MARITIME REPORTER
AND
ENGINEERING NEWS

AWO ANNUAL

Cedar Island Enters Service In N.C.

- **Washington D.C.'s New Agenda: What It Means To The Towing & Barge Industry**
- **Marine Electronics Yearbook: U.S. Coast Guard DGPS Update**
- **Safety At Sea: New Regulations, Equipment Solutions Coming Soon**

Riverboat gaming update • World orderbook statistics • Shipping '95 preview

MARCH 1995

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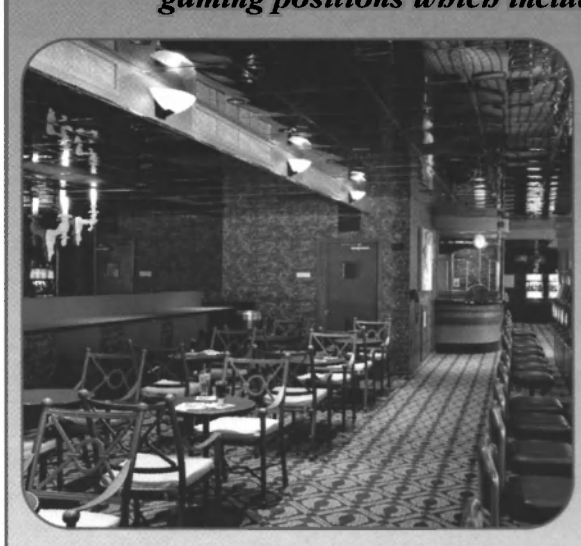

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ON THE COVER

Featured on this month's cover is the M/V *Mr. Mel.* Swiftships Inc. of Morgan City, La. delivered the crew/supply vessel — reportedly the first waterjet powered crew/supply vessel in the U.S. — to Diamond Services Corp. (*photo credit: Skeets Photo-Service, Patterson, La.*). The boat is powered by four Detroit Diesel main engines, which drive four Hamilton jet drives. See related stories on pages 19 and 29. The top inset photo is of the *Cedar Island*, a Caterpillar-powered ferry for the state of North Carolina built by Moss Point Marine of the Trinity Marine Group (see story, page 16).

MARITIME REPORTER AND ENGINEERING NEWS

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

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.

Publishers are not responsible for the safekeeping or return of editorial material.

Member BPA INTERNATIONAL
Business Publications Audit of Circulation, Inc.

ISSN-0025-3448
No. 3 Volume 57 Founder: John J. O'Malley 1905-1980

MARITIME REPORTER
AND ENGINEERING NEWS
118 E. 25th St.
New York, N.Y. 10010
tel: (212) 477-6700;
fax: (212) 254-6271

Publishers: Charles P. O'Malley, John E. O'Malley, John C. O'Malley

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Senior Editor: Dan Maniotis
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U. S. Gulf States — MR. JAMES N. McCLINTOCK, Simpson Corporate Park, Indigo House, Suite A, 206 South Tyler Street, Covington, La. 70433, Telephone: (504) 893-5099, Telefax: (504) 893-5024

Scandinavia — MR. STEPHAN R. G. ORN, AB Stephan R.G. Orn, Box 184, S-27100 Ystad, Sweden, Telephone: 46 411-18400, Telefax: 46 411 10531

United Kingdom — MR.MICHAEL J. DAMSELL, Euromedia Ltd., P.O. Box 122, Hayward's Heath, West Sussex RH16 1YF, ENGLAND, Telephone:0444 417360, Telefax:0444 417360

Italy — Ediconsult Internazionale, Piazza Fontane Marose, 3-16123 Genova, Italy, Telephone: (010) 583684, Telefax: (010) 566578, Telex: 281197 EDINT I

Korea — MR.C.H. PARK, Far East Marketing Inc., Rm. 508, Chungmu Building, 10, 2-ka, Pil-dong, Chung ku. Seoul, Korea, Telephone: (02) 265 - 5043, Telefax: (02) 277 - 5148

Subscriptions: One Full year (12 issues) $18.00 in U.S.; Outside of U.S. $96.00 including postage & handling. For subscription information contact Dale Barnett, fax: (212) 254-6271.

DOT Reorganizes

Ten Agencies Consolidate Into Three

In a bold and comprehensive reorganization designed to streamline operations, increase efficiency and upgrade service to customers, Secretary of Transportation **Federico Peña** said that the Department of Transportation's 10 agencies will be consolidated into three: the Federal Aviation Administration (FAA), U.S. Coast Guard and a new Intermodal Transportation Administration.

The decision follows more than a month of intense departmental analysis and consultation with Congress, state and local authorities and the public on whether to consolidate along the lines just announced, or alternatively, to divide the department according to its three missions of safety, infrastructure investment and Coast Guard.

Secretary **Peña** said the consolidation was chosen because it fosters intermodalism, streamlines programs and eliminates duplicative functions; while also preserving customer linkages, strengthening connections between safety programs, infrastructure funding and construction activities, and supporting

the flexible funding programs the department is developing. The Secretary noted that over the last twenty years, the DOT has operated as a giant but unwieldy holding company, while numerous plans for consolidation have been pondered and not implemented. Currently, the DOT comprises 10 individual agencies with jurisdiction over highways, mass transit, traffic safety, aviation, passenger and freight rail, maritime shipping, pipelines, transportation statistics, and waterway safety and national defense.

Under the restructuring plan:

- The Intermodal Transportation Administration will combine the functions of a majority of the agencies in a single dynamic, streamlined and fully integrated agency.
- The FAA will maintain jurisdiction over aviation safety, regulation and certification, while its air traffic control (ATC) operations will become an independent governmental corporation.
- The Coast Guard will maintain authority over maritime navigation, communication and safety standards.

"A single intermodal administration will provide enormous benefits for our customers," said Mr. **Peña**. "Additionally, by keeping safety and infrastructure components together we will be able to assure that safety is factored into all of our investment and funding decisions."

By consolidating these agencies into three, a variety of efficiencies and cost savings will be realized, helping the department to reach budget cutback targets. These include:

- Combining and streamlining numerous functions such as procurement, administration and personnel and training.
- Consolidating regional structures and offices to maximize "one-stop shopping" and facilitating better relationships with state and local governments. Currently, there are different field structures for each of the department's operating agencies.
- Unifying activities within the department such as highway safety and hazardous materials transportation, both currently shared by three different agencies.

The agencies to be consolidated in the Intermodal Transportation Administration currently direct 94 percent of the department's national infrastructure investments. This structure will facilitate the merger of the approximately 30 grant, loan and subsidy programs announced in December.

Secretary **Peña** also affirmed that the Administration will move forward with a formal legislative proposal to recast the ATC operations of the FAA as an independent governmental corporation. Under the Secretary's leadership to date, the DOT has already eliminated 4,000 positions, for an annual savings of $250 million. Under the plan, total current DOT employment of approximately 105,000 will be cut nearly 50 percent through the transfer off government payroll of 40,000 positions — chiefly through the corporatization of ATC — and through elimination of more than 7,000 other civilian and military positions. According to the DOT, the streamlined department will realize $6.4 billion in budget outlay reductions in the next five years.

Secretary Peña Presents $36.9 Billion DOT Budget To Congress

Secretary of Transportation **Federico Pena** presented to Congress the Department of Transportation's (DOT) budget proposal for fiscal year 1996. The $36.9 billion budget proposal is $2 billion less than the budget enacted for fiscal 1995.

The budget proposes to consolidate funding programs, provide greater decision-making authority for the states and localities and reduce total civilian employment by more than 6,000 than were included in the fiscal 1993 enacted budget.

The budget proposes a new maritime security program to support national security. In exchange for payments over a 10-year period, participating vessels will be available to the Department of Defense (DOD) to help meet sealift requirements. The budget also proposes to increase funding for the maintenance and operation of the Ready Reserve Force (RRF) from $150 mil-

lion to $289 million. An additional $70 million is budgeted for RRF fleet acquisitions. Although the RRF funds will now be budgeted in DOD, DOT's Maritime Administration will continue to manage the program. Continued funding at current levels for Title XI loan guarantees for shipbuilding will help finance modern ships and shipyards and keep current our shipbuilding capacity, the Secretary said.

DOT Selects Winners For University Transportation Center Grants

Secretary of Transportation **Federico Pena** announced that the Department of Transportation (DOT) has chosen the 10 institutions of higher learning that will receive grants totaling $30 million to establish and operate regional University Transportation Centers (UTCs) in fiscal years 1995 through 1997.

The mission of the UTC program is to advance U.S. expertise and technology in the many fields comprising transportation through investment in education, research and technology transfer. Now in its seventh year, the program supports activities at the 10 regional centers and at three national centers which were added to the program in 1991.

The UTC program is administered by the department's Research and Special Programs Administration (RSPA), whose administrator, Dr. **D.K. Sharma**, selected the winning proposals after consultation with the administrators of the Federal Highway Administration and the Federal Transit Administration, joint sponsors of the UTC program.

This is the first time that the UTC grants have been open for competition since the current centers were selected in 1988. The department received proposals representing more than 90 universities across the U.S. A technical evaluation team rated each proposal on the basis of its quality, leadership capability, availability of resources, and ability to disseminate results.

These are the universities selected to receive UTC grants:

U.S. DOT
University Transportation Centers
Fiscal Years 1995-1997

REGION ONE	Massachusetts Institute of Technology
REGION TWO	City College of New York New York, N.Y.
REGION THREE	Pennsylvania State University University Park, Pa.
REGION FOUR	University of Tennessee Knoxville, Tenn.
REGION FIVE	University of Michigan Ann Arbor, Mich.
REGION SIX	Texas A&M University College Station, Texas
REGION SEVEN	University Of Nebraska Lincoln, Neb.
REGION EIGHT	North Dakota State University Fargo, N.D.
REGION NINE	University of California Berkeley, Calif.
REGION TEN	University of Washington

MarAd Grants Approval For Sea-Land Service To Reflag Five Vessels

Sea-Land Service Inc. has received approval from the Maritime Administration (MarAd) to reflag five U.S.-flag vessels under foreign registry of the Marshall Islands.

"Sea-Land appreciates MarAd's decision and we will now move ahead with this process," said Sea-Land CEO **John Clancey**. The carrier plans to complete the reflagging within three months, he said.

All five ships now operate in highly competitive services between ports in foreign countries. Three of the ships, the *Sea-Land Price*, the *Sea-Land Value* and the *Sea-Land Motivator* (SL-31s), sail in Sea-Land's Asia/Middle East/Europe service.

The other two vessels, the *Sea-Land Freedom* and *Sea-Land Mariner* (D9-Js), sail in the company's Asia-Europe express service. Sea-Land said the five ships will be managed by Intersea Operations Limited (IOL), and will be operated and maintained to the highest industry standards.

The new crews will complete comprehensive training in operating procedures before assuming command of the vessels, the company said. Sea-Land, reportedly the largest U.S.-flag ocean carrier, applied in June of 1993 to reflag 13 of its U.S.-flag ships. Those applications

MarAd Grants Approval For Sea-Land Service To Reflag Five Vessels

(Continued from page 7)

had been held in abeyance while the 103rd U.S. Congress considered maritime reform legislation designed to alleviate the higher costs imposed on U.S.-flag vessel operators by U.S. laws. When the legislation failed to pass Congress last fall, Sea-Land asked MarAd to expedite the approval of five of the 13 applications.

"Sea-Land was very disappointed that maritime reform legislation was not passed last year," Mr. **Clancey** said. "For four years, a united U.S. maritime industry has worked hard for a reform program that would preserve U.S.-flag Merchant Marine capabilities and effectively serve America's commercial requirements and protect its defense interests. Given that the 102nd and 103rd Congresses failed to enact such legislation, Sea-Land has had to begin taking the necessary steps to remain competitive.

"At the same time," Mr. **Clancey** continued, "we remain committed to working closely with the Administration, the 104th Congress and the entire industry to gain approval of reform legislation this year. An effective Maritime Security Program enacted in 1995 would guarantee our country a modern, efficient U.S.-flag, U.S.-crewed Merchant Marine for the 21st Century." Sea-Land Service Inc., a unit of CSX Corporation, Richmond, Va., is a world leader in intermodal freight transportation and related services.

Sea-Land operates more than 90 containerships and 190,000 containers and serves 120 ports in 80 countries and territories around the world.

MarAd Grants Approval For Slot Charter Pact

The Maritime Administration (MarAd) granted a waiver pursuant to section 804 of the Merchant Marine Act, 1936, as amended, to American President Lines, Ltd., (APL) to permit the company to charter slots on vessels operated by Mitsui OSK Lines, Ltd., Nedlloyd Lines BV, and Orient Overseas Container Lines, Ltd. APL is to participate in the Asia-Atlantic Alliance Agreement, a reciprocal slot exchange agreement, and a master slot charter agreement. The geographic scope of the trade in U.S. foreign commerce of the Asia-Atlantic Alliance Agreement as implemented by the master slot charter agreement is between U.S. Atlantic ports, and via the Panama Canal, Hong Kong, Taiwan and Japan. Notice of the proposed application, assigned Docket S-916, was published in the *Federal Register* on Dec. 6, 1994.

Title XI Applications

Canal Barge Company

MarAd has received an application from Canal Barge Company, Inc., New Orleans, for a Title XI guarantee to aid in financing the construction of four liquid tank barges, one 260-ft. (79-m) deck barge and one 120-ft. (36.6-m) spud deck barge. The tank barges would be built by the Trinity Marine Group, Gulfport, Miss. The two deck barges would be built by Newpark Shipbuilding and Repair, Houston, and Conrad Industries, Inc., Morgan City, La., respectively. The barges would operate in the inland waterways of the U.S. All the barges were delivered last year, with the exception of one of the deck barges, which was to be delivered in February of this year.

The estimated guarantee amount is for $4,359,645 of the total estimated cost of $4,982,452, with a loan term of 25 years.

Energy Transportation Group

Energy Transportation Group, Inc., New York has asked MarAd for a Title XI guarantee to aid in the financing of 12 electrical power generating vessels. The proposed shipbuilder is expected to be Marine Energy Systems Corp., Charleston, S.C. The area of operation is Port Qasim, Pakistan. The delivery dates

(Continued on page 11)

Every 5,000 hours this towboat makes a change for the future.

Changing oil every 5,000 hours instead of every 500 has made a world of difference to Crounse Corporation's single-screw towboat, the M/V *Sue Chappell.* Before the workboat switched to synthetic Mobilgard SHC 120 in its generator engine, it was changing oil every 500 hours and disposing of 112 gallons of waste oil each year.

For the environmentally concerned Crounse Corporation of Paducah, Kentucky, waste oil disposal was a problem that demanded a solution.

The synthetic solution. Crounse Corporation, Detroit Diesel Corporation and Mobil Oil Corporation conducted an 8,000 hour test of Mobilgard SHC 120 in the towboat's generator engine. The synthetic lubricant, with its chlorine level well below the most stringent regulations in effect today, yielded remarkable results.

Mobilgard SHC 120 significantly extended the towboat's oil drain intervals and reduced its annual volume of waste oil 90%. A single oil drain after 5,100 hours of continuous operation of the engine confirmed the oil effectively lubricated the Detroit Diesel 6-71 engine *10 times longer than mineral oil.* Annual waste oil was now just 11 gallons.

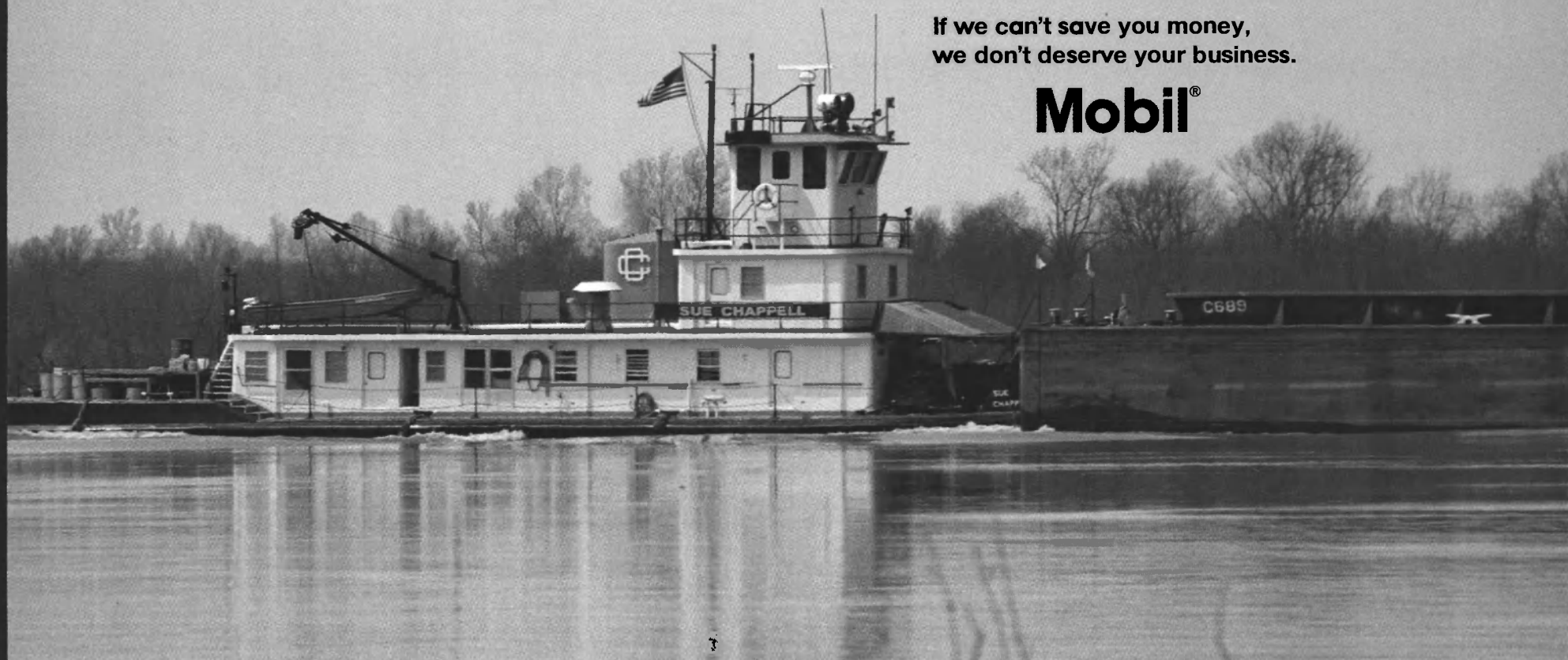
Mobilgard SHC 120 cut the engine's oil consumption by nearly 75%. The generator consistently used *only one quart* daily. Quite a difference from the one gallon of mineral oil it typically consumed.

