboat Northwest features a Kodiak gasoline engine and Berkeley pumps.

flotation, welded cleats and lifting eyes, towing bitts, safety railings, self-bailing decks, aft dive and work platforms, and starboard diving and rescue doors.

For additional free information on Workboats Northwest and its fire search and rescue boat,

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Farrell Predicts Flaws In Oil Pollution Law Will Draw Public Outcry

Speaking on behalf of the barge and towing industry, **Joe Farrell**, president of the American Waterways Operators, predicted that the American public's desire to balance environmental protection with preserving their standard of living will ultimately help temper some of the unnecessarily harmful effects of the Oil Pollution Act of 1990 (OPA 90).

Mr. Farrell told the Houston Marine Insurance Seminar, in an address on September 15, that "the heavy penalties and burdensome requirements of OPA 90 will result in higher standards of care, which will cut down on pollution due to human error."

He acknowledged the fact that the law will be a clear benefit to the nation, in helping to prevent oil spills, but said that the statute has a number of "intolerable flaws," including a provision that could ultimately shut down the waterborne system that transports 30 percent of the nation's petroleum. However, he also predicted that key government decision makers, urged on by public opinion, will strike a balance that will assure both continued environmental protection and continued energy supply.

"The U.S. consumes 17 million barrels of oil a day, making us by far the world's number one energy consumer. While our citizens are demanding a higher standard of care to protect our environment, consider how those same citizens would react to any threat to diminish their lifestyle, which largely rests on the consumption of petroleum and petroleum products," Mr. Farrell said.

Mr. Farrell said that one of OPA 90's most ominous requirements is that marine insurers be held equally liable for potentially unlimited damages alongside an oil spiller. Because of this yet-to-be-enacted provision, the marine insurers have threatened to withhold insurance coverage for oil transport companies, a move that would shut down the waterborne petroleum supply system nationwide.

The American Waterways Operators is the 300-member company national trade association of the inland and coastal tug and barge industry.

New Rules To Minimize Vessel Capsizing Adopted By U.S. Coast Guard

The U.S. Coast Guard recently amended the stability design and operational regulations for inspected vessels.

The new rule amends the International Convention for the Safety of Life at Sea, 1974, as amended (SOLAS).

The new rule specifically deals with the stability of a passenger

vessel after it sustains damage, the use of draft marks and indicators, optional use of stability computers, periodic determination of lightship characteristics, the use of stability information and the closing of loading doors before going to sea.

The requirements will apply to all new and existing vessels, with certain exceptions. The rule is effective December 10, 1992.

For more information, contact: Ms. P.L. Carrigan at (202)267-2988.

Completion Of Dalian Dry Dock Delayed

Completion of the VLCC dry dock, currently under construction in Dalian, China, has been delayed until late 1994. The owners of the dry dock would like to have the first VLCC built for China. However, if VLCC orders do not materialize, it has been reported that New Dalian Shipyard will place bids for Suezmax and Capesize vessels.

Second Edition of Marine Insurance Book Available

The Insurance Institute of America is offering its second edition of "Ocean Marine Insurance."








The text consists of two volumes and includes topics such as cargo, hull, protection and indemnity; freight and loss of hire, and builders risk, as well as many others. For additional information, call (212) 644-2100.

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Frigate Is First Naval Ship To Enter Albania Since WWII

The frigate John Hall recently arrived in Tirana, Albania, and became the first U.S. naval ship to enter that country since World War II. Reports indicate that the captain of the frigate, **Donald Gabger**, met with the Albanian defense min-

ister aboard the vessel to discuss how the Navy could assist the Albanian military.

New Businesses At Port Of Tampa Add Over 300 Jobs To Bay Area

Three steamship lines, a grain exporter and a container facility are

included among some of the new business developments at the Port of Tampa over the past 12 months. Over 300 new jobs were created and an economic impact of about \$19 million was recorded during the first year of operations.

According to Tampa Port Authority statistics, there had been seven new business startups or expansions at the Port of Tampa from August 1991 through August 1992. A total of 335 jobs for the first year

of operation was expected and, if business and cargo projections are met, that number could climb to over 400.

The Port of Tampa is one of the largest tonnage ports in Florida and ranks among the top 10 tonnage ports in the U.S.

Economic impact to the area related to port activity, according to a University of South Florida study, is nearly \$6 billion annually and jobs created in the five county area of Tampa Bay total 68,000.

British Maritime Technology To Assist In Restoration Of Historic Ships

One of the world's leading architectural firms, British Maritime Technology, has been selected to provide technical assistance to San Francisco Maritime National Historical Park in the restoration of the world's largest fleet of historic ships at the Hyde Street Pier.

The company's services will be provided by a contract with its subsidiary, Designers and Planners, Inc., of Arlington, Va., which has been providing technical support to the U.S. Navy in the restoration of the frigate USS Constitution ("Old Ironsides") in Boston.

MarAd Approves Sale Of McDermott Lay Barges For Scrapping

The Maritime Administration (MarAd) has approved an application from McDermott Incorporated, New Orleans, La., for permission to sell McDermott Lay Barge No. 20 and McDermott Lay Barge No. 21 to Damet Marine B.V., Rotterdam, The Netherlands, for scrapping in Colombia.

MarAd's permission is required by section nine of the Shipping Act of 1916, as amended.

Nichols Brothers Receives Dive Cat Order

Nichols Brothers Boat Builders, Inc., Freeland, Wash., has received an order for an 80-foot by 30-foot catamaran Hawaiian dive boat from Alaska Dive Boats, Inc. The boat will be delivered by the end of this year, according to Nichols president, **Matt Nichols**.

The boat, designed by International Catamarans, Ltd., of Australia, will be based in Hawaii where it will support overnight diving expeditions. To be equipped with Luger engines, the vessel will have a top speed of 20 knots.

The yard is adding 5.5-foot, port- and starboard-sponsons and a 20-foot "plug" to lengthen the Blue Fin, while a 30-foot midsection is being inserted into the Nichols Brothers-built Gun-Mar.

For additional information about the services available from Nichols Brothers' boat yard,

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Maritime Reporter/Engineering News

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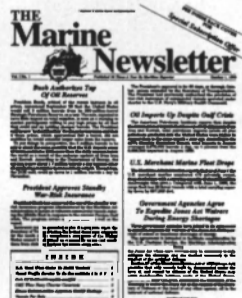
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ASNE Symposium Outlines The Maritime Industry's Role

The American Society of Naval Engineers' (ASNE) Fall 1992 Maritime Environmental Symposium, dubbed "Naval Engineering and the Environment: Strategy for the 1990's," will explore environmental challenges facing the world and how the maritime community should address them.

The two-day symposium, scheduled for October 15-16 at the McLean Hilton in Tyson's Corner, Va., is expected to attract more than 400 professionals representing various agencies in the Federal Government, environmental organizations and maritime industries, said an ASNE spokesperson.

More than 20 technical papers and presentations are scheduled to be delivered and discussed by national and international experts. Included along with the symposium will be a small number of exhibition booths.

Delivering the keynote address will be **Jacqueline E. Schafer**, Assistant Secretary of the Navy for Installations and Environment.

Day one of the symposium, Thursday, October 15, opens with a welcome from ASNE president **Jerome Fee** at 8:30 a.m. Ms. Schafer's keynote address follows. Two concurrent technical sessions start at 9:45 a.m.

Session 1A, "Information Management/Planning," will include information on the new oil response resource inventory system and environmental training and education. Session 1B, "Hazardous Material Control/Pollution Prevention-Shipboard," will cover hazardous material control and source reduction

under the PRIME program. Following these sessions, and subsequent sessions throughout the two-day event, is a 45-minute open forum with a discussion period.