Mobilgard SHC 120 reduced overall engine wear by almost 50%. When the towboat was overhauled, engineers found that the engine's piston rings and cylinder liners had only about half the normal wear rates. Time between overhauls is now projected to extend from 40,000 hours to 60,000 hours.

So take a good look at the synthetic lubricant that helped this towboat make a difference in the world. And a change for the future.

If we can't save you money, we don't deserve your business.

Mobil®



Circle 261 on Reader Service Card

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Talk isn't worth much unless people are listening.

Everyone's been talking about the product tanker of the future. And at Newport News, we've been listening... You gave us your best ideas, and now we give you the new Double Eagle.

Capacity — Double Eagle is the perfect size for a global shipping market, with a capacity of approximately 55,000 m^3.

Standards — Its double-hull design and critical safety factors mean Double Eagle meets tough international standards.

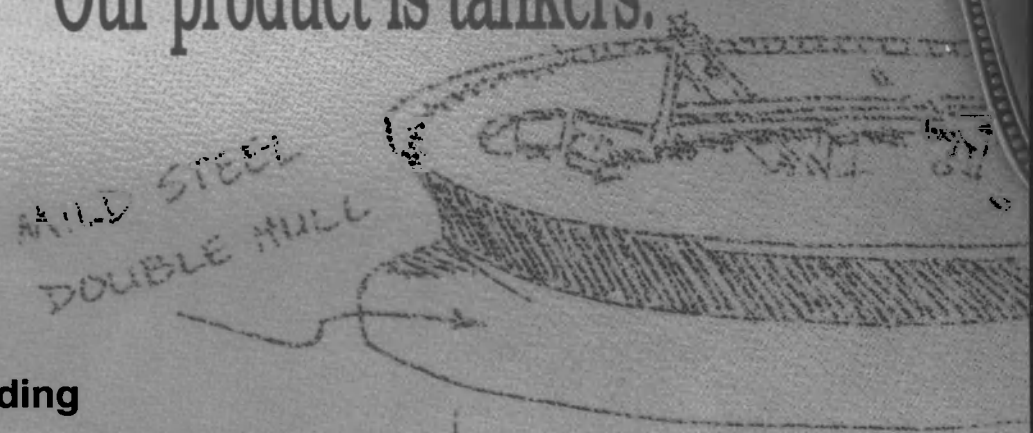
Quality — Newport News has an unbeaten record of on-time, on-budget delivery. Add to that our ISO 9001 certification, and Double Eagle is your guarantee of quality, value for money and long-life efficiency.

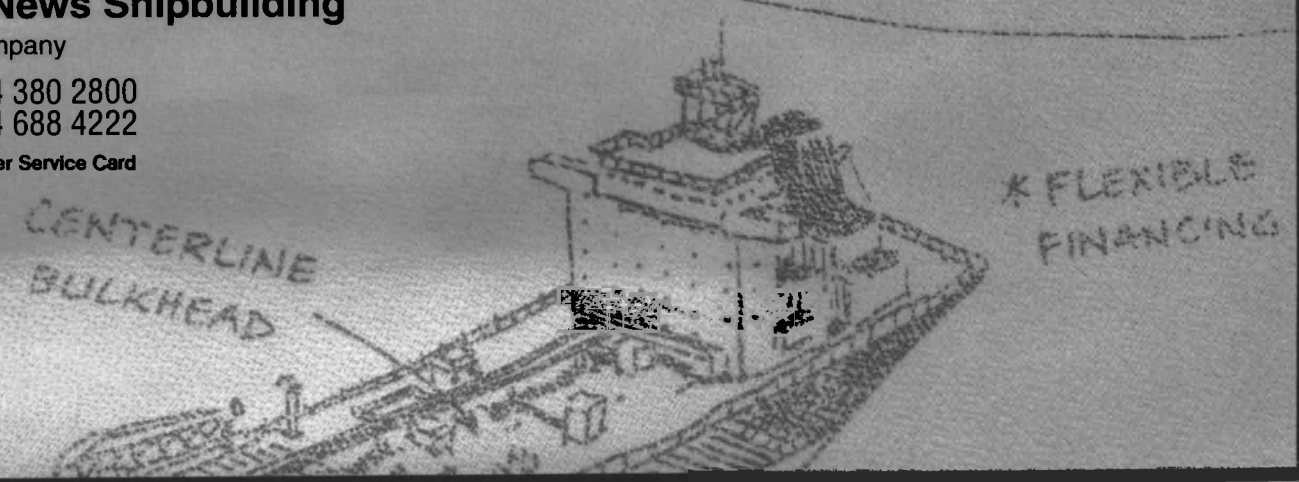
Low Maintenance — Our double hulls use mild steel – not high-tensile – for longer life, fewer repairs and a very high regard for the environment.

Cost — Double Eagle is very competitively priced. And our flexible financing can lower your cash requirements – which means increased profitability.

Find out more about Double Eagle. We'll tell you what you want to know. But most importantly, we'll listen.

Our product is tankers.





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Circle 312 on Reader Service Card

Title XI Applications

(Continued from page 8)

of the vessels have not been determined. The estimated guarantee amount is for $665 million of the total actual cost of $760 million for Phases I and II.

American Classic Voyages

Great Constitution, Chicago, a subsidiary of American Classic Voyages Co. of Chicago, has asked MarAd for a Title XI guarantee to aid in the reconditioning/reconstruction of one existing passenger vessel. The proposed yard has not been determined. The area of operation is the Hawaiian Islands.

It is anticipated that the drydocking of the vessel, the *Constitution*, will commence with her departure from service on June 26, 1995. The vessel is expected to return to service on Nov. 17, 1995.

The estimated guarantee amount is $35.6 million of the total estimated actual cost of $40.6 million, with a term of 20 years.

Great Independence Ship Co., Chicago, another subsidiary of American Classic Voyages Co., has also asked MarAd for a Title XI guarantee to aid in the reconditioning/reconstructing a deep sea passenger vessel, the *Independence*. The work was done at Newport News Shipbuilding & Drydock Co., Newport News, Va. The estimated guarantee amount is for $42 million of the total estimated actual cost of $48 million.

MarAd Report Released

The Maritime Administration has released *U.S. Export and Imports Transshipped Via Canadian Ports — 1993*. The report was prepared by the Port Authority of New York and New Jersey, the result of a joint project between the Port Authority and MarAd. The report shows that 4.3 million metric tons of U.S. exports and imports were transshipped via truck or rail through Canadian ocean ports to/from overseas destinations/origins. This represents four percent of the total U.S. liner trade and one half of one percent of the total U.S. waterborne trade. Requests should be addressed to **Robert G. Christensen**, Data Coordination and Evaluation Group, tel: (202) 366-5507.

Comments Sought On Preference Cargo Trial

The Maritime Administration published in the *Federal Register* an amendment which would allow Great Lakes ports to compete for agricultural commodity preference cargoes during an entire season trial period. MarAd previously issued a final rule, assigned Docket R-153, on Aug. 8, 1994, that adopted the policy for the 1994 Great Lakes shipping season that had been in progress since April that year.

MarAd proposes allowing agricultural commodity cargoes subject to preference requirements to be carried by either U.S. or foreign-flag ships from U.S. Great Lakes ports along the St. Lawrence Seaway. The cargoes would then be transferred to U.S.-flag ships for the ocean portion of the shipment.

Interested parties must file three copies of their comments with the Secretary, Maritime Administration, Room 7210, 400 Seventh St. SW, Washington, D.C. 20590, tel: (202) 366-1718.

Far East Yards Invest In Technology

TTS International of Norway recently signed three contracts with Far East shipyards for delivery of production lines for steel assembly, contracts which amount to approximately $11 million. Halla Engineering & Heavy Industries of Korea ordered a new high capacity profile cutting line. Singapore-based Sembawang Bethlehem ordered a panel production line — a line which includes one side welding of plates and mechanized mounting and welding of stiffeners and webs. China's Dalian New Shipyard contracted with TTS for the design and delivery of a large panel production line.

TTS is an established leader in production technology for shipbuilding.

For more information on TTS
Circle 132 on Reader Service Card

Compressor Designed To Save Shipowners Money

A compressor that is designed to save shipowners thousands in running costs is being launched by Hamworthy. The V-line compressor is reportedly light and compact, as well as easy to install and run. Maintenance inspection is required after 2,000 hours. The V-line has undergone extensive tests which simulated all sea conditions and tropical climates at Hamworthy's Poole factory. Test results have been excellent, according to the manufacturer. Pre-production V-lines are already in service, having undergone extensive trials at sea on board the MV *Purbeck*. The manufacturer touts the product as saving shipowners up to 60 percent, as the unit reportedly has fewer parts and concentric suction and discharge valves, and the V-line needs fewer spares and operates efficiently. Shipyards are helped as well as the V-line is made for easy installation. The unit has little wiring, only three fixing-points and a minimal support structure.

For more information from Hamworthy
Circle 133 on Reader Service Card

Pelmatic Group Now Includes Knud E. Hansen

Pelmatic AB, the Swedish-based ship design group, now includes the Danish firm of consulting naval architects and marine engineers Knud E. Hansen A/S. The Pelmatic group currently employs approximately 150 engineers, naval architects, project managers and specialists. The acquisition of Knud E. Hansen is viewed as the natural result of the long-term expansion plan which already includes establishing offices in Singapore and local representation in North America. Pelmatic is preparing to open additional offices in Sweden. The group's clients include shipowners, shipyards, oil companies, offshore operators, authorities and research centers worldwide.

For more information on Pelmatic
Circle 134 on Reader Service Card

Texaco Projects Spending $3.3 Billion

Texaco Inc. announced that it plans to boost its 1995 capital and exploratory (capex) spending program by more than 20 percent to approximately $3.3 billion.

Approximately 55 percent of the company's capex program is targeted for international development, and one-third of the capex budget is aimed toward high-impact new business growth opportunities. Key projects Texaco plans to target this year include: offshore development in the North Sea; development in south Louisiana, the Gulf of Mexico, and the Permian basin in Texas; expansion in the Pacific Rim.

For more information on Texaco
Circle 128 on Reader Service Card

Reusable Oil Spill Recovery System Introduced

Envirosorb Waste Recovery System is a patented new process developed by New Orleans-based Geosource Ltd. The system is comprised of a two-part reusable sorbent pad and a specially designed wringer to squeeze out recovered oil. The entire Envirosorb product line is designed to be hydrophobic and oleophilic (repel water and absorb oil). In use, the pads reportedly take only minutes to become saturated with oil. They are then passed through the wringer to recapture the oil for recycling or resale. According to the manufacturer, a big advantage is the fact that the Envirosorb system eliminates the cost of disposal of used sorbent material. The system is offered in sizes ranging from a hand-operated wringer for use in confined areas and aboard boats, up to engine-driven systems suitable for use on marine vessels, offshore platforms, and large industrial plants.

For more information from Geosource
Circle 136 on Reader Service Card

Markey Debuts New Tow & Hawser Winch Line Monitoring System

Designed as an upgrade for Markey Tow or Hawser Winches, the new line monitoring system dis-

(Continued on page 15)

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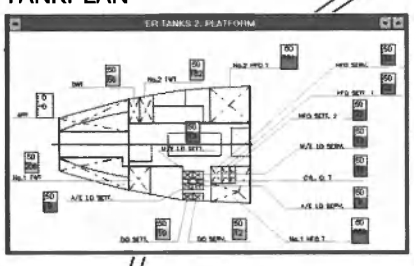

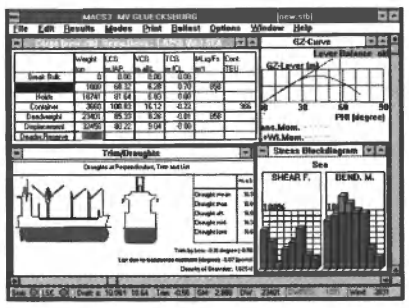

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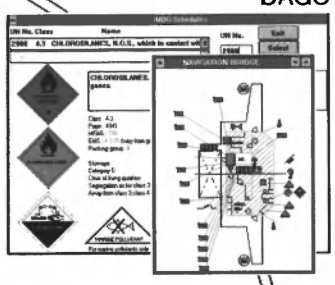

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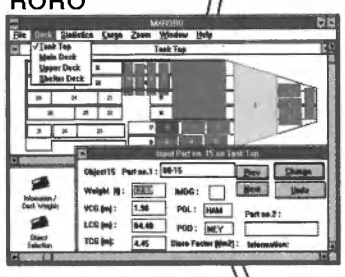

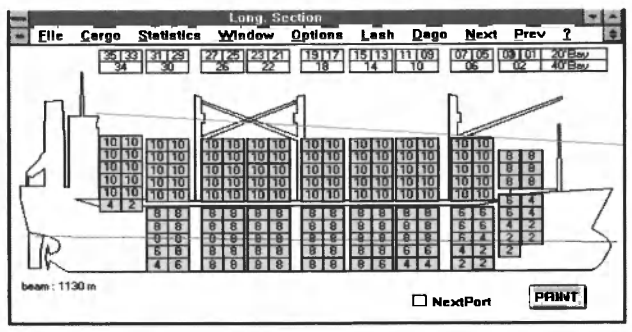

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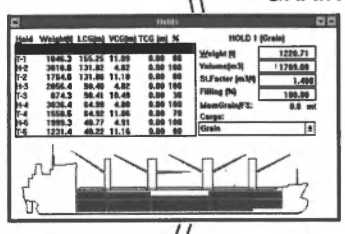

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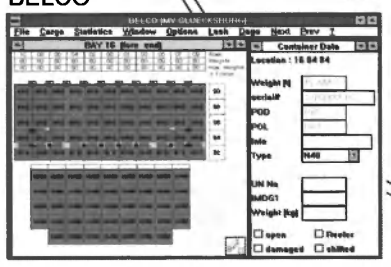

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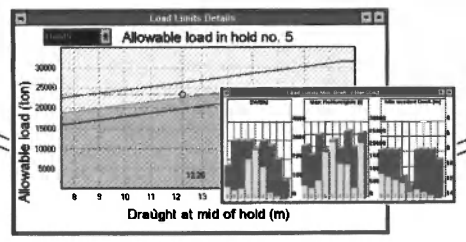

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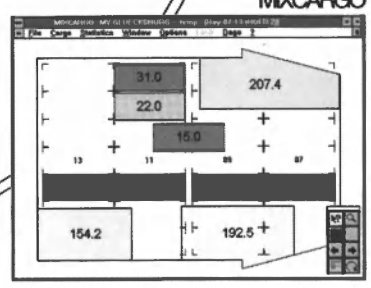

Typed approved Systems:

* HP 486 DX/33/50/66 (Hewlett-Packard)
* SIMOS 486 DX/33/50/66 (Siemens)

MACS3 supports:

* EDIFACT Data Transfer
* multitasking
* multiple interfaces (gauge systems, ONLINE data)
* multiple languages
* metric/American units

Software:

* Stability program MXMACS3
* Container program BELCO
* Lash program SEALASH
* Program for Mixed Cargo
* Program for Inclining Experiment INEX
* Program for Dangerous Goods DAGO
* Trimoptimization program TROP
* Damage Calculation program DAST
* RORO program
* Grain program
* Program for tanker
* Bulk Carrier Load Limits program
* Shipmanagementprogram PERMON
* Spare Parts program

Distributors:

SAIT	Belgium
RADIO HOLLAND	Netherlands
PC MARITIME	Great Britain
SAJ Instrument	Finland
RMC AG	Switzerland
ALL ALPHA Int.	USA, Canada, Mexico, China
OL NAVAL	Brazil
TOTAL TRADE	Chile
TROPHEX ENG	S.E. Asia, Taiwan
ITO TRADING	Japan
The EDI SHOP	Hong Kong
COSEN Ltd.	Dalian - China

The systems (hardware & software) are certificated by the leading classification societies such as LR, GL, DNV, NKK, ABS, BV and KR. Please ask for more information and demo programs!

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COMPUTERSYSTEME + SOFTWARE GMBH
AM MUEHLENBERG 6
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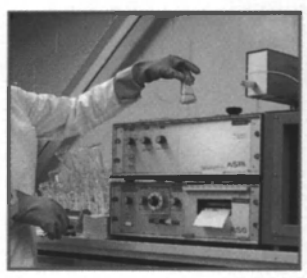
in worldwide co-operation with
SAJ INSTRUMENT AB
a unique draft measuring system
with dynamic trim/heeling sensors

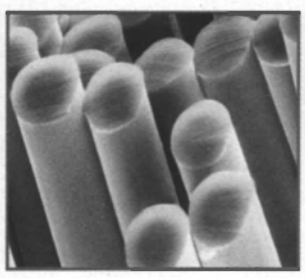
A Commonly Asked Question From Our Readers

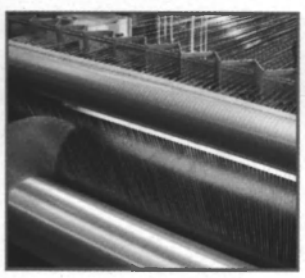
Q. Is there a difference between Dacron® and polyester fibers for ropes and cordage?

A. *Dacron is nothing more than a trademark indicating the source for that polyester material.*

Technically, all polyester (including Dacron polyester) is made from the polymerization of a dicarboxylic acid ester with ethylene glycol, a dihydroxy alcohol.







The key difference is in the engineering of the fiber for the application. All polyester offers great flexibility in manufacturing. This is exemplified by AlliedSignal Fibers application-oriented line of polyester products. Polyester can have ultra-low elongation (for heavy lifting applications), high modulus (for tires), or low shrinkage (for broad woven fabrics).

At AlliedSignal Fibers, we pride ourself on a history of supplying solutions to a customer's specific application. Our polyester for ropes and cordage is engineered to be cost-effective and provide the optimal properties required for the wet environment. And, our revolutionary SeaGard® overfinish ensures the ultimate performance and protection against wet abrasion for polyester, as well as nylon.

When considering any type or brand of polyester, be aware of the engineered properties required for your application. The more important question is: which polyester is the best engineered product for the specific application?

For further information, contact AlliedSignal Fibers, 224 West 35th Street, Suite #1500, New York, NY 10001.

AlliedSignal
FIBERS

(Continued from page 12)

plays line tension and amount of line payed out during winch operations. The company installed — and has received positive feedback — on the system-enhanced Foss tractor tugs *Lindsey Foss* and *Garth Foss*.The system features simple pilothouse operation. Alarms are included for towing or escort duties, and a separate data logging system is available to permanently record line tension and payout data.

For more information from Markey
Circle 137 on Reader Service Card

Halotron I: Effective Fire Suppression, Environmentally Sound

The international ban on the manufacture of all halons created an immediate need for effective fire suppression systems.

Halotron I from American Pacific Corporation is a fire extinguishing system which includes an HCFC based agent blended with two gases, an optimized application method and inexpensive hardware modifications to existing halon 1211 equipment.