Morning lectures on Thursday are to be followed by an hour lunch, an hour for visiting exhibits, and an hour plenary session on oil spill clean-up research. At 3 p.m. technical session two, again split into two sections, begins.

Session 2A, "Oceanography/Atmospheric Environmental Issues," will include information on naval engineering and climate change, surface discharge light and acoustic sources and an international dispersant usage summary. Session 2B, "Technical/Processes," features hi-volume freon distillation, hi-volume low pressure painting, and copper slag/steel grit blast recycling.

A banquet that evening, featuring Vice Adm. **Stanley Arthur**, USN vice chief of naval operations, will run from 7 to 10 p.m.

Technical session three starts at 8:30 a.m. on Friday, October 16. Both technical session three and four feature three concurrent sessions. Session 3A covers solid and hazardous waste management; 3B covers weapons systems/ordnance, including the Navy's munitions disposal program; and 3C covers defining and executing environmental compliance, and the benefits of proactive compliance. Following this is a plenary session on new environmental laws and regulations, and their impact, presented by **James Edward**.

Technical session four, the symposium's final one, starts at 1:30 p.m. Session 4A, "Hazardous Mate-

rial Control/Pollution Prevention-Ashore," offers a look at a methodology for review and revision of military specifications. Session 4B, "TQM/TQM," offers TQM principles and concepts to hazardous material management and control. Session 4C, "Waste Water," covers development of a novel shipboard wastewater treatment system.

The symposium closes with a roundtable on critical issues facing the maritime industry and community.

Registration is \$175 for ASNE members, \$235 for non-members. For more information, contact: ASNE, 1452 Duke Street, Alexandria, Va. 22314-3458. Telephone: (703) 836-7491.

SCHEDULE • OF • EVENTS

Thursday, October 15

7:30 a.m.: Registration Desk opens
8-8:30 a.m.: Morning coffee, exhibit hall
8:30-9:30 a.m.: Welcome speech, **Jerome Fee**, ASNE president; Keynote address, **Jacqueline Schafer**, assistant secretary of Navy (Grand Ballroom)
9:45 a.m.: *Technical Session 1A* (Fairfax Room): Information Management/Planning: "The New Oil Spill Response Resource Inventory System," and "Environmental Training and Education."
Technical Session 1B (McLean Room): Hazardous Material Control/Pollution Prevention-Shipboard: "Shipboard Hazardous Material Control and Management" and "Source Reduction Under the PRIME Program."
10:45-11:30 a.m.: Open forum and discussion period with presentation groups.
11:40 a.m.-1 p.m.: Luncheon, guest speaker Rear Adm. **Arthur E. Henn**, USCG.
1-2 p.m.: Exhibit visiting period
2-3 p.m.: Plenary Session: Oil Spill Clean-up Research: **Edward Tennyson**.
3-4 p.m.: *Session 2A* (Fairfax Room): Oceanography/Atmospheric Environmental Issues: "Naval Engineering and Climate Change," "Surface Discharge Light and Acoustic Sources" and "International Dispersant Usage Summary."
Session 2B (McLean Room): Technical/Processes: "Hi-volume Freon Distillation," "Hi-volume Low Pressure Painting" and "Copper Slag/Steel Grit Blast Recycling."
4-4:45 p.m.: Open forum and discussion period within presentation groups
7-10 p.m.: Banquet Dinner, speaker Vice Adm. **Stanley Arthur**, USN vice chief of Naval Operations.

Friday, October 16

8:30-9:30 a.m.: *Session 3A* (Fairfax Room): Solid/Hazardous Waste Management: "Solid

Waste Management in the Ship Repair Industry," "Hazardous Waste Management at Puget Sound Naval Shipyard" and "Shipboard Waste Management and Ship Design."

Session 3B (McLean Room): Weapons Systems/Ordnance: "Navy's Munitions Disposal Program" and "Life Cycle Environmental Analyses of Weapon Systems."

Session 3C (Franklin Sherman Amphitheater): Compliance: "Benefits of Proactive Compliance for Naval Facilities" and "Defining and Executing Environmental Compliance."

9:30-10:15 a.m.: Open forum and discussion period within presentation groups.

10:30-11:30 a.m.: Plenary Session: New Environmental Laws/Regulations and Their Impact; **James Edwards**.

11:45 a.m.-1:30 p.m.: Buffet Luncheon

1:30-2:30 p.m.: *Session 4A* (Fairfax Room): Hazardous Material Control/Pollution Prevention-Ashore: "Pollution Prevention: The Engineers Challenge" and "A Methodology for Review and Revision of Military Specifications."

Session 4B (McLean Room): TQM/TQM: "Pollution Prevention, Life Cycle Management and TQM" and "Application of TQM Principles and Concepts to Hazardous Material Management and Control."

Session 4C (Franklin Sherman Amphitheater): Waste Water: "Bilgewater Processing Prototype Unit," "Shipboard and Shoreside Applications and Micro-Diffused Ozone" and "Development of a Novel Shipboard wastewater Treatment System."

2:30-3:15 p.m.: Open forum and discussion period within presentation groups.

3:30-4:30 p.m.: Plenary Session: Roundtable on Critical Issues facing the Maritime Industry and Community; **Craig Alig**.

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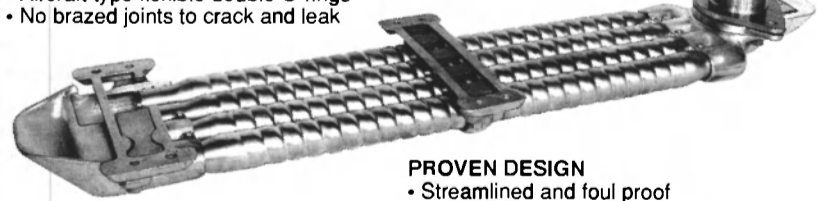
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Velocity Marine Delivers Custom Pontoon Workboat

Velocity Marine, Inc., Lakeshore, Miss., recently delivered a 20-foot by 9-foot pontoon workboat to a local sewerage lagoon contractor.



The sewerage lagoon work boat built by Velocity Marine.

Velocity received a request for a vessel that could place baffles and their 500-lbs concrete anchoring weights in a sewerage lagoon. Velocity designed a steel pontoon workboat that would straddle the baffles along with a two-foot by six-foot square opening in the deck for lowering the weights. To help move the weights, a small crane was fit-

ted to the boat and its handrails are removable. The steel channel deck bolts to the pontoons, allowing the craft to be disassembled and trucked to job sites and for its deck area to be customized as needed.

Velocity Marine also fabricates a complete line of work floats, pin barges and structural steel items.

To receive more information about the services available from Velocity Marine,

Circle 174 on Reader Service Card

Russian Research Subs Now Ready For Chartering

The two Russian deep-sea research submersibles, Mir 1 and Mir 2, which were used to survey the Titanic in 1991, have recently been classified by Germanischer Lloyd, enabling them to be chartered to international customers.

Both of the 25.6-foot long subs weigh 18.7 tons and worked at a depth of some 12,470 feet and under

a pressure of 380 bar to photograph and video the famous wreck. The two craft are capable of diving to depths greater than 19,685 feet.

Both subs were built in 1987 by the Finnish shipyard Rauma-Repola for the Institute of Oceanology of the Soviet Academy of Sciences.



The deep-sea research submersible Mir 1.