Halotron I is a "high boiling point agent," reportedly ideal for streaming applications, and adaptable for small compartment flooding applications.

The Halotron I system performs in a manner similar to halon 1211 while leaving no residue. It has the physical characteristics (including a more gaseous consistency) very similar to halon 1211.

Halotron I has an extremely low Ozone Depletion Potential (ODP) between .014 and .016, reports the manufacturer, which is less than one-tenth of the Environmental Protection Agency's maximum acceptable level of 0.2.

Also, Halotron I has a low Global Warming Potential in the range between .04 and .24 and an Atmospheric Lifetime in the range between and 3.5 and 11 years.

For more information on Halotron I
Circle 138 on Reader Service Card

Recent Ship Sales

This report, compiled by Shipping Intelligence, Inc., a New York maritime consulting firm, tracks sale prices of secondhand bulk carriers and tankers.

Date	Name	Type	DWT	Year	Price (Millions)
1/23	Young Sprout	Bulker	25,517	84	$11.5
1/30	Tatiana L	Bulker	27,422	75	$ 3.9
3/13	Ionia	Bulker	28,317	77	$ 5.75
1/27	Irazu	Bulker	29,000	84	$10
1/27	Scan Trader	Bulker	29,000	84	$11.8
1/27	Blanco	Bulker	29,500	84	$10
1/30	C Blanco	Bulker	30,052	87	$10
2/13	Reform	Bulker	38,461	90	$15
1/27	Ariana	Bulker	40,000	73	$4
1/27	Arlberg	Bulker	44,600	78	$10
2/6	Brilliant Venture	Bulker	58,412	81	$11.5
2/13	Kalil L	Bulker	60,847	77	$6.2
2/6	Anita Venture	Bulker	61,766	81	$11.5
1/23	Endeavor	Bulker	68,870	89	$21
2/13	Nova Spirit	Bulker	69,338	90	$22
2/13	Anemos	Bulker	71,600	76	$6.5
2/13	West Point	Bulker	72,033	88	$19.5
1/23	Magritte	Bulker	75,724	83	$13.8
2/13	Mineral Antwerpen	Bulker	148,011	81	$13.5
1/30	Esso Slagen	Tanker	18,797	68	$1.4
1/27	Sealift Arabian Sea	Tanker	27,200	75	$1.9
2/6	Shoei	Tanker	60,961	79	$7.1
2/6	World Shanghai	Tanker	62,326	89	$22
1/30	Primo	Tanker	81,250	87	$29
2/13	Asiatic Spirit	Tanker	87,610	77	$7
2/6	Ellida	Tanker	137,684	76	$9.6
1/27	Phoenix Trader	Tanker	267,598	76	$11

For further information, contact: Shipping Intelligence, Inc., 25 West 43rd St., New York, N.Y. 10036; tel: (212) 997-0966.

Service Marine Delivers *Shreve Star*

Service Marine Industries, Inc. recently delivered the new *Shreve Star*, a 254-ft. (77.4-m) by 78-ft. (23.7-m) by 14-ft. (4.26-m) casino riverboat, to Harrah's Casino in Shreveport, La.

The *Shreve Star* replaces the smaller riverboat previously built by Service Marine, the *Shreveport Rose*. It is the fourth self-propelled vessel Service Marine has constructed for Promus Companies and Harrah's Casino. The *Shreve Star* is a diesel-electric propelled 19th Century style sternwheeler incorporating 30,000 sq. ft. of gaming. The vessel is powered by three 1400-kW Caterpillar diesel generators. The vessel interior was designed by Steeleman Interiors of Las Vegas, Nev.

For more information on Service Marine
Circle 126 on Reader Service Card

Trinity Delivers Ferry To North Carolina DOT

Moss Point Marine of the Trinity Marine Group delivered the passenger/vehicle ferry *Cedar Island* to the North Carolina State Department of Transportation, Ferry Division. The new ferry can carry 300 passengers and 50 vehicles at a top speed of 14.5 knots and a cruising speed of 11.5 knots. It is operating out of Cedar Island, N.C., serving Ocracoke Island, N.C.

The *Cedar Island* is 220.5 ft. (67 m) long with a 50-ft. (15-m) beam. It features bow and stern loading and unloading, fore and aft pilothouses, extended bridgeways, air conditioned interior seating, covered outdoor seating, facilities for handicapped passengers, a souvenir shop in the passenger lounge and special accent striping in the colors of East Carolina University.

Cedar Island is powered by a pair of Caterpillar 3508 diesel engines developing 805 hp each at 1,300 rpm, driving 60-in. diameter Michigan Wheel bronze propellers through Twin Disc MG540 reverse/reduction gears. Electrical power is provided by two Caterpillar 3304 diesel generators developing 105 kW each.

An Omnithruster HT600 bowthruster driven by a Caterpillar 3306 diesel engine aids maneuverability, and steering is provided by a Matthews Marine Systems hydraulic system.

The ferry has a remote "walkaround" control box with controls for the engines and rudders on a 30-ft. (9-m) cord for use on either bridgeway. The portable system eliminates the need for duplicate fixed controls on both bridgeways.

A partial list of navigation and communications equipment includes two Furuno radars, a Ritchie compass, Furuno depthsounder, a Northstar combination GPS/Loran navigation system, and two ICOM radios.

Cedar Island can carry 8,000 gallons of fuel, 75 gallons of oil and 4,000 gallons of potable water. The vessel is the fourth ferry built for the state of North Carolina by Trinity Marine shipyards.

Trinity has also built ferries for the states of Alaska, Louisiana, Michigan, New York, Texas, Virginia and Washington.

The company has built ferries for operations in the Virgin Islands, Puerto Rico, Panama and the West Indies.

For more information on Trinity Marine Group Circle 3 on Reader Service Card

The *Cedar Island* is a new 300-passenger, 50-vehicle ferry built by Trinity Marine Group's Moss Point Marine for the North Carolina State Department of Transportation, Ferry Division.

***Cedar Island* Equipment List**

Main engines	Caterpillar
Propellers	Michigan Wheel
Gears	Twin Disc
Generators	Caterpillar
Radar	Furuno
Depth sounder	Furuno
Compass	Ritchie
GPS/Loran	Northstar
Radios	ICOM

McDermott, Brown & Root Form Scottish Yard

McDermott Scotland, Ltd. and Halliburton's Brown & Root Energy Services have combined forces to form an equally owned company, Brown & Root McDermott Fabricators. The new company will merge yards at Ardersier and Nigg, North Sea fabrication yards in the Highland Region.

Brown & Root McDermott Fabricators possesses the capability of providing a fully integrated range of construction services for the North Sea, combining the engineering, pipelay, subsea and fabrication skills of Brown & Root with the design, transportation, and installation of offshore pipelines and subsea facility functions of McDermott. McDermott has also entered into an agreement with Oryx Energy Company to build the Gulf of Mexico's first spar production facilities.

For more information
Circle 131 on Reader Service Card

Rolla Selects U.S. Repair Facility

Philip M. Rolla, director of Italy's Rolla SP Propellers SA, has announced the appointment of The Machine Works at Essex, Conn., as the repair facility for all Rolla propellers. Over the past year, The Machine Works at Essex has worked closely with Rolla to repair propellers that owners did not wish to send back to Italy or that had been improperly reconditioned by other machine shops.

For more information on Rolla
Circle 151 on Reader Service Card

Smit Tak Completes Removal

Smit Tak has completed the removal of the 64,000-dwt wreck *Sea Transporter* on the coast of Goa, India. The vessel sank after being grounded in mid-1994 in a monsoon storm. The wreck was removed because it posed a threat to a tourist center in Fort Aguada, and was towed north to a scrapyard at Alang.

For more information on Smit Tak
Circle 129 on Reader Service Card

Mitsui And NQEA In Agreement To Produce Catamarans

Mitsui Engineering and Shipbuilding Co., Ltd. (MES) and NQEA Australia Pty. Ltd. (NQEA), Queensland-based builder of aluminum high-speed craft, have an agreement to produce Mitsui's semi-submerged catamaran (SSC) locally in Australia. The SSC, also known as SWATH, or small waterplane area twin hull, comprises two torpedo-shaped submerged lower hulls which take up most of the displacement, joined to the upper structure with streamlined struts. The unique hull form combined with fin stabilizers gives the craft a structure less affected by waves, reducing by up to 50 percent the pitching and rolling motion of conventional craft. MES has built 13 SSCs. MES and NQEA are seeking the possibility of expanding their collaboration to include production of other high-speed craft.

Tyner Appointed Manager At Raytheon

Raytheon Marine announced the appointment of **Madeleine Tyner** as customer service manager for all marine divisions. Ms. **Tyner** will be responsible for overseeing activity in the customer service department for the Raytheon, Apelco and Autohelm product lines.

For more information on Raytheon
Circle 127 on Reader Service Card

PSY Considers Sole Contractor Proposals

The Port of Portland has received nine responses from shipyard companies expressing interest in becoming the sole contractor of the Portland Ship Yard (PSY).

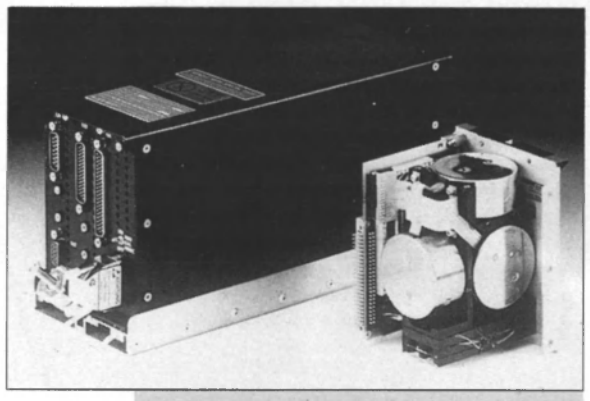
PSY is planning to move away from the multi-contractor system. Port management is examining proposals from nine potential sole contractors, in an attempt to reorganize PSY.

The companies who have expressed interest in operation and management of PSY are:

Metro Machine Corp., Halla Business Group, Todd Pacific Shipyards Corp., Mitsubishi Heavy Industries, Cascade General, Inc., Babcock Facilities Management Division, National Steel and Shipbuilding Co., Zidell Marine Corp., and Dolphin Industries. It is the Port's intention to select a sole operator in the first half of the year.

C. Plath Debuts Next-Level Technology At International Shows

Last fall, C. Plath introduced what it touts as "marine navigation technology for the next millennium." At both the Ship and Machinery Show (SMM '94) in Germany and at the Fort Lauderdale International Boat Show, the company reported tremendous interest surrounding the company's Fiber Optic Gyrocompass (FOG). C-Plath plans to introduce FOG as a north seeking gyrocompass at SMM '96.



A complete Litef LCR-92 u-AHRS in its mounting tray and an LCR-92 sensor block. The Litef LCR-92 u-AHRS is a Strapdown Attitude and Heading Reference System based on fiber optic gyro (FOG) technology. Litef is a sister company of C. Plath, the manufacturer which will introduce a marine industry version of FOG at SMM '96.

Technology Under Development

The German Federal Ministry of Science and Technology is subsidizing — as a part of a major project entitled "The Integrated Ship's Bridge" — the development of the first all electronic gyrocompass for merchant marine application. C. Plath, known for its innovations and reliability in mechanical gyrocompass technology, was extended a research grant from the organization to bring the product technology to the marine market.

The development is being carried out exclusively by sister company Litef, which currently produces this product for the aviation industry. It will be the task of C. Plath over the next two years to bring to market a maintenance-free, north seeking gyrocompass which meets all major classification standards and is cost competitive.

The heart of FOG is an inertial measuring unit which is comprised of three fiber optic gyroscopes and two inclinometers arranged in a strapdown configuration (eliminating the need for gimbal mounting).

The high-speed microprocessor continuously computes true north, roll and pitch angles and the rate of turn of all three axes. Touted features of this new type of gyrocompass include high dynamic accuracy in both high speed applications and those requiring frequent maneuvers; and high reliability because there is a very short settling time (15 to 40 minutes depending on heading and latitude) and because there are no moving parts.

"Our customers were most excited about the fact that there is no maintenance required, and that as well as heading information, we can provide a more accurate attitude reference for stabilizers, affording them a smoother, more efficient ride and added fuel savings," said **Craig Wilson**, electronics sales manager, C. Plath North America. FOG is currently in production and available for stabilization applications.

For more information on FOG
Circle 2 on Reader Service Card

Dual, Mosvold Drop Sales Talk

Dual Drilling Co. and its majority shareholder Mosvold Shipping AS said that after consultation with financial and legal advisors, they have concluded that the current market environment makes it undesirable to pursue a sale of all shares of Dual, or of the 59 percent block owned by Mosvold. Dual and Mosvold have said that no such effort will be undertaken at this time and that Dual will continue its efforts to improve profitability.

Meyer Werft In Talks To Commercially Operate Philadelphia Navy Yard

Philadelphia Mayor **Edward G. Randall** announced that the city has reached an agreement with major international shipbuilder Jos. L. Meyer GmbH & Co. (Meyer Werft), a German shipbuilding company, to begin negotiations for the construction and operation of a world-class shipbuilding and repair facility at the Philadelphia Naval Shipyard.

The agreement grants a 120-day period of exclusivity for Meyer Werft and the city to evaluate financing, ownership, labor force training and other operational issues affecting the development of specific facilities at the Navy yard.

The Navy, which will continue to own the yard and operate parts of it, has an agreement with Philadelphia that grants the city an option to lease part of the yard from the Navy.

The large Philadelphia facility is expected to cease most Navy operations this fall, idling 4,000 workers. If Meyer Werft and the city of Philadelphia reach an agreement, the German yard would employ as many as 2,000 workers at the naval yard, and would achieve a savings in wages and benefits over levels in Germany. The German shipbuilder specializes in cruise ships, gas tankers and other complex vessels.

"Meyer Werft's choice of Philadelphia is a tremendous vote of confidence for both our region and the workforce at the Navy yard," Mayor **Randall** noted. "This agreement moves the city forward in our goal of creating jobs and economic activity," he added.

This announcement concludes several months of discussions between the city and Meyer Werft. The plan now being negotiated has Meyer Werft investing $60 million in the yard, as well seeking additional private and public funding in the amount of about $300 million. These funds would be used to enclose one of the yard's large drydocks, and also to pay for the retraining of workers and improvements to the yard's facilities.

During the 120-day negotiation period, the city and Meyer Werft hope to negotiate a long-term agreement which will enable Meyer Werft to lease facilities from the city and establish a shipbuilding operation at the Naval Shipyard. The city has a lease with the Navy that permits it to control the facilities covered by the Letters of Intent with Meyer Werft. That lease was signed in November 1994.

In a statement released to the Mayor, **Bernard Meyer**, CEO of Meyer Werft, observed: "We see tremendous potential in Philadelphia. The physical assets being transferred to the city by the U.S. Navy are virtually irreplaceable. The skills and productivity of the workforce are world competitive. We believe that the en-

(Continued on page 19)

Waterjet Propulsion Improves Efficiency and Lowers Cost

A new crewboat — M/V *Mr. Mel* — for servicing oil rigs in the Gulf of Mexico has been outfitted with waterjet propulsion. Waterjet propulsion reportedly offers advantages over conventionally powered craft, namely increased speed, maneuverability and flexibility.

The boat was designed by Swiftships and is owned by Diamond Services Corp., Morgan City, La.

Quadruple HamiltonJet model HM571 jets power the 141-ft. (42.9-m) monohull, and each jet is coupled to a Detroit 12V-92TA DDEC diesel engine. The vessel travels at 24 knots under load, and up to 28 knots light. Since power absorption of the waterjets is independent of boat speed, the vessel will run at higher speeds than conventionally powered vessels when lightly laden, without risk of overloading the engines. Practically speaking, this means the vessel can reach oil rigs quicker when carrying exchange crews and light stores, and that the skipper has the option of throttling back to the design "laden" cruise speed, saving fuel.

All four jets have steering and reverse functions, commands for which are regulated by an integrated modular electronic control system, which programs key elements of the ship's maneuverability. The HamiltonJet control system is based on microprocessor logic and provides total vessel control with simple operator inputs. Twin control stations and levers control the vessel's movements, with the whole system interfaced to the electronic circuits of the Detroit DDEC system.

Complex maneuvers can be done simply by using helm, astern/throttle levers in unison to induce forward or astern, on-the-spot rotation or sideways movement.

For more information on HamiltonJet Circle 199 on Reader Service Card

Meyer Werft Eyes Philly

(Continued from page 18)

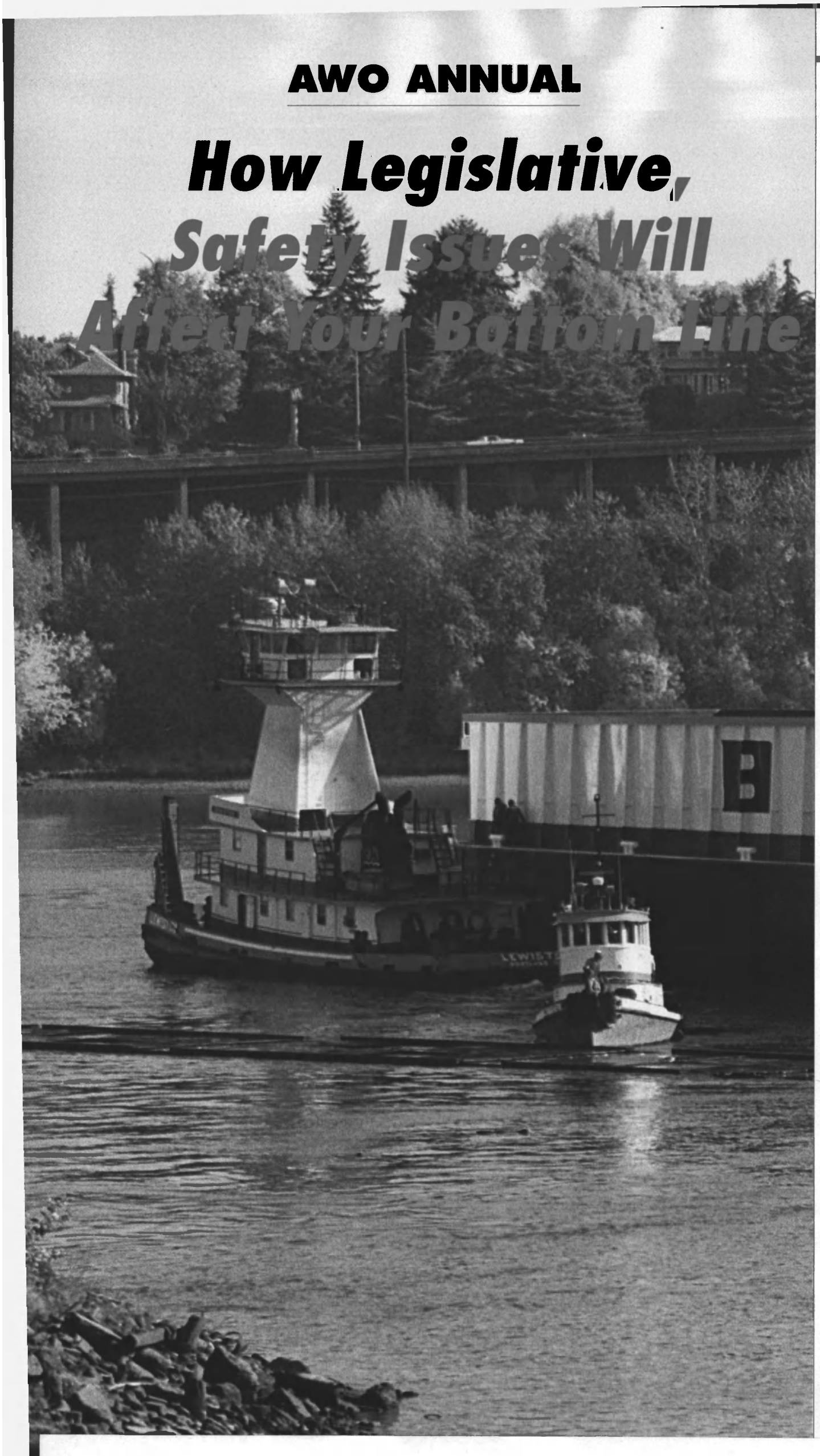
terprise to be created from the merger of these assets and our technology and management will revitalize this once proud Philadelphia industry and provide a model for global partnership that will be envied around the world."