Merlin Teknologi Introduces New Clearwater Oily Water Separator

Merlin Teknologi of Kristiansand,

Norway, has introduced a new separator called the Clearwater which they claim will purify bilge and ballast water to less than five parts per million (ppm) or 0.0005 percent oil.

The Clearwater separators made for ship installations, cleaning from one to five cubic meters of bilge or ballast water per hour, work in two stages. A static pre-separator removes most of the oil before the water is pumped to a centrifugal section for final treatment. The only water outlet is the one for purified water on the centrifugal section. The automatic shut down valve is ppm-controlled.

As of January 1992, the company had reported that thirteen units had been ordered. The separator was designed and patented by Vindholmen Services, while further engineering and marketing are provided by Merlin Teknologi.

For further information about the Clearwater separator,

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Charterers Willing To Pay More For Better Ships

Recent reports indicate that ships built since 1980 have received slightly higher freight rates than older ships due to the better condition of the ships. Over the past three months statistics show that more modern tankers earned more than those built before 1980, and the lowest freight rates were paid for tankers built before 1975.

Worldscale rates for VLCCs sailing from the Middle East ranged from 35 for older ships to 45 for newer vessels. Freight rates recently rose between \$1,000 to \$2,000 per day and thus showing that freight rate differentials were more apparent.

At the same time tanker owners have reported that they are making progress in trying to end port charges which seem to penalize environmentally safe double-hull ships. Ships with double hulls have, on the whole, been paying higher port fees than single hull vessels.

C. Plath Offers Free Brochure On Navigat XII

Hamburg, German-based C. Plath, one of the world's largest manufacturers of marine electronics and navigation systems, is offering interested customers a new, four-page color brochure fully detailing the company's new microprocessor-controlled NAVIGAT XII/Mod.10 and Mod.7, gyrocompass systems.

The NAVIGAT XII is manufactured to International Maritime Organization and ISO standard.

Embodying the latest technology in a compact, light weight design, the NAVIGAT XII can be installed, the manufacturer assures, virtually anywhere aboard ship.

C. Plath incorporates a unique gyrosphere support method, relying on buoyancy to ensure north stabilization during short power failures.

The company reports that a three minute power failure to the gyrocompass results in no more than two degrees of deviation.

After power is restored, the NAVIGAT XII needs no settling period before returning to the correct heading.

The liquid damping system combined with use of twin rotors is said to prevent latitude error.

The brochure begins with the gyrocompass design and main features and continues to describe the system configuration, accessory equipment that can be utilized with the gyrocompass and all relevant system technical data through photographs and drawings.

To receive the free brochure on C. Plath's NAVIGAT XII gyrocompass,

Circle 177 on Reader Service Card

October, 1992

Robeson Named To MarAd Executive Reserve

Bruce Robeson, director of the Portland Ship Repair Yard (PSRY), was recently appointed to the Maritime Administration (MarAd) unit of the National Defense Executive Reserve. Mr. Robeson's appointment, signed by Secretary of Transportation, **Andrew H. Card, Jr.**, helps assure that local port man-

agement has the necessary authority to operate in the event of a national emergency.

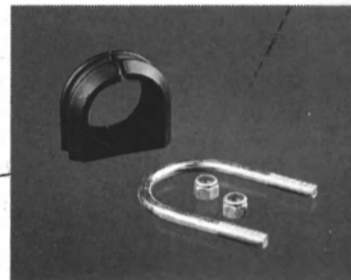
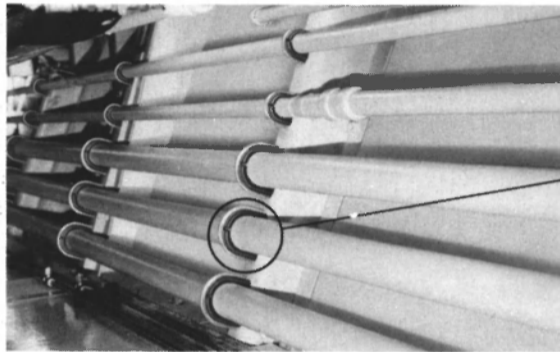
In addition, the port has also entered into a standby federal port controller service agreement with MarAd. In the event of a national emergency, the federal port controllers act as agents of the U.S. government for insuring the efficient and timely utilization of port services and facilities under U.S. government direction.

The appointment was confirmed by Capt. **Warren G. Leback**, Maritime Administrator, during his recent visit to PSRY to recognize Portland as a "Distinguished Port of Readiness." The port was recognized for the role in activating four Ready Reserve Force ships for action during operation Desert Storm.

The vessels were activated by Cascade General, Inc. and Northwest Marine, Inc., ship repair contractors at PSRY.

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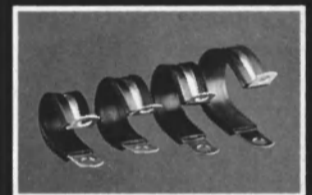
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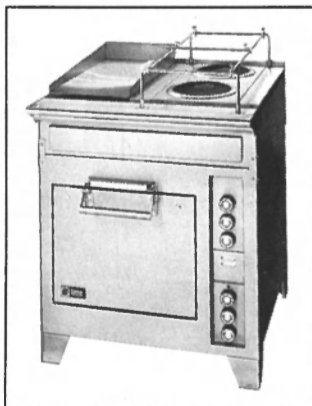
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New Blasting Method In Coast Guard Yard Results In Saving Dollars And The Environment

At the Coast Guard Yard in Curtis Bay, Md., using dust collectors to shroud an entire vessel and installing curtains at the ends of a drydock allowed the Coast Guard to collect about 20,000 pounds of dust from interior and exterior blasting which could have gone into the air. Ac-



The CGC Valiant is pictured under the shroud while in drydock undergoing renovation at the yard.

ording to **Fran Cohen**, the industrial hygienist at the yard, "The ultimate test of success for the new blasting procedures was we received zero complaints during blasting from the work force—a first for the yard!" The new procedure reportedly resulted in a total savings of \$126,000.

Abrasive blasting of cutters' surfaces is one of the first jobs that is completed when a vessel arrives at the yard for work. Then the vessel's interior and exterior surfaces must be prepared, which initially requires blasting of existing paints, rust, marine growth, etc. to the bare metal. The surfaces are then primed and painted.

The Sandblast Quality Action Team (QAT) faced the challenge of changing the yard's standard operating blasting procedures to new procedures. The new procedures could essentially reduce production scheduling delays and costs while improving trade sequencing, worker safety and the environment. The QAT focused on protecting the workers' health and the environment and then designed a production plan

which would increase productivity and allow workers of various trades to access the vessel during blasting.

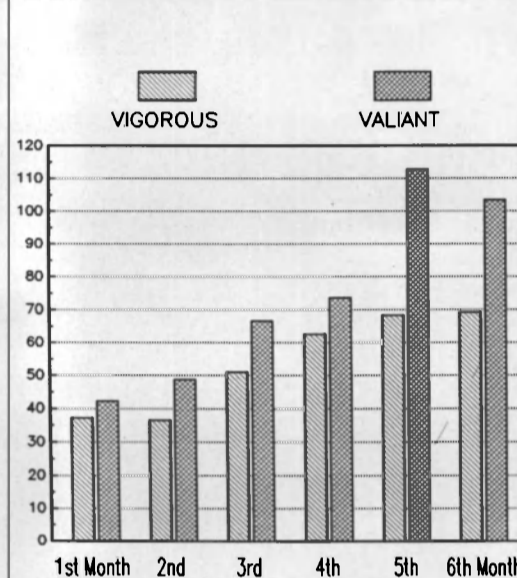
The QAT's analysis of the current and the desired state of blasting operations involved the comparison of data received from two vessels currently at the yard for extensive renovations. Tradesmen used the traditional blasting techniques on the Coast Guard Cutter (CGC) Vigorous as a baseline and tested the proposed ideas on the CGC Valiant.