The Naval Shipyard currently employs approximately 4,000 workers who are finishing repair work on the aircraft carrier U.S.S. *Kennedy*, which is scheduled to be completed in September 1995. Last fall, the city issued a Reuse Plan for the Naval Base and Shipyard which sets as a goal the establishment of a private shipyard after the Navy leaves.

"The agreement with Meyer Werft is consistent with the city's plans for the Navy Yard," said **Terry Gillen**, deputy commerce director for the city and the director of the Office of Defense Conversion. "Our goal is to find jobs and companies who can produce revenues, and that's what we're doing."

For more information on Meyer Werft Circle 97 on Reader Service Card

How Legislative, Safety Issues Will Affect Your Bottom Line



The U.S. Barge and Towing Industry:

New Directions, Expanded Growth Ahead

by
Thomas A. Allegretti, president
American Waterways Operators

Thomas A. Allegretti

For those operating in the inland trade of the U.S. barge and towing industry, this autumn's bumper crop of grain and soybeans helped promote the feeling that the industry had turned the corner from the dark days of the fall of 1993, when the Midwest was still recovering from a devastating flood. The crop windfall certainly gave inland towing companies cause for celebration.

However, the barge and towing industry as a whole also has reason to expect a brighter future for reasons beyond the grace of mother nature. Change and progress also hold many future favors for this vital industry.

While change is necessary for the success and growth of any industry, the barge and towing industry is currently undergoing a sea of change the proportions of which have not been felt before. This change is wholly positive, bringing increased attention by industry leaders to better customer service, clearly defined operating standards and procedures, continuous quality improvement, and higher standards of safety and professionalism.

These principles have helped to shape an industry which is safer, stronger *and* more efficient than it was a decade ago. And, these are changes that the industry recognizes as necessary and which it embraces.

While corporate practices have long exceeded federal regulatory requirements in most aspects of towing vessel operations, industry standards have continued to rise dramatically in recent years, fueled in part by the quality movement, in part by higher customer expectations, and in part by the transformation of a barge and towing industry comprised primarily of small, entrepreneurial companies to one in which a smaller number of large companies exists.

This latter transition has been propelled in large part by the overall condi-

(Continued on page 22)

The New Congress...

What it means for the barge and towing industry

by
Curtis Whalen, vice president, Legislative Affairs
American Waterways Operators

The sweeping changes in the U.S. House and Senate are largely seen as positive for the barge and towing industry.

The November 14, 1994 election marked a historic shift in the nation's political powers so deep that it will continue to alter the way our country's elected officials do business long into the future. For the U.S. barge and towing industry, the changes occurring in the 104th Congress are considered largely positive, with those in the industry eager to form partnerships with and educate the new Congress about the vital importance of this industry to the nation.

Curtis E. Whalen

The Republicans' philosophical belief in less government involvement bodes well for the tug and barge industry because it helps to create a hospitable environment for a wide range of legislative objectives which this industry has, key among them not to seek out government support or attention to sustain our business.

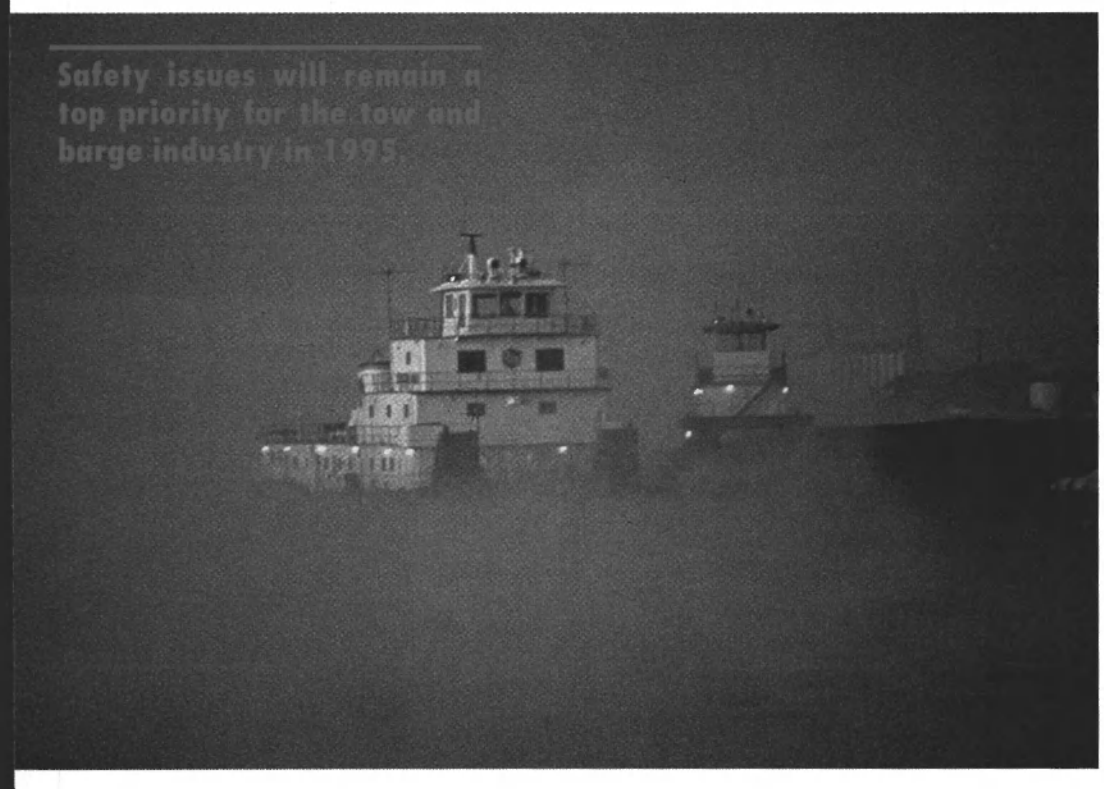
The much publicized Republican "Contract with America" (which seeks to impose six-year term limits on committee and subcommittee chairpersons, offers a balanced budget amendment and line-item veto, cut Congressional staff by one-third, eliminates proxy voting, rewrite rules for floor debate to allow for the consideration of more amendments and more members to speak, and require a three-fifths majority to pass tax increases) will occupy most of the new Congress's time in the first session, with maritime issues not likely to move into the front seat on any agenda. Given the fact that all of the initiatives contained in the bipartisan industry-supported Reps.

(Continued on page 24)

AWO's Regulatory Agenda: Challenge & Change

by
Jennifer A. Kelly, director - Government Affairs
American Waterways Operators

"The more things change," runs the old cliche, "the more they stay the same," and there is no small measure of truth to the timeworn phrase. A cursory glance at the issues that challenge the barge and towing industry today reveals more than a few perennials: vessel inspection, infrastructure development and funding, the qualifications and licensing of towing vessel personnel, preservation of the nation's cabotage laws. But the regulatory environment in which the industry now operates bears little resemblance to the climate which prevailed in 1944, the year of AWO's founding. Government regulation of American business has grown exponentially over the last half-century, with nearly 70,000 pages of new regulatory requirements published in the *Federal Register* last year alone, and the barge and towing industry is no stranger to this trend. The regulatory agendas mandated by the Oil Pollution Act of 1990 (OPA 90) or the Clean Air Act Amendments of the same year would startle a visitor from decades ago. At the same time, years of divided government have fostered a climate in which Congress increasingly prescribes by legislation details which would at one time have been left to the regulatory agencies to determine. The result is more government regulation, with less flexibility accorded the regulators.



Jennifer A. Kelly

Succeeding in this regulatory climate demands an approach to advocacy quite different from that of a half-century ago. Just saying no to regulation is not enough. A modern outreach to the federal government means seeking responsible solutions to recognized problems, combating ill-advised regulatory forays with a solid arsenal of fact and data, and working in partnership with government where such

(Continued on page 27)

(Allegretti Article Continued from page 20)

New directions, expanded growth ahead

tion and pressures of the marketplace. And, while small, family-owned companies continue to play an important industry role, their numbers have declined substantially over the past decade, as the economic downturn in the industry in the 1980s forced many small companies to close their doors or sell their equipment to larger firms. It is interesting to note that while the number of companies that make up the industry continues to shrink, the size of the U.S. towing vessel fleet and the volume of cargo has not.

Closely aligned with the changing character of the barge and towing industry, and the quality movement as a force for change, is the ever increasing expectations of the industry's shipper-customers, most notably the major oil and chemical companies.

Many shippers have established detailed equipment and operating standards which their carrier-vendors are required to meet. There has been a growing commitment by the industry's customers to buy transportation service based on total value and not just the cheapest rate. These shippers have perhaps no greater transportation need than to know that their cargoes will reach their destinations not only on time and at a competitive rate, but safely and without incident. The future of the barge industry is directly linked to this goal of total customer satisfaction.

The industry's commitment to safety, reliability and high operating standards will continue to gain even greater importance in the years to come. The challenge for the U.S. towing industry at this juncture is profound — to manage the inevitable process for change and, in fact, to lead that change. AWO's recently announced Responsible Carrier Program, a safety program which identifies sound operating principles and practices over and above the requirements of existing law and regulation, will assist companies in achieving those standards and carrying the industry forward into the next century. A significant new initiative for AWO, the program implements the directive of AWO's strategic plan, *AWO 2000*, that the association "improve industry safety and environmental protection by establishing preferred industry operating principles and practices."

The Responsible Carrier Program is the product of an intensive, eight-month effort by a specially-constituted task force of senior barge and towing industry executives. The program includes three principal parts — management/administration, equipment/inspection, and human factors — reflecting the role each of these components plays in ensuring safe and efficient vessel operations. The program seeks to complement and build upon governmental initiatives to improve safety in the barge and towing industry and to identify sound operating principles and practices over and above the requirements of existing law and regulation.

After a series of regional outreach sessions were held around the country to generate AWO member feedback on the program and identify changes and improvements needed, the AWO board of directors last December voted unanimously to accept the task force's recommendations as a code of practice for member companies, and it set January 1, 1998, as the target date for full member compliance with the Responsible Carrier Program. During this three-year implementation period, the association will pursue a comprehensive member assistance program aimed at ensuring that all AWO member companies have the tools they need to adopt the new safety program. AWO will also work to identify tangible incentives for companies adopting the Responsible Carrier Program.

The program was officially unveiled at AWO's 50th anniversary luncheon on December 7 in Washington by keynote speaker Deputy Secretary of Transportation **Mortimer Downey**, who described the program as "far-reaching." Mr. **Downey** applauded the industry's efforts, saying, "Secretary **Peña** and I believe, as you do, that the industry must be the first line of defense in the safety chain. The commitment of management and the competency of personnel are the bonding elements of genuine progress. This puts the primary responsibility on ensuring safety in the hands of the industry itself — where it belongs."

This is a groundbreaking achievement for the barge and towing industry. While its publication marks the end of an intensive effort by AWO's members to develop and establish a comprehensive safety program, it marks only the beginning of a national effort to strengthen safety in our industry, and ultimately save lives on our nation's waterways.

Moreover, the AWO Responsible Carrier Program and individual company quality practices will help to ensure the strength, viability and competitiveness of the industry long into the future.

(Whalen Article Continued from page 21)

What the new congress means for the barge & tow industry

Tauzin/Coble towing safety bill, which failed in the last hours of the 103rd Congress, are now being addressed through the regulatory process, pursuing legislation on barge safety now would be unnecessary and merely symbolic.

While the jurisdictional changes currently taking place within the Congress have yet to be fully completed, a major overhaul has already occurred. The House Merchant Marine and Fisheries Committee, long home to barge and towing industry issues, was abolished in January. Its Subcommittee on Coast Guard and Navigation, led by Rep. **Billy Tauzin** (D-La.), has changed its name to the Coast Guard and Marine Transportation Subcommittee, and is now part of the Transportation and Infrastructure Committee (formerly Public Works) and is chared by Rep. **Howard Coble** (R-N.C.). Both Reps. **Tauzin** and **Coble** led the fight for a consensus-based barge safety bill in the 103rd Congress.

Issues handled in the now defunct Merchant Marine and Fisheries Committee have been spread among several committees. The Transportation and Infrastructure Committee will handle water resources, locks and dams, the Inland Waterways Trust Fund, issues related to the Oil Pollution Act of 1990, and Coast Guard and marine transportation issues. The National Security Committee (formerly Armed Services) has been given added jurisdiction over the Jones Act and maritime subsidy-related issues. To handle its new coastal maritime jurisdiction, the National Security Committee has formed a special panel, to be chaired by Rep. **Herbert Bateman** (R-Va.), previously in line to chair the Merchant Marine and Fisheries Committee. The panel, to be empowered for six months, will be the initial House forum for considering any legislation needed to reform the nation's maritime programs. In part, it will address government subsidies provided to ocean carriers to operate under the U.S. flag with U.S. crews. It will also play a role in debating the recent OECD agreement to end shipbuilding subsidies by 1996.

Other House committees which hold jurisdiction over the barge and towing industry include the Resources Committee (formerly Natural Resources), which will be home to environmental issues such as endangered species and Alaska oil exports. The Appropriations Committee will continue to handle all funding bills; the Ways and Means Committee will oversee all tax issues; and the Commerce Committee will focus on risk assessment, superfund, and the transportation of hazardous materials.

In the Senate, the Commerce, Science and Transportation Committee will continue to handle all Coast Guard and maritime issues. The Environment and Public Works Committee will continue to oversee issues related to inland waterways infrastructure and endangered species. And, like the House, the Appropriations and Finance committees will focus on funding bills and tax bills/user fees, respectively.

Rep. **Bud Shuster** (R-Pa.), newly appointed chairman of the House Transportation and Infrastructure Committee, a key committee for the barge and towing industry, announced that during the first 100 days the committee and subcommittees will hold hearings to review "every law and program within the committee's jurisdiction, and will seek to identify budget savings, reduced unfunded mandates and regulatory burdens, and target potential areas for privatization." Rep. **Shuster** also announced his intention to seek legislation to take vari-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Circle 292 on Reader Service Card

(Whalen Article Continued from page 24)

What the new congress means for the barge & tow industry

ous trust funds off-budget, including highway, aviation, harbor maintenance and inland waterways, that fall within the committee's jurisdiction. This would serve to insulate these funds from being used to finance other activities not authorized by the committee. Rep. **Shuster** also reiterated his support for having the 4.3 cent per gallon tax imposed by the 1993 Budget Act, which now goes into the general treasury for deficit reduction, eventually redirected to go back into the specific trust finds. In other words, the 4.3 cents paid by the barge and towing industry would go back into the Inland Waterways Trust Fund.

The fuel-user tax issue could find itself in a more vulnerable position in the 104th Congress given that the effort to shrink government spending can often politically translate to proposals which instead raise tax. However, another big change being advocated by the Republicans concerns the way the government measures the financial-budgetary impact of tax proposals. Under the currently followed "static" interpretation of tax impacts — referred to in Washington as "scoring" — tax increases or decreases are viewed as having no impact on behavior. Thus, the 1993 proposed $1 per gallon increase in the barge and towing industry's fuel tax was scored to raise approximately $460 million per year based on the assumption that business activity fuel use would remain constant. To replace this traditional, and what many view as unrealistic, accounting mechanism, the Republicans are instead seeking to adopt what they assert would be a more realistic, real-world method of accounting called "dynamic scoring," which would develop and utilize revenue estimates based on expected economic activity resulting from the proposed tax cut/increase. Thus, how much the government would reduce spending by raising our fuel tax $1 per gallon would be calculated to include the impacts of diminished fuel use reflecting lost business and would also allow for the consideration of other economic impacts to consumers, farmers, etc., resulting from such a tax hike.

The Jones Act, a key underpinning of AWO's work, may well also find itself more vulnerable in the new Congress, particularly due to actions in the Senate. Acrimonious debate between maritime labor and farm state senators last year over maritime reform legislation has led those senators to conclude that it is time to carefully reexamine the maritime subsidy support system now in place and the costs of cargo preference to the U.S. taxpayer.

This issue is already set to come before the Senate Commerce Committee, led by Senator **Larry Pressler** (R-S.D.), early in the legislative session, and Senator **Charles Grassley** (D-Iowa) has indicated he may raise the issue during the budget debate.

Environmental legislation is an area in which the industry probably gained support in the Congressional shift. Environmental groups seeking to change the relative importance with which navigation is viewed when examining waterways systems needs, be it in the Missouri River Master Manual revisions or floodplain management legislation, should find a less sympathetic audience in the Republican Congress. The Endangered Species Act reauthorization should similarly face far brighter prospects for injecting regulatory flexibility and economic realities into a law which many Republicans view as too restrictive and costly.

The industry is currently working on an education campaign to bring these newly elected officials and the hundreds of new Congressional staffers up to speed on the vital role of the industry and its importance to the nation's economy.

(Kelly Article Continued from page 21)

AWO's Regulatory Agenda: Challenge & Change

cooperation is needed to ensure the highest standards of safety and environmental protection. Throughout all of this, the goal of AWO's advocacy in 1995 remains just as it was in AWO's early days: the preservation and growth of a safe, efficient, healthy barge and towing industry.