In order to test the proposed ideas

dust collection units were rented and the vessel was completely shrouded in a translucent polypropylene fabric designed to catch the blasting grit. Then sectional curtains made of strips of clear vinyl were erected at the ends of the drydock to prevent grit from escaping during exterior blasting.

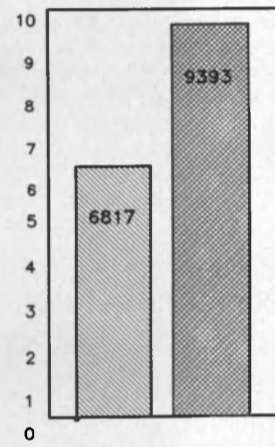
Once this was completed both blasters and painters were able to work on the vessel simultaneously, something which was unheard of before the new procedure was implemented.

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Maritime Reporter/Engineering News

Circle 319 on Reader Service Card

AHI Joins With Western Eagle, Extends Ship Repair Services

Arab Heavy Industries (AHI), a ship repair and fabrication yard in Ajman, United Arab Emirates, managed by Keppel Shipyard, Singapore, announced that it has extended its ship repair services to accommodate larger tonnages through an afloat repair division set up in collaboration with Western Eagle (Pte) Ltd, a member of the Singmarine Group.

The new division, known as AHI-Western Eagle, offers afloat and anchorage repair services to vessels ranging from VLCCs to containerships calling at the ports of the United Arab Emirates, including Jebel Ali and Port Rashid of Dubai, Sharjah Port and Fujairah.

The yard has facilities for dry-docking vessels up to 8,000 tons on a four-lane slipway and has been actively engaged in ship repair, shipbuilding and heavy fabrication.

It has recently completed several major projects including the conversion of the supply vessel Pacific Shield into a maintenance vessel for Swire Pacific Offshore; jumboization of an offshore workbarge, Subtec 2; and building of a multi-purpose barge for Dragomar International AG.

De-Bug Controls Microbes In Diesel Fuel

A fuel treatment purported to be environmentally safe while eliminating microbial growth in diesel fuel, has been developed in New Zealand by a consortium of fuel injection specialists, marine surveyors and engineers. The fuel treatment unit utilizes the technology of magnetic fields to break down the microbial growth to the extent that the debris can freely pass through the normal fuel filter elements and be burned in the engine.

The fuel treatment unit, offered under the brand name De-Bug, has been successfully marketed in Great Britain, New Zealand, Australia, Malaysia, UK, France and Japan since 1986. It is now being made available in the U.S. For free information on De-Bug from Mark Engineering,

Circle 176 on Reader Service Card

Hitachi Zosen Delivers Product Carrier To Liberian Owner

Hitachi Zosen Corp. recently delivered the 49,968-ton product carrier, Folegandros, for Folegandros Shipping Corporation of Liberia. The ship was built at the Maizuru Works division of Hitachi Zosen. It is the fourth ship of the Epoch Mark II type to be delivered by Hitachi Zosen for the transportation of oil

products. Epoch Mark II product carriers have a total double hull structure based on a completely new concept developed by Hitachi Zosen.

The ship features a simple structure so that the strength of each member can be determined accurately, making it possible to design a very safe ship. Transverse members have been omitted to make moving about the ship, facilitating repairs and performing inspections



Product carrier, Folegandros, built by Hitachi Zosen

easier. Cargo loading time is reported to be made shorter since there

are no projection within the cargo tanks. The ship is 600 feet long, 105.6 feet wide and has a draft of 39.4 feet. Power is provided by an HZ B&W 6S50MC type diesel engine, which gives the vessel a cruising speed of 15.39 knots.

For further information describing the services and facilities provided by Hitachi Zosen,

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The NAVIGAT X gyrocompass:

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Circle 305 on Reader Service Card

Hiab To Sell Effer Line Of Marine Cranes

Hiab Marine AB, Hudiksvall, Sweden, will begin marketing the Effer S.p.A., Castel Maggiore, Italy, line of 3 to 400-metric ton (3.3 to 440.9-short ton) marine cranes this fall through its international subsidiaries, distributors and dealers.

With an annual production of 11,000 units, Hiab is one of the



An 88.2-ton Effer marine crane operating from a Dutch work boat.

world's largest manufacturers of truck cranes in series production. The company will now discontinue its own production of marine cranes.

The new marketing arrangement means that Effer marine cranes will be supported by after sales service offices in more than 50 countries.

To receive additional information about Effer marine cranes or other Hiab Marine equipment,

Circle 151 on Reader Service Card

SeaShield System Chosen For Corrosion Protection At NY's La Guardia Airport

The New York Port Authority has selected the SeaShield System from Denso North America, Houston, Texas, for splash zone corrosion protection of steel pilings at La Guardia International Airport. Installation is currently underway and is expected to be completed later this year.

The project calls for the protection of more than 2,000 steel piles which support runways extending over the East River. The system replaces an epoxy coating that was no longer effective under harsh splash zone conditions.

SeaShield was chosen following a stringent two-year assessment program in which various methods of splash zone protection were evaluated under equivalent test conditions.

The SeaShield System consists of specially formulated primer, mastic, petrolatum-based tape and protective undercover, which provide a triple barrier that seals against the corrosive effects of air and water. The 100-mil HDPE undercover also protects against weathering and mechanical damage.

SeaShield provides protection to new or existing metal, concrete and wood structures on docks, offshore platforms and wharf facilities.

To receive additional free information on Denso North America's SeaShield System,

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Circle 333 on Reader Service Card

Litton Christens Its 18th Aegis Cruiser

The 18th of 19 Ticonderoga-class Aegis guided-missile cruisers being built by the Pascagoula, Miss.-based Ingalls Shipbuilding division of Litton was recently christened the U.S.S. Vella Gulf (CG-72) during a public ceremony at the shipyard.



The recently christened Aegis-cruiser U.S.S. Vella Gulf (CG-72).

The ceremony's principal speaker was Vice Adm. **William F. McCauley**, USN Ret., former Commander, Naval Surface Force, U.S. Atlantic Fleet. His wife, **Mary Ann McCauley**, sponsored the ship and broke the traditional bottle of champagne across its bow.

The 567-foot, 9,500-ton CG-72 is the second ship named to commemorate a South Pacific Ocean World War II naval battle fought in Vella Gulf on the nights of August 6-7,

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1943. During the engagement six U.S. destroyers fought four Japanese destroyers, sinking three and damaging the fourth without receiving any battle damage to themselves.

Ingalls, a lead shipbuilder for five of the latest classes of Navy surface combatants, has delivered 15 Aegis cruisers to the Navy and 42 other major warships since 1975, a major portion of the U.S. surface combatants delivered during this period.

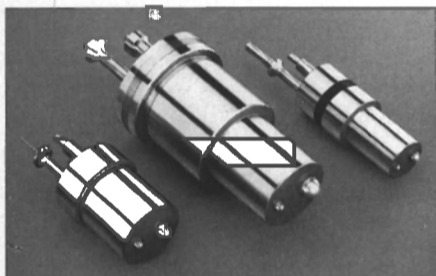
For additional free information about the services and facilities available from Litton's Ingalls shipyard,

Circle 179 on Reader Service Card

L'Orange Offers Line Of Fuel Injection Systems

L'Orange GmbH, of Stuttgart, Germany, offers the marine industry a line of engine fuel injection systems designed to fulfill the exacting requirements of high injection pressures, high efficiency and easy maintenance.

As well as optimizing conventional injection systems such as the monoelement, the company has also developed pilot injection and dual fuel systems. L'Orange attributes its design achievements to the utilization of state-of-the-art technology such as simulation models, computer assisted design (CAD) and advanced measuring techniques in the equipment development phase.



New dual fuel nozzle designed by L'Orange to optimize fuel consumption and engine performance.

Unique design features, high-precision manufacturing and stringent quality control measures combine to create L'Orange injection systems capable of continuous operation under pressures of up to 1,500 bar, short injection times and optimum fuel atomization, even while using low quality fuels.

This provides for the exact control of the combustion process and its optimization in terms of fuel consumption, pollutant emissions and engine mechanical and thermal stresses.

Also available from L'Orange are spare parts for the injection systems of major international engine manufacturers as well as testing and assembly equipment for injection system service and repairs.

For additional information on L'Orange's product line of fuel injection systems,

Circle 152 on Reader Service Card

Long Receives Raytheon's Technology Award

Peter Long, Autohelm research & design engineer, was recently awarded the 1992 Thomas L. Phillips Excellence-in-Technology Award.

The award is presented annually by the Lexington, Mass.-based Raytheon Company to a select group of outstanding engineers for accomplishments important to the

company's growth and continued success.

Mr. Long is credited with developing a detailed and cost effective design for the revolutionary range of marine instrumentation called, "SeaTalk™." This digital serial communications system allows all electronics within the Autohelm range to share information, therefore eliminating the need for duplicate sensors. It is at the heart of the line of Autohelm chartplotters, autopilots,

instrumentation and GPS.

In his current capacity, Mr. Long is responsible for all design study activity and engineering of new products. He has been employed by Autohelm, a Raytheon Marine Company, for the last eight years.

For additional free information on the extensive product lines offered by Autohelm and Raytheon Marine Company,

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- Safety equipment: Category II EPIRB; 20-man life raft; full PFDs; strobes and throwing rings; fire pump and hose station with 4" water pump for fire safety and special projects; Davit-launched 12 ft. Achilles with outboard cruises at 30 mph for off-vessel work; and 4 watertight bulkheads.
- Design specifications: Built to U.S.C.G. and ABS. Certified. Full set of drawings available.
- Complete Bridge of New Navigational Electronics, plus Global IIF Communications, Cellular Telephone, WeatherFax, Color TV (200 mi), and CD/Stereo System. Current FCC ship inspection.
- Access: Watertight hatches and doors throughout. Interior companionway from pilot house, over engine room, to aft cabin. Full standing headroom and walkways in engine room for excellent service accessibility.
- 30 Ton Cargo Hold: 18'x25" Foredeck. Fully equipped with stern bits and quadrant for deployment of towed arrays or vessel towing operations. Metal halide floodlights fore and aft.
- Electric generators for 220/110 VAC 50/60 HZ 1 Ph.; 24 VDC, 280A; 12 DC.
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Performance Data:

- Cruising speed: 10 knots @ 1600 rpm.
- Fuel consumption: 9 gph @ 1600 rpm.
- Fuel capacity: 1000 gal.
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Propulsion Update

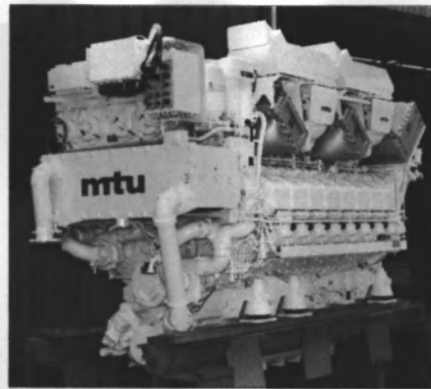
MTU Reports On Engine Performance

MTU Motoren-und Turbinen-Union Friedrichshafen GmbH, a company of Deutsche Aerospace AG, gave performance updates recently on its its lower and medium power range engines.

The company, apart from its 735 kW (1,000 hp) 12-cylinder, Series 183 engine, presented a Series 396 16-cylinder version engine that has proven a hit, especially in the fast ferry market. Last April the 1,000th

16V 396 series engine was supplied to the Italian Rodriquez yard for installation in a hydrofoil.

The 16-cylinder version of the 396 series engine has been in production at MTU since 1982, and since the beginning, has been intended for use in the high-performance market. Strong power concentration, favorable fuel consumption and emission values and operational availability have all factored



The 16-cylinder Series 595 engine from MTU

into the engines success in the market. MTU's 396 series, and the 16V 396 engine in particular, represents a technologically mature product which sports a global market.

With its later introduction, the

595 series, MTU presents original running-gear components of the field test engine that has seen service on the ferry "Deutschland" since the fall of 1990. The 12V 595 engine had achieved 7,500 operating hours by July 1992.

Eighty-three percent of the engine's operational power was utilized while it was run during up to 95 percent of the ship's monthly operating time. The longterm trial confirmed the engine's technical quality for the manufacturer, as the running-gear components (cylinder head, piston, conrod and conrod bearing) showed only minimal wear. As a result, the TBO of Series 595 engines for ferry application was raised to 24,000 hours.

For more information on MTU,

Circle 130 on Reader Service Card



An artist's drawing of a Futura class tanker fitted with a bow cargo loading station.

Kvaerner Masa-Yards Delivers Double-Hulled Tanker To Neste

The 95,000-dwt M/T Futura, a double-hulled special tanker, was recently delivered to its owner Neste Oy, the Finnish state-owned oil company, at Kvaerner Masa-Yard's Turku New Shipyard, Finland.

The 790.7-foot vessel has a breadth of 131.2 feet and a design draft of 45.9 feet. She was specially built to import crude and oil products from the North Sea area to Finland, but is also equipped for worldwide operation. The ship represents the latest development in tanker technology and oil transport safety and is one of the few tankers with ice strengthening in this size class. The vessel has accommodations for 18 crew plus two spare cabins.

The M/T Futura is designed to allow for the future installation of a cargo loading station in the bow, which would make it possible to take crude oil directly from the North Sea offshore loading stations. It is already equipped with two efficient bow thrusters, one stern thruster and a high lift rudder. A second vessel of the Futura class that was recently launched and due for delivery in January 1993, the

Natura, will also be of this type and have a Dynamic Positioning System fitted.

The ship's cargo area, divided into seven cargo and two slop tanks, is protected by the tanker's double bottom and double side construction, which will help to prevent oil spillage in the event of an accident and reduce tank heating requirements in very cold waters. The cargo system consists of seven Kvaerner Eureka CL250N2 electrical deepwell pumps, rated at 41,318 cubic feet per hour at 130 MLC, and driven by frequency-controlled electric motors. Although this pump system has already been fitted on product tankers, the M/T Futura will be the first crude oil tanker to receive the installation. The cargo pump control and monitoring system and the frequency converters were delivered by ABB Marine, Helsinki.

Instead of the conventional installation of one slow diesel the vessel has two 5,430-kW Wartsila Vasa 6R46 medium speed diesels connected by Schelde reduction gears to a single controllable pitch KaMeWa propeller, driving the ship

at a service speed of 14 knots. The Natura will be equipped with the same propulsion plant arrangement.