TOWING SAFETY

At no time was the need for government-industry partnership more evident than last year, which began in the shadow of the Amtrak Sunset Limited derailment at Big Bayou Canot, Ala. The process of cooperation which began immediately after this watershed event was continued and strengthened in 1994. Before 1993 had ended, AWO had assisted the U.S. Coast Guard (USCG) in conducting a post-accident review of safety in the barge and towing industry and had testified before the National Transportation Safety Board, offering nine recommendations to improve industry safety. Before the first month of 1994 was over, AWO had met with the leadership of the USCG to pledge industry assistance in implementing the 19 safety recommendations to emerge from the USCG's December 1993 study. By mid-March, this pledge found tangible form in the establishment of four working groups under the auspices of the congressionally authorized Towing Safety Advisory Committee (TSAC). At AWO's urging, TSAC working groups were established to assist the USCG in implementing the report's recommendations regarding casualty reporting, radar training, navigation equipment, and licensing for towing vessel operators. Bringing together experts from the barge and towing industry, maritime labor, educational and training institutions, and other affected parties, the groups worked quickly to meet the USCG's ambitious schedule for implementing the recommended regulatory changes.

The importance of this USCG-industry cooperation was underscored by the failure of the 103rd Congress to pass towing safety legislation before its adjournment.

Despite the demise of the towing safety bill, by year's end the USCG, with the close assistance of TSAC, had implemented by regulation two key provisions which Congress had tried unsuccessfully to effect by legislation: more stringent requirements for reporting marine casualties and new radar training requirements for towing vessel operators. Rules implementing these changes, called for in the USCG's December 1993 towing safety study, were published in August and October, respectively.

Regulatory proposals to upgrade navigation equipment requirements for towing vessels and upgrade licensing standards for towing vessel operators were also under development, scheduled for issuance in early 1995.

CONTINUING CHALLENGES

While last year AWO worked to forge new partnerships with the USCG to implement the agency's post-Amtrak recommendations to improve towing safety, the familiar challenge of OPA 90 implementation continued to occupy a prominent place on the association's regulatory agenda. Supported by the efforts of individual member companies, AWO's advocacy was instrumental in securing the promulgation of practical, cost-effective USCG rules for overfill devices on tank barges carrying oil. The technical and economic data provided by AWO members also played a key role in the USCG's decision to revise its approach to proposed pollution-prevention measures for large single-hulled tank barges, shifting its focus from costly, ineffective structural measures to operational improvements aimed at preventing pollution-causing incidents.

Last year also saw the issuance of the USCG's long-awaited and highly

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AWO's Regulatory Agenda: Challenge & Change

controversial certificates of financial responsibility (COFR) rule, with which tank barge operators must comply by July 1, 1995. In testimony before the House Coast Guard and Navigation Subcommittee and formal comments to the regulatory docket, AWO called attention to the rule's potentially devastating impact on independent coastal tank barge operators, urging the USCG to suspend implementation of the rule if acceptable financial responsibility mechanisms cannot be developed. AWO will monitor the COFR implementation process closely as 1995 begins to assess the need for renewed advocacy efforts as the rule's effective date approaches.

Preservation of the Jones Act, a key legislative underpinning of the U.S. barge and towing industry, continues to be an important objective of AWO's issue agenda as well. The Jones Act Coalition and Steering Group, comprised of AWO member companies and allied trade associations and companies, oversaw the conduct of a consultant study aimed at marshaling the contemporary public policy arguments in support of the Jones Act and highlighting the economic value of the Jones Act to the nation. Completed at the end of last year, the study will serve as an important component of AWO's future advocacy work in the Jones Act's defense.

AWO's efforts in support of the Jones Act took a new direction in 1994 as well. In September, the board of directors approved the recommendation of the Coastal Sector Committee that a task force be established to monitor and protect the Jones Act in the international trade arena. Funded by contributions from participating member companies, the task force will retain a consultant to advise AWO of key developments in international trade negotiations and to help craft a successful strategy to preserve U.S. cabotage laws in the face of international pressure.

CHALLENGES AHEAD

As AWO embarks on its second 50 years of service to the barge and towing industry, the challenge of competing successfully in an intense regulatory environment will continue. Success in 1995 and beyond requires a continued emphasis on strong, fact-based advocacy; a renewed commitment to government-industry partnership; and the combination of sector-specific focus and industry unity which underlie the association's promising new committee structure. The challenges which dominated AWO's regulatory agenda in 1994 — towing safety, OPA implementation, preservation of the Jones Act — will continue as we see 1995 unfold, and new ones will undoubtedly arise. Learning from the hard-fought battles and building on the successes of the past will serve the association well as it navigates the challenges ahead.

Swiftships Delivers Waterjet Powered Crew/Supply Boat

Swiftships Inc. of Morgan City, La. recently delivered the M/V *Mr. Mel* to Diamond Services Corp., also of Morgan City. The vessel is reportedly the first waterjet powered crew/supply vessel in the U.S.

The all-aluminum boat measures 141 ft. (43 m) long and 26 ft. (8 m) wide, and has the capacity to carry 79 passengers, cargo, fuel and water, as well as up to 120 tons of deck cargo. During sea trials, the vessel attained speeds up to 28 knots. The unique vessel is powered by four Detroit Diesel 12V92TA (DDEC) main engines, which drive four Hamilton HM571 jet drives.

For more information on Swiftships Circle 74 on Reader Service Card

(For a view of the unique crew/supply boat in action, turn to page 19)

Trinity Acquires Nabrico, Making 19 Yards In TMG

Trinity Industries, Inc. has acquired the two yards of the Nashville Bridge Co. (Nabrico), Nashville, Tenn., builders of a variety of barges, towboats, oceangoing vessels and a wide range of marine deck fittings. Terms of the acquisition from Nabrico's owner, **George M. Steinbrenner III**, were not disclosed.

The announcement was made by **John Dane III**, president of the Trinity Marine Group, the shipbuilding segment of Trinity Industries, Inc. The shipyards are now the 18th and 19th in the Trinity Marine Group, and will be part of the group's inland waterways division, under the management of **Robert E. Kenny**, senior vice president, inland operations.

Mr. **Dane** said, "The acquisition of Nabrico is another indicator of Trinity's continuing commitment to waterways operators. Nabrico enjoys an excellent reputation as a high quality builder, and has a loyal customer base which we intend to build on.

We have assumed all current contracts and are delighted to add Nabrico's extensive line of deck fittings to our business. These fittings complement our services to the industry which extend from design, construction, repair and conversion, to cleaning and gasfreeing for just about any vessel on the waterways."

Nashville Bridge Co. was founded in 1902. Its two shipyards on the Cumberland River are in downtown Nashville and in Ashland City, about 20 miles downstream from Nashville. The two facilities employ approximately 265 people and have been retained by Trinity.

The first Nabrico shipyard is located in downtown Nashville adjacent to the Shelby Avenue Bridge, which Nabrico built on the Cumberland River in 1912. The bridge is just one of many steel structures and bascule bridges (counterweighted drawbridges) which the company built throughout the South and which are still in use today.

Nabrico has built more than 4,000 barges, many tugs and towboats and some supply boats. During World Wars I and II, the company built submarine chasers, minesweepers and assault boats for the U.S. Navy, earning the Army-Navy "E" Award with four stars.

The Ashland City facility was added in 1974 to build larger oceangoing vessels which could not be built in downtown Nashville. Also in 1974, Nabrico sold its structural steel division which built bridges to concentrate on barge construction.

The Nabrico brand name has been retained by Trinity and the two shipyards have been designated Trinity - Nashville and Trinity - Ashland City.

For more information on Trinity
Circle 100 on Reader Service Card

RGF Debuts New Bilge Pro Models

RGF Marine Environmental Technologies introduced the new Bilge Pro Models BP 20 & 50, advanced water processing systems for barge or land based operations. The system is designed to eliminate problems associated with strict discharge regulations and avoid U.S. Coast Guard fines.

The two models, BP-20 and BP-50, are capable of processing 20 and 50 gallons of water per minute, respectively. The system reportedly uses a new matrix filtration and coalescing system to remove oil, fuel and other petroleum hydrocarbons from bilge water.

For more information from RGF Marine Environmental Technologies
Circle 39 on Reader Service Card

Textron Marine & Land Systems Wins $23 Million Navy Contract

Textron Marine & Land Systems (TM&LS), New Orleans, was awarded a U.S. Navy contract valued at approximately $23 million.

The contract is for the Mid Life Availability (MLA) of the U.S. Navy's Landing Craft Air Cushion (LCAC). The contract consists of all work associated with the mid-life overhaul and refurbishment of approximately 30 existing craft.

Work is anticipated to begin in April by Textron TM&LS's West Coast Operations, located at Assault Craft Unit (ACU) 5 at Camp Pendleton, Calif. It is expected that approximately 15 craft will be overhauled at the West Coast Operations and 15 by TM&LS's East Coast facility, located at ACU-4 in Little Creek, Va. This multi-year effort will also assist in continuing employment in New Orleans.

Increasingly, LCACs are used by the U.S. Joint Amphibious Forces in providing global humanitarian assistance.

A U.S. leader in the design and construction of advanced technology air cushion vehicles, surface effect ships, combat vehicles and advanced suspension systems, TM&LS, a division of Textron Inc., serves both military and commercial interests.

For more information on Textron
Circle 102 on Reader Service Card

Kvaerner Energy To Supply Turbines For Seajets

The two 41-knot Seajet passenger/car fast ferries ordered by Danish operator Mols-Linien from domestic shipyard Danyard will be powered by twin General Electric/Kvaerner Energy LM 1600 series gas turbines, supplied in special modules from Kvaerner Energy's Agotnes facility on the West Coast of Norway. The two GE gas turbines for each of the Danyard newbuildings, supplied in specialized integrated modules, will develop a total output of 24,800 kW and offer a full load service speed of 40.8 knots and an expected fuel consumption of around 5.5 tons per hour.

When delivered in the spring of 1996 from Danyard's Romdrup facility in Aalborg, both 232.9-ft. (71-m) long vessels will operate on the Danish ferry company's Ebeltoft/Odden service between Jutland and Sjaelland, cutting the journey time from an hour and 45 minutes to just 45 minutes.

The Seajets, designed jointly by Danyard and Australian fast ferry builder NQEA, are a cross between a SWATH (Small Waterplane Area Twin Hull) and a catamaran, being of all-welded aluminum construction. In the Mols-Linien configuration (Seajet 250), each vessel will have a capacity of 450 passengers and 120 cars, with the design providing drive-through facility with loading and discharge of vehicles taking place via ramps fore and aft.

For more information on
Kvaerner Energy
Circle 103 on Reader Service Card

Nominations For Seamanship Trophy Sought

Nominations are being accepted for the 1995 American Merchant Marine Seamanship Trophy.

The trophy is awarded on behalf of the maritime industry to U.S. citizens which exemplify the highest traditions of seamanship and maritime skills demonstrated in the immediate past calendar year. In 1994, the Selection Committee selected Capt. **Deborah Dempsey**, who led a small group of volunteers airlifted to a crewless, runaway vessel to gain control of the ship before it was beached. Nominations must be individual U.S. citizens who have performed distinguished seamanship while aboard a civilian-crewed U.S.-flag vessel, yacht or other small craft during the calendar year 1994. All nominations should be sent by May 1, 1995 to: Secretariat, American Merchant Marine Seamanship Trophy, Office of External Affairs, U.S. Merchant Marine Academy, Kings Point, N.Y. 11024-1699.

PRINCIPAL WORLD SHIPBUILDING CONTRACTS

RECORDED IN JANUARY 1995
(Source: Ferliship, Spain)

Ferliship is an international commercial strategy consultancy. The company develops commercial strategies and international marketing programs for the Spanish shipbuilding sector. Particularly, the company's Shipbuilding Industry Division makes short, medium and long range Market Research Reports and advises according to projected development. Ferliship's database, covering the entire International Shipbuilding Registry, allows the company to do general research, top level reports, as well as market research in all aspects. Ferliship is a young company composed of professionals from the sector with more than twenty years of experience. For more information, contact Ferliship, San Francisco de Sales No. 8, 28003 Madrid, Spain; tel: +341 441 41 38/+341 441 40 96; fax: +341 441 41 38.

Owner/ Operator	Yard	Type	Qty.	Del.	Price ($Mil)
Supreme Pearl	AESA	Bulk carrier	2	9/96	84
Hong Kong Interest	Halla	Bulk carrier	2	7/96	—
Carras	Holla	Bulk carrier	4	12/96	176
Kawasaki Kisen	Imabari	Bulk carrier	1	3/97	33.9
Korea Line	Samsung	Bulk carrier	1	8/96	40
Yukong Line	Samsung	Bulk carrier	1	10/96	40
Gearbulk/Mitsui	Dalian	Bulk carrier	2	97	40
Gearbulk/Mitsui	Gdansk	Bulk carrier	2	97	29
Sanko	Hitachi	Bulk carrier	2	9/96	23.35
Leif Hoegh & Co.	Mitsui	Bulk carrier	1	12/96	45
Leif Heogh & Co.	Mitsui	Bulk carrier	1	12/97	45
Nippon Yusen Kaisa	Oshima	Bulk carrier	1	8/96	45.67
Swiss	3MAJ	Bulk carrier	3	97	—
Chowgule Steamship	China Shipbldg. Co.	Bulk carrier	2	97	—
Deiulemar Compagnia di Navigatione	Fincantieri	Bulk carrier	3	—	125.7
Seamar Shipping Co.	Industrias Verolme Ishibras	Bulk carrier	2	7/96	56
Black Sea Shipping	Nikolaev	Bulk carrier	6	10/97	150
Swiss	Uljanik	Bulk carrier	2	97	—
Greece Interest	Alabama Shipyard	Bulk carrier	4	—	80
Great Eastern	Daedong	Bulk carrier	2	96	25
Broken Hill Proprietary	Daewoo	Bulk carrier	1	12/96	45
Broken Hill Proprietary	Daewoo	Bulk carrier	2	—	—
Hamburg SUD	Emaq Verolme	Bulk carrier	2	96	—
Candice Shipping	Halla	Bulk carrier	4	12/96	168
Grand Seatrade	Halla	Bulk carrier	1	12/96	44
Broken Hill Proprietary	Hyunai	Bulk carrier	1	—	—
Daichi Chuo Kisen	Ishikawajima Harima	Bulk carrier	2	6/96	—
N.S. Lemos	Kaosiung	Bulk carrier	2	6/96	42.5
Bocimar	Kawasaki	Bulk carrier	1	2/96	—
Safmarine	Keelung	Bulk carrier	2	5/96	—
Navix Line	Namura Zosensho	Bulk carrier	1	3/97	40
Golden Ocean	Nippon NKK	Bulk carrier	2	8/96	45
Stephenson Claike Shipping	PT Pal	Bulk carrier	1	8/96	—
Sinotrans	Tsuneishi	Bulk carrier	2	—	50
German Interest	Blohm + Voss	Container	1	3/96	—
Stom RoRo Shipping	Astilleros de Huelva	Container	2	—	40
Contship Container Lines	Bremer Vulkan	Container	6	—	300
Yang Ming Marine	China Shipbldg. Co.	Container	1	12/95	56.9
Conti Reederei	Daewoo	Container	1	12/96	48.1
Danaos Shipping	Gdansk	Container	4	98	200
Daulsberg	Gdynia	Container	2	96	64
German Interest	Gdynia	Container	7	—	—
Pacific Int. Lines	Kanasashi Co.	Container	5	10/96	150
Cosco	Kawasaki	Container	6	10/97	500
DSR/RF Laeisz	Kvaerner Warnow	Container	4	6/96	192
Interorient Navigation	Kvaerner Warnow	Container	2	12/96	99
DSR/RF Laeisz	Kvaerner Warnow	Container	2	6/96	98
European Interest	Kvaener Warnow	Container	2	12/96	98
Misc	Malaysia Shipping	Container	2	98	34
A.P. Moller	Odense	Container	3	—	282
Maersk Line	Odense	Container	3	—	255

Owner/ Operator	Yard	Type	Qty.	Del.	Price ($Mil)
Costamare	Samsung	Container	1	7/96	48
Anglo Eastern Ship Management	Szczenin	Container	2	1/97	—
Greece Interest	Szczenin	Container	2	1/97	—
Carnival Corp.	Kvaerner Floro	Cruise	2	11/98	600
Carnival Cruise Line	Kvaerner Masa	Cruise	1	1/98	300
Carnival (Holland America)	Fincantieri	Cruise	1	11/97	650
Carnival	Fincantieri	Cruise	1	12/98	—
Reutsche Seereederei Tounstik	Kvaerner Floro	Cruise	1	6/96	180
United Tankers AB	Union Naval de Levante	Chemical	1	7/96	—
—	Bazan	Ferry	1	—	42
Maldives Industrial Fisheries	Visser of Deb Helder	Fishing	4	10/94	—
Argentine Interest	Westcon	Fishing	2	96	18.3
Heino Winter	Detlef Hegeman	Gen. Cargo Cont.	2	—	—
Dockendale	Bohai	Gen. Carg Twin Decker	2	8/95	32
Pak Gida Uretim Pazalaima	Selah Maic Sanayi Ve Ticaret	General Cargo	2	8/96	—
Ballast Nedam Group	Merwede Shipyard	Hopper Drdge Suction	1	10/96	86
Royal Navy	Appledore Shipyard	Hydrographic	1	—	62.4
Norsk Hydro	Hitachi	LPG	2	12/97	70
Navix Line	Fukuoka	LPG	2	—	23
Navix Line	Watanabe	LPG	1	—	14
Kristian Gerhard Jebsen	Hyundai	OBO	1	96	50
Harrisons	Ferguson Shipbdrs	Offshore	1	6/96	19.6
Wallenius Lines	Daewoo	RoRo	1	97	60
Wilhelmsen	Mitsubishi	RoRo	2	12/96	80
A.P. Moller	Miho Shipyard	RoRo	2	7/96	—
Norfolk Lines	Miho Shipyard	RoRo	2	6/96	—
Engship AB Turkey	Sterkoder Verft	RoRo	1	96	35
Poor Hisen Chartering	Sterkoder Verft	Tanker	1	96	35
Neptune Orient Lines	Samsung	Tanker	1	4/96	42
Shipping Co. of India	Cochin Shipyard	Tanker	1	97	62
Wilhelmsen	Dalian	Tanker	1	3/97	50
Premorsk Shipyard	Cheung Ku Marine Indus.	Tanker	2	3/96	—
Osprey	Halla	Tanker	2	6/96	33.35
Neptune Orient Lines	Onomichi	Tanker	2	—	62
Hong Kong Interest	Wenchong Shipyard	Tanker	1	7/96	—
Statoil	Samsung	Tanker	1	12/96	95
Honam Tanker	Hyundai	Tanker	1	—	—
Honam Tanker	Hyundai	Tanker	1	—	—
Nippon Yusen Kaisa (NYK)	Ishikawajima Harima	Tanker	1	—	—
Angelicoussis	Daewoo	Tanker	1	6/96	42
Iver Ships	Kherson Ship.	Tanker	2	96	23.5
Tain Tank Reederei AB	Kvaerner Kleven Leirvik	Tanker	1	7/96	30
China Interest	Kroeger Werft	—	4	97	51.6

U.S. Coast Guard Approves Simulator Testing By RTM STAR Center

★ Training exercises on the bridge of this 360-degree field-of-view simulator can be customized to meet specific user needs. Simulator training sharpens a mariner's professional knowledge and operating skills.