For more information about the services available from Kvaerner Masa-Yards,

Circle 13 on Reader Service Card

M/T FUTURA Equipment List

Main & Auxiliary engines.....	Wartsila
Reduction gear.....	Royal Schelde
Propeller, Thrusters.....	KaMeWa
Steering gear.....	Porsgrunn
Rudder.....	Becker
Alternators, Shaft generator.....	Leroy Somer
Emergency alternator.....	MAN/Stamford
Boilers, Exhaust gas boilers.....	Sunrod
Cargo pumps & Ballast pumps.....	Kvaerner-Eureka
Frequency converters.....	A BB Marine
Ballast ejectors.....	Golar
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Compasses.....	Anschutz
Integrated Nav System.....	Selesmar
Autopilot.....	Kockum
Echo Sounder.....	Simrad
Doppler Speed Log.....	Atlas
GPS/Loran.....	Northstar
Decca.....	Philips
Radio direction finder, Omega, All radio equipment.....	JRC

Marine Accommodations Distributes BU-IL Joiner Systems

Marine Accommodations, Inc. of Jacksonville, Fla., has completed its second year as the North American and European distributor/agent of the quality "BIP" joiner system manufactured by the BU-IL Indus-

tries, Ltd., the largest manufacturer in the world of (rockwool core) joiner bulkheads and ceiling panels, doors, floating floor and pre-fab toilet/shower units. The following companies have been serviced by Marine Accommodations: Morton Salt, Inagua Transport, Windjammer Cruises, International Maritime Resources, Washburn & Doughty Associates, State of Maine DOT, Delta Marine, General Marine Industries, Atlantic Marine, CSE Marine Services, Port Weller Dry Dock, Premier Cruise Lines, Gregg's Marine Interiors, Marinam, Fram S.A., Koppass's A/S, Imcoser, Pictou Ind (Canada) and Oliver Design (Spain).

For free information on Marine Accommodations,

Circle 106 on Reader Service Card

Two New Ships Cause Increase In Net Income For Royal Caribbean

The recent additions of two new cruise ships to the Royal Caribbean Cruise Line fleet, the Monarch of the Seas in November 1991 and the Majesty of the Seas in April 1992, plus a third vessel returning to operations, resulted in a significant increase in the company's net income.

In the quarter ending July 3rd, Royal Caribbean saw its passenger count increase to 209,397, or 30 percent, and the cruise line reported a net income of \$17.7 million on revenue of \$255.4 million, contrasting with a net loss of \$5.3 million on revenue of \$172.4 million last year. Operating income increased more than five times to \$35.3 million from \$6.2 million.

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 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) 477-6700.