A significant step has been taken to improve maritime safety and the protection of the environment by the U.S. Coast Guard. RTM STAR Center has been granted approval by the Coast Guard to provide simulator-based testing. Qualified mariners may now use simulator testing to demonstrate on-the-job skills required for an Unlimited Master's License. Many feel this is the first step toward simulator-based testing at various levels.

Those who have experienced simulator training know it is an economical, safe way to gain years of sea time skills in one to two weeks of classroom training. RTM STAR Center, the largest commercial simulator trainer in the U.S., offers over 30 courses utilizing bridge, engineroom, cargo handling and radar/ARPA simulators. There are specialized courses for mariners on tankers, tug-barges, workboats, and cruise ships.

You can reduce human errors and prevent the loss of property and life by enrolling crews in simulator-based training courses. Follow the Coast Guard's lead by calling Harry J. Crooks, Director of STAR Programs, for a complete listing of classes.

★ The liquid cargo handling simulator can function independently, or in an integrated mode for full mission exercises.

★ Engineroom simulator training can help prevent equipment damage, reduce vessel downtime and increase operating efficiency.

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RTM STAR Centers are located in:
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Circle 313 on Reader Service Card

Field, Laboratory Tests Of Wärtsilä Engine Return Good Results

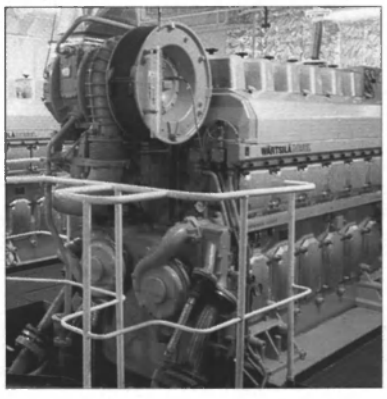
Wartsila Diesel recently released accrued test information on the Wartsila 20 engine. The latest in the range of engines designed and manufactured in Finland has gone through an intensive period of testing both in the field and in the Vaasa test laboratory. Altogether, the engines have accumulated more than 4,000 running hours in the lab, roughly the same as in the first field installation.

The engine maker, to get a wide-ranging, authentic picture of engine performance, immediately scheduled an inspection plan when the first Wartsila 20 field installations were started in March 1994. The first inspections were made on three ships — M/V *Kairo*, M/V *DSR Port Said* and M/V *City of Tunis* (pictured to the right) — each of which have three Wartsila 6L20 auxiliary engines. The inspection plan included visits to the first ships when the engines had reached 1,000, 2,000 and 4,000 operating hours. The plan was to make a complete inspection of all main engine parts on one engine and collect performance data from the other two engines.

The M/V *City of Tunis* has three Wartsila 6L20 auxiliary engines, and data from the engines' performance was used by the manufacturer in field tests of the engine.

Field Test Results

The first visit on the M/V *Kairo* was made after one of the three auxiliary engines had reached 1,000 operating hours. The vessel is a containership operating in Europe. The field test was designed to spot changes in engine performance long before they turn into problems for the owner, and to identify new possibilities to continue engine development. The results of this test confirmed Wartsila's lab tests, the engine maker reports. All components such as pistons, cylinder liners, valves, connecting rods and bearings were reportedly in excellent condition, showing almost no wear. Inspections have since been made on five other vessels and the field inspection schedule has been very intensive. A total of 10 visits had been performed by late November. The results from the field inspections have shown very good engine performance, Wartsila reports.



The engine room of the M/V *City of Tunis*.

An interesting point raised in the field testing, the engine maker found, was regarding low lubricating oil consumption. Low oil consumption in itself is not a problem, quite the opposite. The problem, Wartsila points out, is disposing of the used oil, as it is expensive and many harbors have inadequate facilities to handle waste oil. The challenge now lies in developing a lubricator that can meet the needs of low lubrication oil consumption, less than .5 g/kWh, the engine maker believes.

Laboratory Test Results

Although field testing has increased in importance for Wartsila, lab testing has not decreased in value as it allows the almost continuous operation of the engine. Laboratory testing also allows the ability to test solutions which may not be necessarily safe, but which may have great impact on total performance if they succeed.

The endurance tests performed in the laboratory on the Wartsila 20 engine have been at very high loads: up to 20 to 25 percent overload from nominal values and with maximum combustion pressures exceeding 200 bar. A load cycling test from 0 to 120 percent with six-minute cycles has been performed for more than 250 hours and other demanding tests have been performed to stress the engines to their limits — all of which have been passed, according to Wartsila.

When the endurance tests have shown that the engine is able to withstand big stresses, the test programs have changed from endurance testing to fuel consumption optimization and emission control. In the laboratory, the test program during 1994 strongly emphasized emission control. Different solutions are being tested and new ideas are being examined and explored daily. Within one year, the NOx emissions on the Wartsila engines have been reduced by half and progress is still being made.

For more information on Wartsila Diesel
Circle 5 on Reader Service Card

Pearl Harbor Survivors At Keel-Laying For Avondale's Ship Pearl Harbor

Members of the National Pearl Harbor Survivors Association attended the keel-laying ceremony for LSD-52 at Avondale's New Orleans shipyard in January. LSD-52, Avondale's latest ship built for the U.S. Navy, will be christened *Pearl Harbor* at launching ceremonies in 1996, in honor of the naval base on the Hawaiian island of Oahu, and the soldiers who fought against the surprise Japanese attack on December 7, 1941.

For more information on Avondale
Circle 93 on Reader Service Card

THE WORLD ORDERBOOK (end of 4th Qtr., 1994)

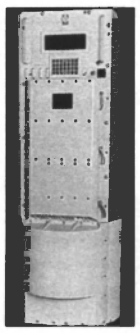
In total there are 1,182 ships under construction totaling more than 18 million gt, according to the latest statistics released from Lloyd's Register. Also, there are 1,134 ships totaling more than 27.7 million gt which have been ordered but have not yet commenced building.
According to the report, the volume of tonnage in the world orderbook has increased by 3,716,466 to a total of 45,791,505 gt. More than 91 percent of the world orderbook is scheduled for delivery by the end of 1996.

Country	Under Construction No.	Under Construction GT	Not Commenced No.	Not Commenced GT	Total No.	Total GT	%
Argentina	12	44,661	3	330	15	44,991	.1
Australia	19	24,500	2	4,400	21	28,900	.06
Belgium	13	92,776	4	55,880	17	149,658	.33
Bulgaria	12	130,451	5	21268	17	151,719	.33
Canada	2	720	2	6,300	4	7,020	.02
Chile	6	4,424	4	1,800	10	6,224	.01
China, People's Republic of	42	501,190	69	1,408,987	111	1,910,177	4.17
China, Republic of (Taiwan)	13	366,910	18	886,700	31	1,253,610	2.74
Croatia	13	366,919	11	262,000	24	628,919	1.37
Cuba	1	120	—	—	1	120	0
Czech Republic	1	1,200	—	—	1	1,200	.01
Denmark	12	512,662	31	693,710	43	1,206,372	2,63
Egypt	18	29,040	1	800	19	29,840	.07
Fiji	1	3,125	—	—	1	3,125	
Finland	13	795,441	7	217,400	20	1,012,841	2.21
France	13	480,495	3	257,000	16	737,495	1.61
*Georgia	—	—	1	344	1	344	0
Germany	53	813,751	48	888,854	101	1,702,605	3.72
Greece	6	66,470	1	5,000	7	71,470	.16
Hong Kong	1	202	—	—	1	202	0
India	33	95,971	8	119,921	41	215,892	.47
Indonesia	9	27,750	4	34,340	13	62,090	
Iran	10	8,579	4	3,867	14	12,446	.03
Italy	39	861,331	17	334,940	56	1,196,271	2.61
Japan	234	5,390,766	257	9,266,804	491	14,657,570	32.01
Korea (North)	—	—	1	9,626	1	9,626	.02
Korea (South)	77	3,926,628	164	8,309,946	241	12,236,574	26.72
*Lithuania	—	—	1	3,650	1	3,650	.01
Malaysia	6	16,764	1	48,000	7	64,764	.14
Malta	4	14,595	—	—	4	14,595	.03
Netherlands	88	174,865	40	126,924	12	301,789	.66
New Zealand	—	—	1	400	1	400	0
Norway	23	182,929	22	172,684	45	355,613	.78
Pakistan	1	8,200	3	9,900	4	18,100	.04
Peru	38	12,848	2	1,060	40	13,908	.03
Philippines	3	6,546	—	—	3	6,546	.01
Poland	25	299,938	57	980,410	82	1,280,348	2.8
Portugal	23	12,514	12	31,886	35	44,380	.1
Romania	71	962,651	18	424,444	89	1,387,095	3.03
*Russia	26	118,470	112	655,752	138	774,222	1.69
Singapore	33	160,677	18	162,621	51	323,298	.71
Slovakia	5	10,996	6	14,226	11	25,222	.06
South Africa	1	140	—	—	1	140	0
Spain	50	444,683	45	500,554	95	945,237	2.06
Sweden	1	128	—	—	1	128	0
Thailand	2	3,920	—	—	2	3,920	.01
Turkey	26	171,300	15	208,022	41	379,322	.83
*Ukraine	11	246,811	30	771,520	41	1,018,331	2.22
U.K.	23	226,887	11	248,860	34	475,747	1.04
U.S.	37	19,426	46	91,383	83	110,809	.24
Venezuela	—	—	1	150	1	150	0
Vietnam	1	1,038	—	—	1	1,038	0
Yugoslavia	9	38,000	13	48,600	22	86,600	.19
Total	**1,182**	**18,032,522**	**1,134**	**27,758,983**	**2,316**	**45,791,505**	**100**

* nformation incomplete
Source: Lloyd's Register

Marine Electronics NEWS UPDATE

Sperry Wins $22.3M U.S. Navy Navigator Contract



Sperry Marine announced that the U.S. Navy selected its MK-49 Ring Laser Gyro Ship's Inertial Navigation System for the Navy's surface and subsurface ships. The contract calls for the delivery of 13 MK-49 systems plus options for 36 additional systems, and support over a three year period for a total of $22.34 million. The Navy will install the MK-49 systems initially awarded on this contract in the new DDG-51 Arleigh Burke class destroyers, and later on Aegis cruisers, attack submarines, aircraft carriers and other major combatants.

An MK-49 navigation system went into production at Sperry in 1989, and to date, more than 50 systems have been delivered to four navies.

For more information on Sperry
Circle 28 on Reader Service Card

Cegelec Wins DPS Order

The marine systems division of Rugby-based Cegelec Projects was awarded an order for its DPS 903 dynamic position control system by Neddrill Nederland BV. The system will be installed on the owner's deep water drill ship, the *Neddrill 1*. The contract also includes a dual LSBL acoustic positioning system, as well as installation and cabling. This is the second order Cegelec has received from Neddrill Nederland BV for the triple voting dynamic position control system. The first was installed on the *Neddrill 2*.

For more information on Cegelec
Circle 6 on Reader Service Card

Seacoast Wins Special Op Vessel Job From Trinity

Seacoast Electronics Inc. was awarded the contract to provide the communication and navigation systems for the Mark V Special Operation Craft (SOC) from Trinity Marine's Equitable facility.

The equipment package is to include radar, marine VHF, Loran C, global positioning systems and electronic chart navigation units.

The award is in addition to the recent contract for two commercial tugs under construction at Trinity Marine's Moss Point facility. Being built for Penn Maritime, the tugs include dual Furuno radar installations along with a complete complement of communication and navigation products. Finally, the company's new construction group recently provided the specified dial telephone, CCTV, and meteorological systems to the AGOR/NOAA vessels currently under construction at Trinity's Halter facility.

For more information on Seacoast
Circle 20 on Reader Service Card

EMS & Sperry Win Cape May Ferry Contract

Electronic Marine Systems, Inc. of Rahway, N.J. has been awarded a contract to provide a state-of-the-art ship automation system for the first of a four-ship program. The EMS Marcon division will provide the machinery monitoring console, pneumatic controls and fire system. All work is to be done at Newport News Shipyard. Sperry Marine will provide the integrated bridge system.

For more information on EMS
Circle 60 on Reader Service Card

Simrad Wins Orders Totaling $4.7 Million

Simrad secured orders for ship automation and positioning systems for four advanced offshore and research vessels. The orders have a total value of nearly $4.7 million.

Remøy Management of Norway ordered a compact integrated ship automation system for a new platform service vessel under construction at the Brattvag shipyard. The Power Pack system is reportedly the first standardized, integrated system to be installed in a vessel of this size. The package includes an ADP 701 dynamic positioning system (DPS), thruster control, vessel automation and an electronic chart system.

Stolt Comex Seaway ordered a redundant DPS with various reference systems, including an underwater positioning system for *Seaway Falcon*. The vessel was originally a drill ship, and is being converted to become mainly a cable layer.

Rieber Shipping ordered a DPS for its new arctic research vessel, currently being built at the Kvaerner Kleven shipyard. The order includes Hipap, a new high-precision underwater positioning system.

Finally, Golar Nor chose Simrad to supply a redundant dynamic positioning and position mooring system with dual transducer hydroacoustic position reference system, independent joystick system and vessel simulator for the *Petrojarl 4*, a vessel being converted at the Spanish Astano shipyard to an offshore production vessel.

For more information on Simrad
Circle 18 on Reader Service Card

Growing Demand Prompts C-Map/Russia Office Move

The C-Map/Russia office recently moved its office. "There is a rapidly growing demand for ECDIS quality electronic charts in this area of the world. Therefore we have expanded our operation to meet this demand, first with the opening of C-Map/Poland and now with the expansion of C-Map/Russia," said **Kenneth J. Cirillo**, vice president and general manger, C-Map/USA. The new address for C-Map/Russia is: 21 Line 8, Block H, Office 19, 199026 - St. Petersburg, Russia; tel/fax: +7 812 119 1234.

For more information from C-Map/USA
Circle 7 on Reader Service Card

Alden System Factors In High Seas Rescue

BOC Challenge racer **Isabelle Autissier** was rescued by Australian authorities 870 nautical miles southwest of Hobart when her ocean racer was devastated by rough seas, conditions which caused the boat to lose its mast and suffer a 16-ft. (5-m) hole in her deck. The racer was rescued after activating her Alden SATFIND-406 Survival EPIRB to assist search and rescue efforts. The SATFIND-406 Survival EPIRB transmits a power signal via satellite.

For more information from Alden
Circle 29 on Reader Service Card

Hughes Offers New Display System

An advanced display system that provides oceangoing commercial ship operators with the capability to integrate all onboard electronic sensor data was introduced by Hughes Aircraft Co.

The Mariner 2200 Display System builds on Automatic Radar Plotting Apparatus (ARPA) basic navigation and tracking features by automatically integrating ownship sensor data and sharing digital information with onboard systems. Built-in functions include clutter rejection, automatic tracking, automatic tuning and land masking. The system features advanced ARPA with greater than 60 track capacity per radar; interfaces to all navigation inputs including GPS/DGPS, Loran, VHF, SATNAV, speed log and gyrocompass; and has built-in local area network interface for immediate shipboard digital network compatibility.

For more information from Hughes
Circle 19 on Reader Service Card

Magnavox Introduces Integrated System

Magnavox has introduced a new integrated communication optimization system, for use with its land and marine MAGNAPhone satellite systems. The Magnavox Communication Integrator is a programmable call-routing device which reportedly simplifies and optimizes mobile voice, fax and data communications through multiple media. It is designed to integrate all available communication circuits, including Inmarsat, VSAT, cellular, digital selective calling (DSC), radio and landlines, into a seamless automated system. An important feature of the system is its ability to modify signal levels automatically to accommodate different communication formats, media and circuits. The Communication Integrator is designed for use on cruise ships, commercial vessels, offshore oil rigs and military vessels.

For more information from Magnavox
Circle 8 on Reader Service Card

Kelvin Hughes Contributed To *QE2* Refit

During the recent refit of the *QE2*, Kelvin Hughes Ltd. replaced all of the ship's navigation radar displays and antennas, plus new navigation and electronic chart displays and plotting tables. One of the new pieces of equipment fitted to the *QE2* is the chart display unit (CDU). The CDU presently displays the new Admiralty Raster Charts (ARCs) but it will be able to display the DX90 charts as and when they become available.

For more information on Kelvin Hughes
Circle 119 on Reader Service Card

Sperry Chooses Trimble As Preferred GPS Supplier

Trimble Navigation was selected by Sperry Marine as its preferred supplier of GPS receivers. Sperry Marine will use Trimble's new NT series of graphic GPS and Differential GPS receivers in its new Vision 2100 integrated bridge system. The NT200 and NT200D, which Sperry has designed into its integrated navigation system, is designed to provide precise positioning information for commercial ship navigation. Using the NT200 or the NT200D, mariners can watch a moving

(Navigation & Communication news is continued on page 42)

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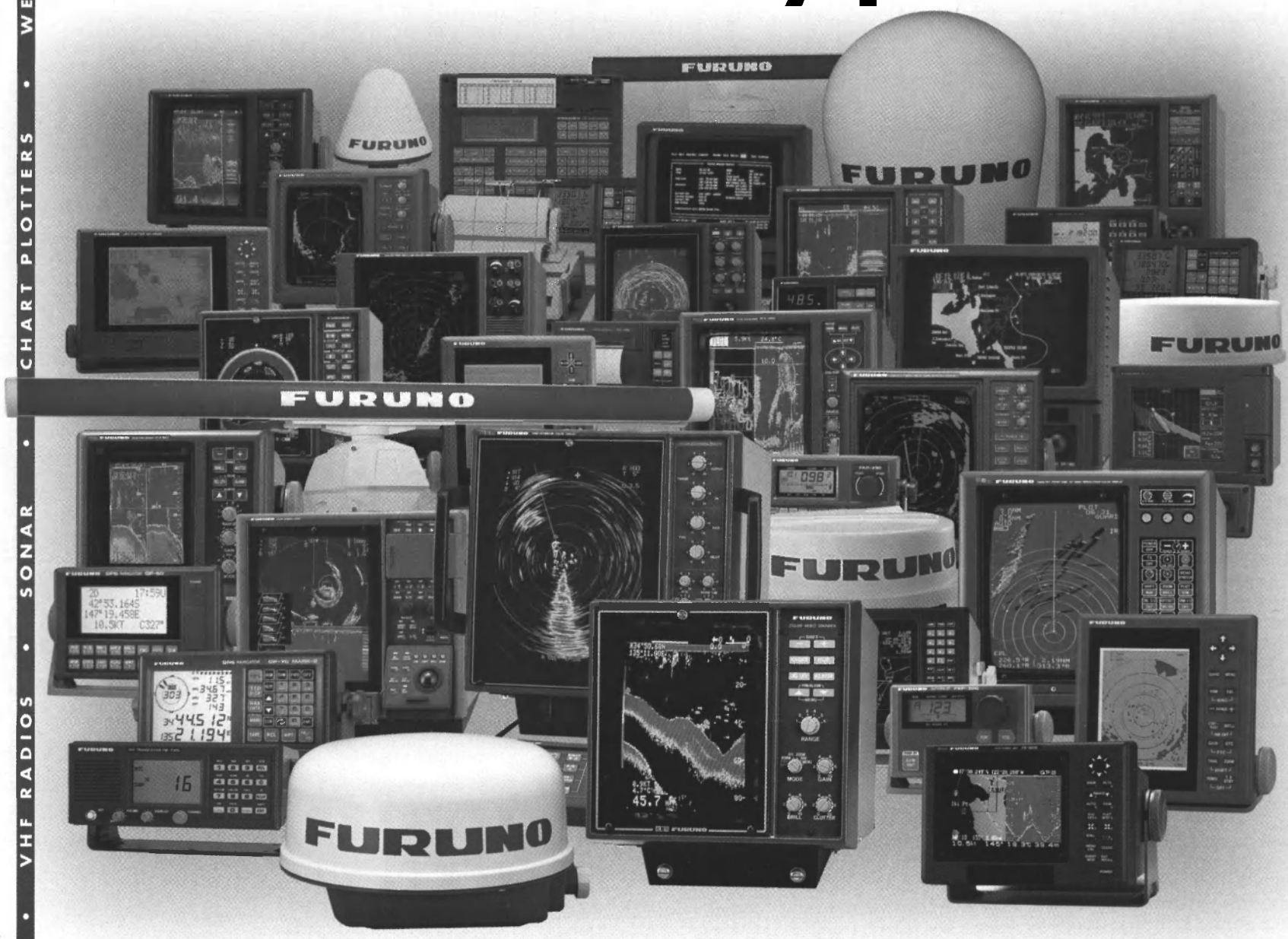

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Since Furuno has the largest product line in the marine electronics industry, we have just the right size product for you. Furuno is best known for our highly visible, leading edge radar, but — as you can see — we also offer the largest selection of chart plotters, fishfinders, sonar, GPS, satcom and a host of other units to meet every application.

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Circle 234 on Reader Service Card

USCG DGPS Navigation Service

By Gene W. Hall, LCDR, USCG
DGPS Operations Officer
U.S. Coast Guard Navigation Center

The U.S. Coast Guard (USCG) is working to provide Differential Global Positioning System (DGPS) service for harbor and harbor approach navigation by 1996. DGPS technology is the first to economically offer geodetic accuracy meeting the federal planning requirement of 26.2 to 65.6 ft. (eight to 20 m) for harbor and harbor approach navigation.

The DGPS service coverage area is to include the coastal U.S., Great Lakes, Puerto Rico and most of Alaska and Hawaii. This DGPS service will be available to the public navigator as an all-weather navigation sensor to supplement traditional visual, radar and depth sounding techniques.

The design process for the USCG's DGPS service began with efforts to define system operational requirements. The goal of these requirements was to ensure the same level of user integrity provided by present USCG electronic navigation aids (Loran-C and Omega). Refinement of operational requirements — by risk analysis of specific harbor navigation scenarios — was then conducted. The final system architecture evolved to meet the defined requirements under three traditional constraints: current technology; present and future economics; and maximum flexibility to adapt for future requirements.

The final design step is nearing completion. The operational doctrine to define DGPS service parameters and to service management infrastructure has been developed. The DGPS implementation phase has begun. This paper provides a brief history on the evolution of DGPS and discusses the implementation phase with an update on current status, future goals and actions being taken to achieve these goals.

Background

The USCG is mandated by federal law to implement, maintain and operate electronic navigation aids that meet maritime needs of the U.S. armed forces and/or U.S. commerce. The USCG's expertise in enhancing maritime safety through the utilization of radio (electronic) navigation services dates to 1921 with the first operational radiobeacons. In the last two decades, the U.S. Department of Defense (DOD) has developed TRANSIT, and then the prototype NAVSTAR Global Positioning System (GPS).

In 1987, the USCG Research and Development Center in Groton, Conn. began conducting research and testing of differential techniques to enhance GPS accuracy. Simply stated, the differential technique involves installing navigation equipment at a precisely known location. The equipment receives the GPS signal and compares the position solution from the received signal to its known location. The result of this comparison is then generated in the form of a correction message and sent to local users via radiobeacon broadcast. The received correction is applied by the user's GPS equipment to reduce the system position error, thereby improving the user's absolute accuracy. This effort was coordinated through the Special Committee (SC) 104 created by the Radio Technical Commission for Maritime Services (RTCM).

The differential effort was driven by the search for a system with the capability to meet the accuracy requirement for Harbor/Harbor Approach (HHA) navigation, as had been defined in the Federal Radionavigation Plan (FRP). The FRP identifies that accuracy of 8 to 20 meters is required for the HHA phase of navigation. The FRP also states requirements for the Coastal and Ocean Phases for maritime navigation, which have respectively been satisfied with the Loran-C and Omega services.

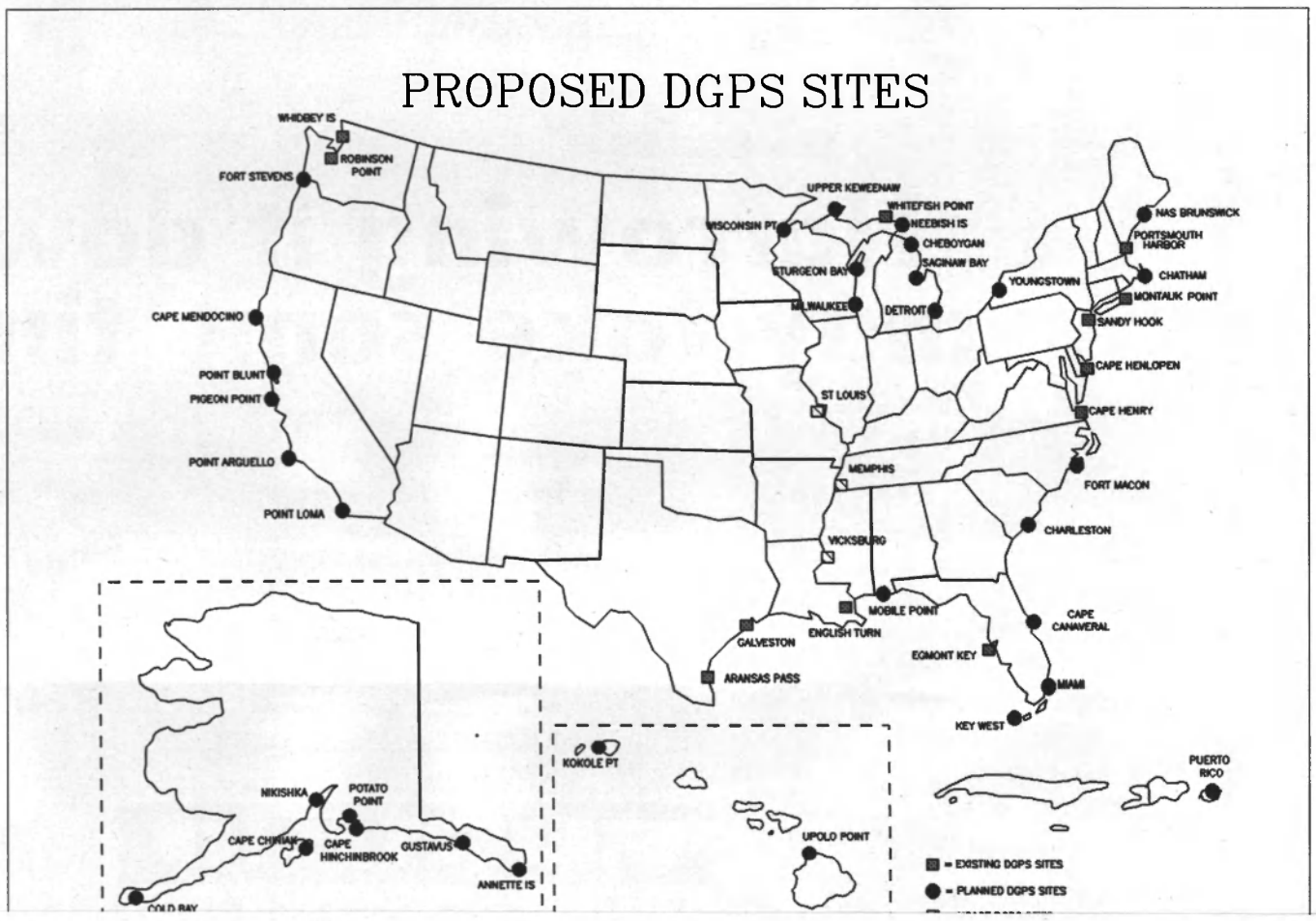
In 1989, the USCG modified the existing marine radiobeacon located at Montauk Point, N.Y. to broadcast differential corrections in the RTCM SC-104 format. The Montauk Point field tests demonstrated that Minimum Ship Keying (MSK) modulation of an existing radiobeacon signal was effective in transmission of RTCM SC-104 format corrections. The MSK modulation technique could be used with no adverse effect on the automatic direction finding receivers of traditional marine radiobeacon users. Important to both the U.S. Coast Guard and the public, MSK technology is economical to implement at existing radiobeacons and within user receivers. By January 1990, the RTCM published the SC-104 formats version 2.0 document. With a formal U.S. industry differential GPS correction format and the initial radiobeacon broadcast success, Montauk Point began the first continuous public U.S. DGPS broadcast on August 15, 1990. This transmission marked the beginning of the USCG transition from DGPS research and development towards implementation of a U.S. maritime DGPS service.

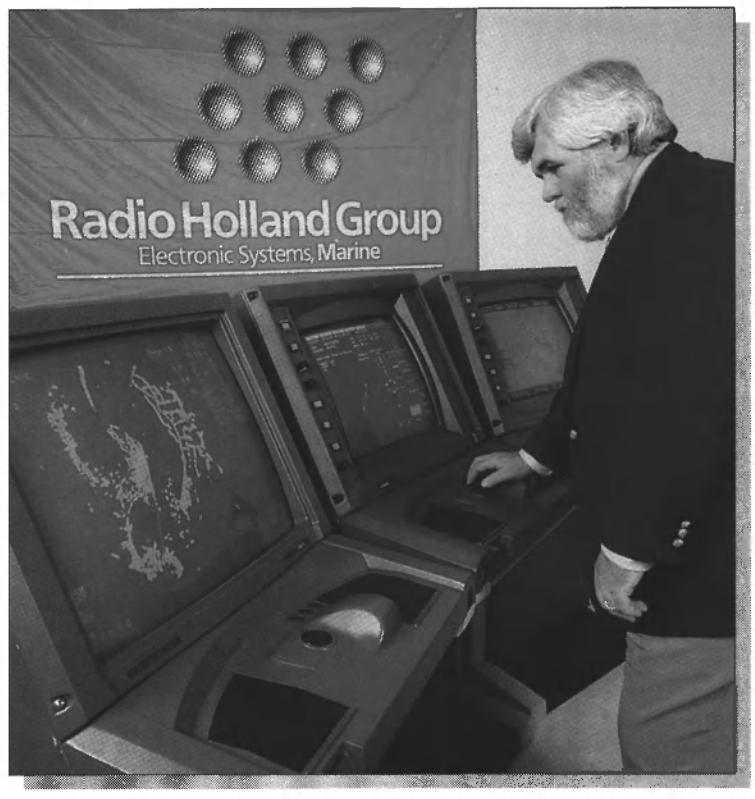
DGPS Architecture

The USCG gained Congressional funding to implement a maritime DGPS service. The functional elements of the USCG DGPS Navigation Services include:

- Reference Station. Precisely located GPS receiving equipment with computer to calculate corrections based on comparison of satellite navigation message to known location.
- Broadcast Site. A marine

(Continued on page 40)





nucleus - the new definition of modern radar!

The Kelvin Hughes NUCLEUS Series Color ARPA Radars are redefining the modern radar for the shipping industry.

The NUCLEUS Color ARPA combines innovative target tracking/plotting and integrated data acquisition capabilities with speed, accuracy, screen definition, ease of operation, and highest reliability. To overcome rows of confusing buttons and controls, this ergonomically designed, color ARPA utilizes a simple tracker ball and three push buttons for all operations, making it one of the fastest, most user-friendly navigational radars on the market today.

Functions are selected by simply clicking a button after moving the pointer with the tracker ball through the easy-to-use, on-screen menus. The high definition display provides a superior color radar picture with very sharp target contrast. The data displays clearly show operating functions, warnings, target information, and integrated own-ship navigational data.

The NUCLEUS Series offers five choices of displays, NUCLEUS 6000 A (ARPA), 6000 T (true motion) and 6000 R (relative motion) Color Radars with 26 inch display; and NUCLEUS 5000 T (true motion) and 5000 R (relative motion) Color Radars with 20 inch display. NUCLEUS features powerful X-Band and S-Band transmitters in different configurations.

Other standard features include interswitching, dual preset Guard Zones; the NAVCARD for extended, customized map creation, storage, and retrieval; and an improved plotting facility. The ARPA also features a simulator for training and maintenance tasks.

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Circle 271 on Reader Service Card

U.S. Coast Guard DGPS Navigation Service

(Continued from page 38)

radiobeacon providing correction data link to DGPS service users.

• Integrity Monitor. Precisely located MSK radiobeacon receiver and GPS receiver capable of applying differential corrections. The corrected GPS position would be compared to the known position to determine if the correction broadcast was in tolerance.

• Control Station. Site for human, centralized control of DGPS service element. Also, DGPS service performance data archiving and processing is accomplished here.

• Communication Network. Provides connectivity between sites for passing performance data and control commands. DGPS user equipment consists of two interfaced receivers with a display — a radiobeacon receiver capable of MSK demodulation, and a GPS receiver capable of applying differential corrections from the radiobeacon receiver.

Status Report

At the time of this writing, 10 prototype reference stations comprised the USCG DGPS service architecture. These 10 sites are transmitting GPS satellite corrections while being monitored by the USCG for evaluation purposes. The data collected is being used to analyze broadcast signal characteristics to ensure station availability, accuracy and reliability requirements are met. Exact numbers showing percentages for each requirement are not available, as all sites are undergoing maintenance, upgrade and hardware installation. However, each site has performed quite well during on-air periods. The RTCM committee has updated the broadcast format standard and we are now using version 2.1. Version 2.2 is in progress. The RTCM committee also provided the Reference Station Integrity Monitor (RSIM) standard for the communication interface between the Reference Station, Integrity Monitor, and Control Station.

• Integrity Monitor. The software needed to provide system integrity by monitoring RTCM correction broadcasts and communicating that information back to the Control Station has been written by the USCG R&D Center. Testing and evaluation began with the installation of the monitor equipment at the USCG Electronics Engineering Center (EECEN) in Wildwood, N.J. in June 1994. Integrity monitor hardware was installed at the Northeast test sites last September, and alarm messages were relayed to the control station in Alexandria, Va.

• Control Stations. The first version of the Control Station software was installed in the Eastern U.S. Control Station. The Control Station is undergoing testing and performing well while connected to the integrity monitor equipment at the N.E. test sites.

• Communication Network. The USCG is using the federal government FTS2000 AT&T X.25 Packet Switched Service as the data link between the Control Stations and each DGPS site. This service is in place and meets all data communication requirements.

The building used to house the

Reference Station and radiobeacon equipment is also monitored.

The Control Station watchstander must have the capability to remotely interrogate each site and check the radiobeacon for proper operation. A system known as Differential GPS Broadcast Site Monitor (DBSM) is being developed on a USCG computer platform (Unisys Burroughs Technology Operating System). Features to remotely reset the radiobeacon and monitor alarms such as fire, intrusion, high temperature and humidity, power failure, and communications are incorporated.

This system has been installed between the Northeast test sites and the Control Station, and is undergoing tests and evaluation. Plans call for integrating this system with the Control Station software on the Unix environment by this summer.

The West Coast Control Station will be located at Petaluma, Calif. Equipment and personnel resources have been identified and funded, with plans calling for the Petaluma Control Station to begin installation and testing this summer.

The USCG will continue to fully cooperate on the international fronts with the International Association of Lighthouse Authorities and the International Maritime Organization to achieve global DGPS commonality. Nationally, the USCG is consulting with other agencies to adapt the DGPS service to meet their needs. Agencies active in DGPS include the National Geodetic Survey (NGS) for inland surveying, the National Oceanic and Atmospheric Administration (NOAA) and the National Fish and Wildlife Association for hydrographic surveying, the Army Corps of Engineers for dredging and coastal construction, the Department of Interior for natural resource mapping, the Federal Highway Administration and Federal Railroad Administration, to name just a few.

USCG representatives are participating within a RTCM Special Committee 104 working group.

This group is developing commercial standards for Reference Stations, Integrity Monitors, and user equipment specifications.

It is strongly recommended that any DGPS receiver equipment purchased today have the capability to be easily upgraded in the event that message formats and/or message types should change.

Up & Running In 1996

There are many more sites that are required before DGPS becomes fully operational. In addition, environmental concerns must be addressed. USCG is working closely with each state, performing environmental assessments and ensuring the natural habitat is not disturbed by the installation of a DGPS site.

At some installations, DGPS reference stations will be collocated with lighthouses.

Through significant enhancements of maritime safety and the inherent water transport efficiency increase, the DGPS service will be a high-value navigational asset. USCG engineers, technicians, managers, logisticians, and other support personnel are undertaking an aggressive schedule of installing remote sites, improving and implementing the Control Station design, and training personnel to make DGPS a reality by early 1996.

The views expressed in the preceding are those of the author and are not to be construed as official or reflecting the views of the Commandant or of the U.S. Coast Guard.

Marine Electronics NEWS UPDATE

(Navigation & Communication news is continued from page 36)

image of their boat on a nautical chart while recording navigational data.

Trimble Navigation is a leader in emerging commercial markets for satellite based navigation, positioning and communication data products. Sperry Marine provides the commercial and defense marine industries with a complete line of integrated navigation systems, radars, collision avoidance systems, gyrocompasses, autopilots, Doppler speed logs and ship stabilizer systems.