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Ervin Industries, Inc., 3893 Research Park Drive, P.O. Box 1168, Ann Arbor, MI 48106-1668
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Maritime Services Corp., 3457 Guignard Drive, Hood River, OR 97031
Stal Refrigeration AB, Butangsgatan 16, S-601 87 Norrköping, SWEDEN
- BALLAST**
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Genstar Stone Products, Executive Plaza IV, Hunt Valley, MD 21031
Mineral Research & Recovery Inc., P.O. Box 986, Sonoita, AZ 85637
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Maxon, South Boundary Street, P.O. Box 69, Tell City, IN 47586
Zidell Marine Corp., 3121 SW Moody Ave., Portland, OR 97201
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Syntech Inc., FRP div. 700 Terrace Lane, Paducah, KY 42003
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Diversified Marine Brokerage, 1201 Northern Blvd., Manhasset, NY 11030
Jack Faulkner, 2419 Caddy Lane, P.O. Box 371, Flossmoor, IL 60422
Mowbray's Tug & Barge Sales Corp., 35 De Hart St., Morristown, NJ 07960
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MTU of North America, 10450 Corporate Dr., Houston, TX 77478
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Beard Industries Inc., P.O. Box 31115, Shreveport LA 71130
Tranter Inc, Old Burk Road, Wichita Falls, TX 76307
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A/S Vesta, P.O. Box 548, DK-9100 Aalborg, DENMARK U.S. Agent: Aalborg Ciserov Houston, Inc., P.O. Box 906, Angleton TX 77515
- INSULATION**
Soundcoat Company, 1 Burt Drive, Deer Park, NY 11729
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North American Marine Jet, P.O. Box 1232, Benton, AR 72015
- JOINER—Wateright Door—Paneling—Ceiling System—Decking**
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The L.C. Doane Co., P.O. Box 975, Essex, CT 06426
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Phoenix Products, 6161 N 64th St., Milwaukee WI 53218
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ADVERTISER	EQUIPMENT /SERVICE	CIRCLE NO.	ADVERTISER	EQUIPMENT /SERVICE	CIRCLE NO.
AALBORG CISERV	INCINERATORS & HEATERS	291	KAMEWA AB	PROPULSION EQUIPMENT	301
ACR ELECTRONICS	EPIRBs	200	KLATTENBERG	SPARE PARTS/REPAIRS	242
ALDEN ELECTRONICS	ELECTRONICS	201	LANG MANUFACTURING	MARINE COOKING EQUIPMENT	243
ALLIED SIGNAL INC.	ROPES/FIBERS	202	LEEVA	SHIPBUILDING/REPAIRS	244
AMERICAN BUREAU OF SHIPPING	SHIP CERTIFICATION	203	LESLIE CONTROLS	VALVES/CONTROLS	245
AMERICAN MANUFACTURING	ROPE	204	MACGREGOR NAVIRE	CRANES/ELEVATORS/CARGO ACCESSORIES	249
AMERICAN PIPING PRODUCTS	LINE BLINDS	293	MACKAY COMMUNICATIONS	NAVIGATION/COMMUNICATION	311
AMERON MARINE COATINGS	EPOXY COATINGS	205	MAN B&W	DIESEL ENGINES	326
AQUAMASTER-RAUMA	AZIMUTHING EQUIPMENT	300	MAPECO/WALZ/KRENZER	SHAFT COUPLINGS/SLIDING DOORS	308
ARCHWAY MARINE LIGHTING	LIGHTING EQUIPMENT	336	MARINE ACCOMODATIONS	INTERIORS	250
ARKHON CORPORATION	SHIP MANAGEMENT	288	MARKEY MACHINERY	FINEST DECK MACHINERY	333
ARNESSEN CORPORATION	CHIPPING HAMMERS	323	MCA ENGINEERS	DIESEL ENGINE ANALYSIS	246
ARNOLD, W.B.	MARINE EQUIPMENT/SPARE PARTS	302	MC ELROY	DECK EQUIPMENT	247
ASEA BOVERI BROWN	ELECTRIC PROPULSION	298	MEGAPULSE	NAVIGATION RECEIVERS	251
ASTILLEROS ESPANOLAS	SHIPBUILDING	206	MILLIGAN MARINE SUPPLY	CHAINS	344
ATLANTIC MARINE	SHIPBUILDING	334	MMC INTERNATIONAL	VAPOR VALVES	248
AUTOFLOW	AIR MANIFOLD	296	MOBIL OIL	MARINE LUBRICANTS	252
AUTRONICA MARINE AB	FIRE DETECTION SYSTEMS	207	MURPHY, FRANK W.	BILGE LEVEL SYSTEM	253
BEARD INDUSTRIES	MAXIM DESALINATORS	208	NAPVO	"NAPVO 93"	341
BENDER SHIPBUILDING	SHIPBUILDING	304	NATIONAL FISHERMAN EXPOSITIONS	EXPOSITION	254
BETHSHIP	SHIPBUILDING/REPAIR	209	NAVAL ELECTRONICS	MARINE ANTENNAS	255
BML BUSINESS MEETINGS LTD	CONFERENCE & EXHIBITION	210	NEI SYNCHROLIFT	SHIP LIFT SYSTEMS	256
BOATLIFE	MARINE SEALANTS	343	NEW ENGLAND TRAWLER	DECK MACHINERY	297
JERED BROWN BROTHERS	SANITATION DEVICES	211	NEWPORT NEWS SHIPBUILDING	SHIPBUILDING & REPAIR	318
CENTERLINE POWER	DIESEL FUEL INJECTION	212	NORWEGIAN TELECOM	SATELLITE COMMUNICATIONS	257
CENTRICO	OIL PURIFICATION SYSTEMS	303	OFFSHORE INDUSTRIES	CRANES	335
CHANNEL WATERBLASTING	SHIP/BARGE/TANK CLEANING	213	OFFSHORE SYSTEMS INT'L	ELECTRONIC NAVIGATION SYSTEM	258
CLA-VAL	VALVES	214	ORKOT ENGINEERING	PLASTIC COMPOSITES	259
COMSAT MARITIME SERVICES	SATELLITE COMMUNICATIONS	310	PETERSEN BUILDERS	SHIP/BOAT BUILDING	330
CORNELL-CARR	PORT LIGHTS	338	PHOENIX PRODUCTS	LIGHTING EQUIPMENT	337
COSPOLICH	REFRIGERATION	305	POLARMARINE	TANK CLEANING EQUIPMENT	319
C. PLATH	STEERING SYSTEM	309	PORT AUTHORITY OF NY & NJ	FERRIES	316
CREATIVE SYSTEMS	HYDROSTATICS SOFTWARE	345	PORT OF PORTLAND	SHIPBUILDING /REPAIR	260
CUNNINGHAM MARINE	MARINE HYDRAULICS	317	RESEARCH PRODUCTS/BLANKENSHIP	ELECTRIC TOILET	322
DEL GAVIO	MARINE HYDRAULICS	216	ROBERTSON MARINE SYSTEMS	MARINE ELECTRONICS	261
DIVERSIFIEDTECHNOLOGIES	NAVAL ARCHITECTURE/MARINE ENG.	217	ROWE BUMPERS	MARINE FENDERING	262
L.C.DOANE	LIGHTING EQUIPMENT	218	SAAB MARINE ELECTRONICS	TANK LEVEL CONTROLS	299
DRESSER PUMP-PUMPS/FIREFIGHTING EQUIPMENT/BOWTHRUSTERS		219	SASAKURA ENGINEERING	FRESH WATER GENERATOR	325
ECOMARINE	ENVIRONMENTAL SERVICES	346	SCALE REPRODUCTIONS	SCALE MODELS	263
EDO CORPORATION	NAVIGATION EQUIPMENT	220	SCANDINAVIAN MICRO SYSTEMS	SCAN DISPLAY	264
ELECTRONIC MARINE SYSTEMS	NAVIGATION COMMUNICATIONS	312	SCHAT WATERCRAFT INC.	SURVIVAL EQUIPMENT	331
ELTECH INTERNATIONAL	MARINE SANITATION DEVICE	221	SEAFAB	SHIPBUILDING	265
ENVIROVAC	MARINE SANITATION SYSTEMS	222	SEA MEA INC	CARGO ACCESS EQUIPMENT	340
ESGARD	BALLAST/TANK COATINGS	223	SEA RECOVERY	REVERSE OSMOSIS DESALINATION SYSTEM	287
EUROPEAN SHIP REPAIR	SHIP REPAIR	342	SEAWARD INTERNATIONAL	SEAGUARD FENDERS	266
FAST SYSTEMS	OIL & WATER SEPARATORS/SANITATION	289	SHELL OIL	MARINE LUBRICANTS	328
FISHERMAN'S WHOLESALE MARINE	MARINE EQUIPMENT	306	SIEMENS ELECTRIC	AUTOMATION/ELECTRICAL EQUIPMENT	332
STANLEY G. FLAGG	VALVES & FITTINGS	284	SKARPOENORD INTERNATIONAL	MONITORING CONTROL SYSTEM	267
FLEET GUARD	FILTRATION SYSTEMS	225	STACEY FETTEROLF	VALVES	268
FROTRONICS	NAVIGATION/COMUNICATIONS	324	STAL REFRIGERATION	REFRIGERATION	285
FUNDITESA SANJURJO	MARINE DIESEL SPARE PARTS	226	STEARNS MANUFACTURING	WEATHER GEAR	269
FURUNO	NAVIGATION/COMMUNICATION	227	TEXACO	MARINE OIL	307
L.F. GAUBERT	ELECTRICAL CABLES	228	TEXTRON MARINE	SES MULTIPURPOSE VESSEL CONSTRUCTION	294
GAYLORD INDUSTRIES	GALLEY EXHAUST HOODS	320	T. GORDON BEARINGS	THOR-LUBE BEARINGS	329
GENSTAR STONE PRODUCTS	BALLAST CRETE	229	THRUSTMASTER OF TEXAS	OUTBOARD PROPULSION UNITS	270
GIBBS & COX	NAVAL ARCHITECTS/MARINE ENGINEERS	230	TODD PACIFIC	SHIPBUILDERS/REPAIR	271
GMG SYSTEMS	ENVIRONMENTAL ENGINEERED PACKAGE SYSTEM	314	TRANTR INC	HEAT EXCHANGERS	272
PAUL GRINBERG	MARINE RESEARCH FACILITY	313	TRIMBLE NAVIGATION	GLOBAL POSITIONING SYSTEM	273
HAGGLUNDS, INC	CRANES	292	TRIMBLE NAVIGATION	GLOBAL POSITIONING SYSTEM	274
HAGGLUNDS DENNISON	HYDRAULIC PUMPS	321	TRINITY MARINE	SHIPBUILDING	275
HARBORMASTER MARINE	OUTBOARD DRIVE PROPULSION SYSTEM	232	TURNBULL	ULTRALIGHT TRANSIT SEATING	327
HEMPEL COATINGS	HEMUCRYL WATER-BORNE PAINTS	224	U.E. SYSTEMS	LEVEL DETECTOR	315
HENSCHEL	SHIPBOARD ANNOUNCING SYSTEMS	233	USON MARKETING AB	WASTE TREATMENT SYSTEMS	286
HOUSTON SHIP REPAIR	SHIP REPAIR	234	VICMAR	SMOKE EMISSION REDUCTION SYSTEM	276
IDB AERO NAUTICAL	SATELLITE COMMUNICATIONS	235	VIKING FENDER	MARINE FENDERS	277
IMA	MARKETING INFORMATION	339	W.A. OFFSHORE EQUIPMENT	TANK VENT CHECK VALES	290
IMO INDUSTRIES	INDICATORS	236	WALTER MACHINE	KEEL COOLERS	295
INVENTORY LOCATOR SERVICES	PART LOCATORS	237	WARTSILA DIESEL OY	DIESEL ENGINES	278
JAMESTOWN METAL MARINE	JOINERS	215	WAUKESHA BEARINGS	TANK VENT PRODUCTS	279
JEAMAR WINCHES	WINCHES	238	WESTERN MACHINERWORKS	HYDRAULIC TOW PINS	280
JIMS PUMP	PUMP REPAIR	239	WILLARD MARINE	RIGID INFLATABLE BOATS	281
KGW SCHWERINER MASCHINENBAU	DECK MACHINERY	240	G.J.WORTELBOER	ANCHORS/ CHAINS	282
KAHLENBERG BROTHERS	HORNS	241	ZSI	CLAMPING SYSTEMS	283
B.F.GOODRICH	BEARINGS	350	WILLEM POT	LIFEBOAT REPAIR	348

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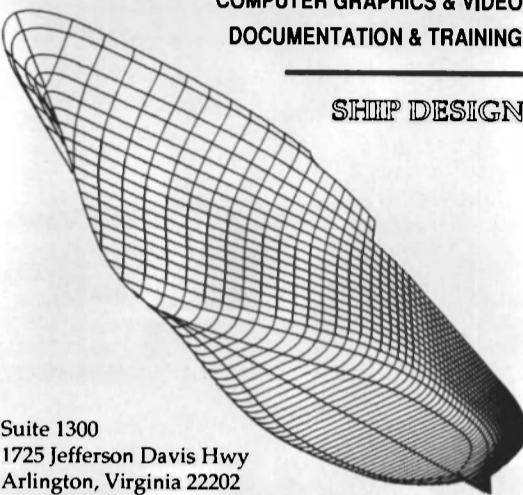
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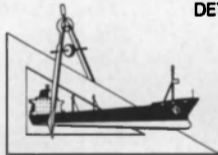
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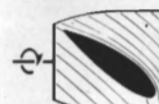
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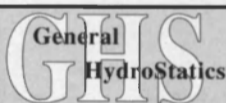
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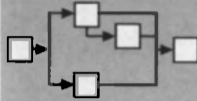
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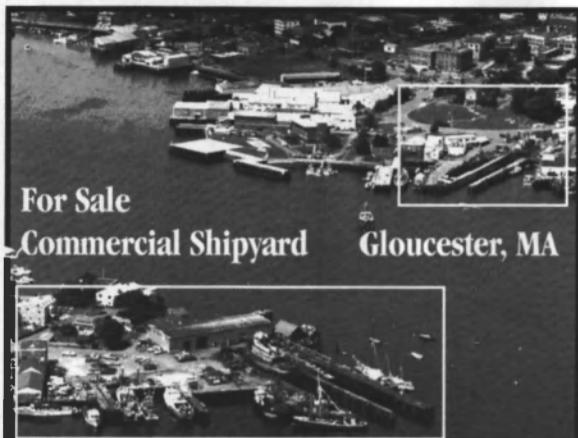
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Japanese To Set Up First Philippine Scrapping Yard

Tsuneishi Shipbuilding Company, Hiroshima, Japan, is proceeding with its plan to build the first major ship demolition facility in the Philippines. The yard will have a 500,000-dwt a year scrapping capacity and be located in Cebu, the Philippines.

Tsuneishi will be the first major Japanese shipbuilder to venture into ship scrapping and recycling work on its own account. The company believes it can break-even by diversifying into the steel manufacturing and electric power generation business. Currently, there is a strong worldwide demand for increased scrapping ca-

capacity, particularly in the Far East region.

With Yen500 million (\$4 million) in capital, the project will be undertaken by a Cebu-based joint venture involving Tsuneishi Research & Development (TRD) and Aboitiz, a Cebu, Philippine company. Initially, some 320 people will be employed at breaking and recycling a planned eight 60,000-dwt bulk carriers a year, with work beginning by summer 1993. Annual production would be valued at Yen2.7 billion (\$21.2 million).

Marine Drilling Companies Requests MarAd's OK On Sale Of Drill Rig

Marine Drilling Companies, Inc. of Sugar Land, Texas, has filed an application with the U.S. Maritime Administration (MarAd) for permission to sell and transfer to Liberian registry the 4,382-gt drill rig Marine 8. The company is required to obtain MarAd's permission for the transaction under section 9 of the Shipping Act of 1916, as amended.

The proposed purchaser of the drill rig is Production Partner, Inc., Monrovia, Liberia. The vessel was built in Ingleside, Texas, in 1978 and would be used in drilling and production work in international waters.

U.S. Ships Will Continue To Carry Japanese Cars Under New Contracts

Japanese automakers have renewed their contracts with three American shipping lines that together carried 4.3 percent of Japan's total car exports to the U.S. in 1991.

Because of the growing trade imbalance between the two countries, Japan was asked by the U.S. government in the mid-80's to ship some of its cars on U.S.-flag vessels.

Secaucus, N.J.-based Marine Transport Lines, Inc. (MTL) has signed another five-year contract with Nissan Motor Corporation for the continued service of the 35,700-gt pure car carrier (PCC) Marine Reliance.

Two ships belonging to Central Gulf Lines, New Orleans, also have contracts with the Japanese. The 38,659-gt PCC Green Bay carries vehicles for Honda Motor Company and the 46,950-gt PCC Green Lake for Toyota Motor Corporation. Central Gulf's contract with Honda was signed in 1987 and has been extended.

Toyota also has a contract until 1994 with Overseas Shipholding Group (OSG) Bulk Ships, New York, to carry approximately 5,000 cars on the 48,017-gt PCC Overseas Joyce.

Allies Of Ship Gaming Bill Fight California Ban

Supporters of gaming on cruise ships between Californian ports are continuing their efforts to oppose a state ban by convincing lawmakers that gaming at sea equates to more jobs and a boost to California's ailing economy.

Congress recently passed legislation allowing U.S. cruise ships to offer gaming for the first time in 40 years in an attempt to rejuvenate the country's shipyards. The law also ended criticism that foreign ship operators had an unfair advantage by having no such gaming restrictions.

However, citing its concern over the possible involvement of organized crime in the industry, California enacted a provision in the law that gives each state the right to ban gaming on interstate voyages.

State Governor **Pete Wilson** had asked the **Bush** Administration to lift the ban on foreign-flag ships carrying passengers between U.S. ports, saying it would create more jobs and help the state's economy.

However, proponents of shipboard gaming believe that California's ban will instead reduce the number of port calls made by passenger vessels and are hoping to amend the ban before it becomes effective in January 1993.

Ninth Annual IPPPM, Set For New Orleans From March 15-26 1993

Senior port officials and maritime industry executives that are interested in learning the latest port operation, planning and management techniques can participate in the ninth annual International Program for Port Planning and Management (IPPPM), to be held in New Orleans, La., from March 15 to March 26, 1993.

IPPPM is sponsored by the board of commissioners of the Port of New Orleans, the World Trade Center of New Orleans, the Louisiana State University National Ports and Waterways Institute and the University of New Orleans.

"Two weeks of lectures, group discussions and field investigations sharpen participants' practical skills and strengthen their conceptual understanding of all facets of port planning and management," says IPPPM director **Richard O. Baumbach Jr.**, "and the Port of New Orleans serves as an ideal laboratory for this training program."

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For more information, contact: **Richard O. Baumbach Jr.**; Director, IPPPM; CUPA/LUTAC; University of New Orleans; New Orleans, LA 70148; U.S.A. Or call: (504) 286-6519; fax: (504) 286-6272.

Dr. Martinez Appointed Director Of DOT's New Office Of Intermodalism

Dr. Robert E. Martinez was appointed by the Secretary of Transportation **Andrew H. Card Jr.** as the director of the department's new office of intermodalism. President **Bush** has also nominated **Dr. Martinez** as associate deputy secretary of transportation.

Dr. Martinez has been deputy administrator of the Department of Transportation's (DOT's) Maritime Administration since April 1990. He has also served as one of three members of the Maritime Subsidy Board.

The Office of Intermodalism was established as a result of language in the Intermodal Surface Transportation Efficiency Act of 1991, which calls for the development of a national intermodal transportation system within DOT.

Dr. Martinez is responsible for coordinating the federal intermodal transportation policy and initiating policies to promote efficient intermodal transportation, such as: developing marketing strategies, conducting and sharing research and development of new systems, administering seed grants to the states to develop "model" intermodal plans and projects and eliminating unnecessary regulatory barriers that stand in the way of an intermodal system.

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