For more information on Trimble
Circle 9 on Reader Service Card

For more information on Sperry
Circle 10 on Reader Service Card

Hull Electronics Debuts SSB Radio

Hull Electronics introduced the 1000SSB, a 1,000-watt HF SSB radio which the manufacturer reports is the highest-powered, farthest reaching SSB radio in the marine industry, ideal for cargo vessels, commercial fishing vessels and yachts.

The unit has a 4.5 to 27.5 MHz range covered at the 1,000 watt level, and as per FCC regulations, the 1.6 to 4.5 MHz frequencies are automatically covered at a 150-watt level.

Hull's fault-monitoring features are designed to ensure proper function, and a power amp balance helps avoid transistor overload.

Two-way HF weatherfax and SITOR communications are possible through the unit's internal and external modems.

For more information from
Hull Electronics
Circle 11 on Reader Service Card

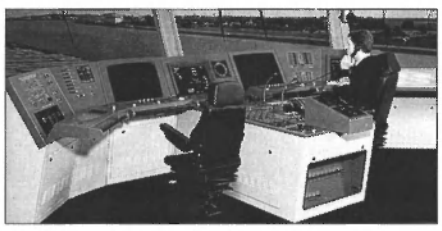
Furuno PS-8000 Serves The Functions Of Three Instruments

Furuno offers the PS-8000, a fully integrated color video plotter/GPS/dual-frequency video sounder which delivers a wealth of vital navigation and underwater data in one instrument. A key feature according to the manufacturer is Furuno's eight channel, parallel GPS receiver which provides continuous, accurate updates of ship's position and speed. With built-in memory for 198 waypoints and 20 routes (with up to 30 waypoints per route), this GPS has the ability to meet many demands. The PS-8000 also displays detailed chart data on the eight-in., high definition (320 x 240 dots) color CRT screen.

For more information from Furuno
Circle 15 on Reader Service Card

Atlas Elektronik Offers New Integrated Bridge Developments

Two orders by Bona Shipping for new tankers building at the Ukraine's Zaliv yard are among the first orders received by STN Atlas Elektronik for its new series of Ship Control Centers (SCC). SCC combines all navigation, commu-



nications, engine control, power supply and general management functions within the equivalent of a compact single-source assembly. Three basic versions are available, the SCC Standard, SCC Nav and SCC W1. The SCC W1 has been type-approved by Germanischer Lloyd. Using the NACOS navigation command system as a core component, an SCC typically comprises propulsion and steering control facilities, a full A-3 GMDSS communications console and complete monitoring and control facilities for machinery, cargo and ballast systems.

For more information on the SCC
Circle 120 on Reader Service Card

VHF Fax, Inc. Offers Shipboard Watch Alarm

VHF Fax, Inc. introduced the Watch Clock watch alarm, a microprocessor controlled watch alarm designed to keep the operator of the vessel alert during wheel watch. The watch period may be set for 1 minute up to 24 hours. In watch mode, the device will count down for the selected watch period. At the end of this time, if not physically reset, an alarm warning lamp will begin to flash. If still not reset after one minute, an internal beeper will alert the operator. Finally, if not reset, the ship's main bell will sound to alert the whole crew. The device measures 5.5 in. by 4 in. by 1.5 in.

For more information from VHF Fax, Inc.
Circle 17 on Reader Service Card

ACR Introduces New Miniature Class B EPIRB

ACR Electronics Inc. introduced a new miniature Class B Emergency Position Indicating Radio Beacon (EPIRB), the Mini B2.

Billed by the manufacturer as the smallest Class B EPIRB available that floats if dropped overboard into the water, the Mini-B2 is the successor to ACR's popular Mini-B which sold well since its introduction in 1985. The Mini-B2 transmits simultaneously on 121.5 MHz (civilian) and 243 MHz (military) Search and Rescue homing frequencies. It has an operating life of 48 hours and comes with an extra long life lithium battery.

For more information from ACR
Circle 121 on Reader Service Card

New 10-in. Sounder From Simrad

Simrad presents its latest low-cost 10-in. commercial quality echosounder. The EC-210 has five user definable features including modifiable display colors and seven customizable depth ranges. To redefine features, the user turns a single knob to enter the menu. The EC-210 has a NMEA 0183 output connection for an optional digital depth repeater. A NMEA 0183 in-

Marine Electronics NEWS UPDATE

put connection is used with GPS or Loran to display speed, bearing, and latitude/longitude position. Built as a single-frequency echo sounder, the EC-210 is available in four frequencies: 28, 38, 50 and 200 kHz. Power requirements are 10.5 to 40 volts DC, with an output of up to 2,000 watts depending on transducer type.

For more information from Simrad
Circle 12 on Reader Service Card

Horizon Eclipse+: Standard's Smallest Fixed-Mount VHF Ever

Although the Horizon Eclipse+ from Standard Communications is the smallest fixed-mount VHF the company has ever made, the product packs big features including complete channel coverage and convenience, weather alert, user-programmable scanning, a large LCD, and clear communications under any conditions. The unit provides a full 25-watt output, all U.S., Canadian and international channels, plus 10 weather positions that provide 24-hour continuous broadcasts. The NOAA weather alert function automatically monitors the local weather channel and interrupts scanning to bring the latest storm advisories.

For more information from Standard
Circle 25 on Reader Service Card

Racal-Decca To Show Bridge System At Cruise '95

Racal-Decca Marine will present its new integrated bridge system for small ships at the Cruise Shipping Exhibition in

Miami.

The company will exhibit the MIRANS 2000 (Modular Integrated Radar and Navigation System), a compact unit which the manufacturer claims makes integrated wheelhouse electronics accessible to a wide range of small ships. The MIRANS 2000 can include fully integrated radar, electronic charting, ship status and engine monitoring, in addition to GPS and other navigation receivers.

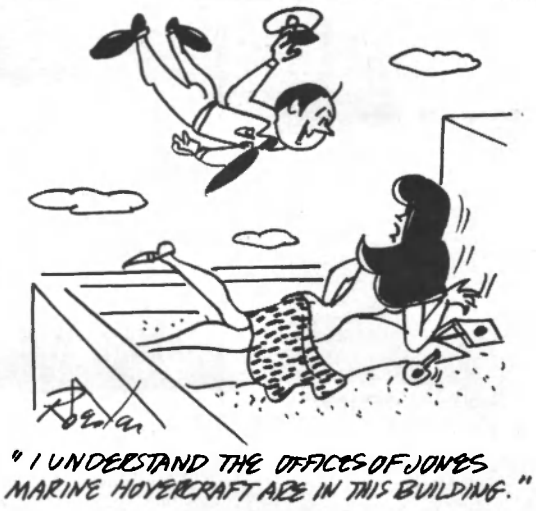
For more information on Racal-Decca
Circle 26 on Reader Service Card

New Navigator Features Advanced Technology

Advanced "MaxView" continuous tracking receiver of new Si-Tex GPS-9, processes data from up to 11 GPS satellites for highly accurate position updates every second. The weatherproof system also accepts corrected GPS data from a differential-beacon receiver for improved accuracy when DOD "selective availability" is in operation.

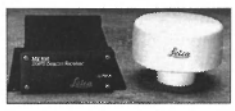
The unit features softkey controls and on-screen operating menus, and the navigation mode displays large digital readouts of latitude and longitude coordinates or Loran time differences on a large four-line LCD screen.

For more information from Si-Tex
Circle 22 on Reader Service Card



Marine Electronics NEWS UPDATE

Leica Introduces New DGPS Beacon Receiver



Leica introduced a new DGPS beacon receiver — dubbed MX 51R —which incorporates a high-performance ferrite loop antenna. The new unit receives and demodulates GPS error corrections transmitted from marine radiobeacons in the 283.5 to 325 KHz band to achieve positioning accuracies of 16 ft. (5 m) or better in real time.

The H-field ferrite loop antenna used in the MX51R requires no external grounding, helpful for smaller vessels. The antenna is designed to reduce the effects of atmospheric noise, such as P-static caused by thunderstorms.

The MX 51R is optionally available with a combined GPS/beacon antenna that uses a single antenna cable for both signals.

For more information from Leica
Circle 23 on Reader Service Card

Anschütz Nautoscan Is Latest Generation Radar

Nautoscan is the name of the new radar which Anschütz & Co. of Kiel, Germany introduced at the SMM show. The true-motion raster scan radar is the company's latest generation of 29-in. color monitors. Nautoscan fulfills the IMO/SOLAS requirements for ships of the classes 1A, 1B, 2A, 2B and 3, and the BSH type approval requirements as well. The radar employs type-approved PC and monitor technology and a novel display oriented operating concept suitable for use on board.

For more information from Anschütz
Circle 24 on Reader Service Card

Ross Develops Next Generation Hydrographic Survey Sounders

Ross Laboratories has developed the next generation of hydrographic survey sounders. The Ross 850 series "smart" sounders are paperless survey sounders with magnetic or permanent optical storage.

If desired, paper ouput can still be produced on standard PC printers. The "smart" sounders are designed to be lightweight and portable.

For more information from
Ross Laboratories
Circle 27 on Reader Service Card

Laser Plot Offers New Software Navigation System

The ChartNav SeaMate is a software navigation system which automates navigation and helps improve safety. The software shares many of the same features found in Laser Plot's top-of-the-line ChartNav navigation system currently used by commercial freighters, navies, coast guards and yachts. ChartNav SeaMate provides real-time displays of the vessel's position, intended course, track history and hazards on electronic reproductions of full-color government charts.

For more information from Laser Plot
Circle 46 on Reader Service Card

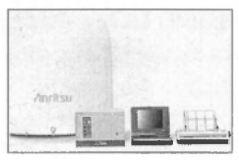
PTT Subsidiary Provides Inmarsat-B Telex Traffic

Station 12, part of PTT Telecom Netherlands, is the first European supplier to introduce Inmarsat-B telex traffic. The station already offered voice, data and fax via Inmarsat-B in the Atlantic Ocean Region-East (AOR-E) and Indian Ocean Region (IOR). It is reportedly the first station in the world to provide telex services for shipping in the AOR-E.

For more information from PTT
Circle 13 on Reader Service Card

Simrad Debuts Inmarsat-B Earth Station

Simrad Inc. recently introduced the Inmarsat-B Ship Earth Station (RSS402A), a digital satellite communications systems, and reportedly the first approved maritime B-terminal delivered in the U.S. Four geostationary satellites, land earth stations and an Inmarsat-B terminal provide global access for the world seas. The Inmarsat-B system is designed to provide cost-effective, high-quality communications between ships and from ship to shore.



For more information from Simrad
Circle 21 on Reader Service Card

Tracor Receives $16 Million Add-On Contract From U.S. Navy

GDE Systems Inc., a subsidiary of Tracor, Inc., received a $16 million add-on award to an existing $25 million contract with the U.S. Navy. This add-on award calls for additional quantities of an imagery processing system known as the Digital Imagery Workstation Suite Afloat (DIWSA).

DIWSA provides support to strike planning and directly supports targeting of the Tomahawk cruise missile. The contract also includes options totaling an additional $9 million exercisable in the next three months. Including options, the work will extend through August 1996.

GDE Systems is a San Diego-based firm and specializes in applying advanced digital technology in the design, development, manufacture, and support of quality electronic systems for tactical and strategic operations and photo-processing products for sophisticated commercial and military applications.

Tracor, Inc., with 1994 year-end sales of $694 million, provides a broad range of electronic products, systems, and services for numerous U.S. government agencies primarily within the Department of Defense, international governments, and commercial customers.

For more information on Tracor
Circle 99 on Reader Service Card

Hanjin Plans To Build $1.5 Billion Shipyard

Hanjin Heavy Industries Co., the shipbuilding arm of South Korea's Hanjin Group, reportedly plans to invest a reported $1.5 billion in a new shipyard.

Hanjin will reportedly transfer its shipyard facilities from other provincial areas, including Ulsan, to the planned site in Pusan, about 280 miles south of Seoul. Construction for the shipyard will be carried out between 1997 and 2002. No other details were released at press time.

German Ministry Of Research & Technology Funds ECDIS Research

In the name of safety on the ship and the advancement of marine electronics to achieve this end, the Baltic and North Sea ECDIS Testbed (BANET) results were recently released.

The project is funded by the German Ministry of Research and Technology, and a host of related organizations and manufacturers have joined the effort. Included are the Institute of Ship Operation, Maritime Transport and Simulation (ISSUS), Atlas Elektronik, SevenCs, as well as the hydrographic offices of Finland and Germany.

Electronic Chart Display and Information System (ECDIS) is a geographical information system which supports the navigator in the planning and execution of voyages. For verification of the system performance findings in practical on-board operation, a successful test was carried out onboard the GTS *Finnjet* between Travemunde and Helsinki. Additional tests aboard the MS*Hamburg* (between Hamburg and Harwich) were scheduled to commence in February, and at press time test results were not yet divulged.

Success On The *Finnjet*

"With the trial run aboard the *Finnjet*, we have made great strides towards the introduction of the electronic chart," said Professor **Jens Froese**. "We have been able to demonstrate in practice that navigation on the basis of radar, satellite communication and electronic chart ensures safe maneuvering also in enclosed sea areas, reducing stress and error potential for the officer of the watch." Professor**Froese** heads the ISSUS institute at the Nautical Faculty of Hamburg Polytechnic, and is in charge of the BANET project.

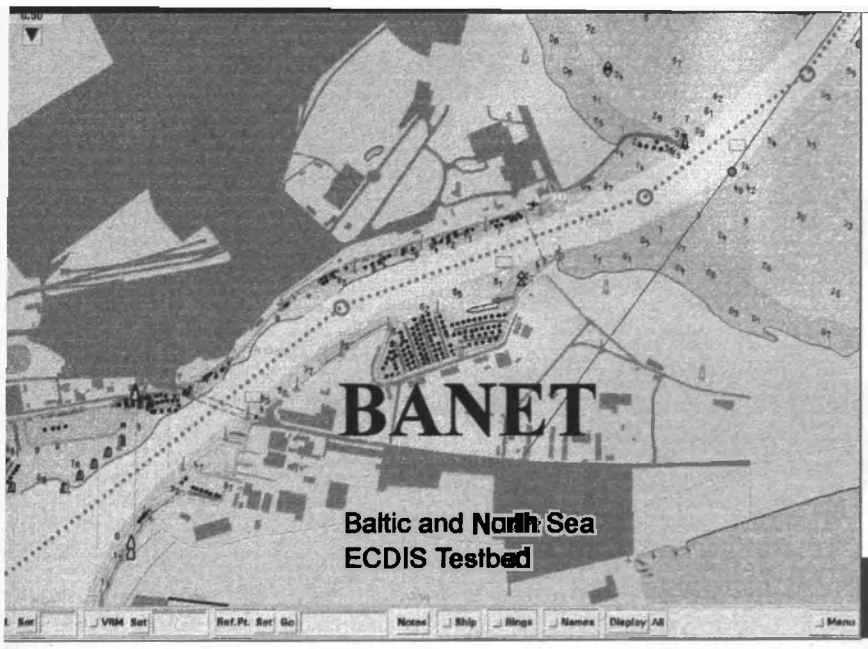
"Absolutely revolutionary as compared to the conventional chart, ECDIS enables the navigator to display, on the electronic chart, the specific situation-dependent data which he requires for safety navigation," said Professor **Froese**.

In conjunction with data from selected navigation sensors, such as the satellite system GPS, log and gyrocompass, the current position of the ship and its motion are displayed on ECDIS. The officer on watch is thus provided with direct information on any course deviations, so that they can make a correction immediately.

An experimental ECDIS system featuring a high-resolution graphic monitor and maneuver prediction is being tried out. As early as April 1994, STN Atlas Elektronik had equipped the *Finnjet* with the NACOS 45 bridge system. The special feature of the system consists of a radar unit with integrated electronic chart. Objects not contained on the ECDIS database, especially other vessels or new coastal structures and installation, are displayed additionally as radar echoes. The officer on watch is therefore able to assess the traffic situation on the

(Continued on page 48)

The *Finnjet* was used for the Baltic and North Sea ECDIS Testbed (BANET).



BANET ECDIS

basis of a single display. The benefit is obvious. "An increase in safety, because there is no longer any need for an error-prone integration of items of information coming from different sources, and the risk and mental work load are reduced at the same time," said Professor **Froese**.

Tests such as the ones being carried out on the *Finnjet* and the *Hamburg* will help gain experience for type testing and approval of ECDIS equipment in order to be able to introduce the system in general shipping as quickly as possible, according to the Federal Maritime and Hydrographic Agency (BSH), a project participant.

BANET PROJECT PARTICIPANTS

The BANET Project comprises several major players to make the ECDIS test work. The following is a listing of the major players and the parts each played.

German Office of Maritime Shipping and Hydrography (BSH):

- Generated ECDIS data quality-checked as per ISO 9000 for those parts of the routes of the *Finnjet* and *Hamburg* that lie within German sea areas.
- Established relationships for BANET with non-German hydrographic services.
- Representing the BANET work results in IHO and IMO.
- Preparation of the type test (with Atlas Elektronik).

Atlas Elektronik GmbH

- Onboard implementation of ECDIS.
- Integration of radar information and development of a suitable method for the selective display and utilization of hydrographic information.
- Development of hardware and methods for transmission of data sets and of update data to the ship, including the on-board implementation.

SevenCs GmbH

- Development of display and function rules for information contents, man/machine interface and application functionalities of an ECDIS.
- Development of a quality assurance procedure for the production of ECDIS data so that the display and function rules can be implemented in an ECDIS.
- Production of digital, object-based hydrographic data within the framework of BANET.

Institute of Ship Operation, Maritime Transport and Simulation

- Investigation of the necessary scope of information and functions for ECDIS on board, leading to the development of a requirement profile for the system.
- Development of a procedure for the validation and exchange of digital, object-based hydrographic data within the framework of a regional test database.
- Investigation of the usefulness of ECDIS compared to conventional methods in the ship simulator "Susan."
- Verification of the system performance findings.
- Project management and coordination.

RoRo Safety

By Alan Thorpe, international editor

Much attention has been focused on ship safety — particularly RoRo ships — in the wake of the *Estonia* disaster. New regulation and equipment enhancements are sure to come into force during the year. For example, Kvaerner Ships Equipment recently won the contract to design and supply a prototype main deck flood prevention door to the world's largest passenger ferry, the 59,914-grt *Silja Europa* (pictured). The order was placed by Silja Line and is in advance of anticipated regulation by Nordic Maritime Authorities.

The recent *Estonia* disaster in the Baltic Sea — the worst in European ferry and maritime operation — has again highlighted the problems of RoRo passenger/car ferries. The development of RoRo ferries has taken a very short time since the requirement for the transport of cars and trucks across fairly short sea distances began to expand during the 1960s.

The extensive loss of life when a RoRo disaster occurs is mainly due to the speed at which the vessel sinks. In the case of the *Estonia* only 15 minutes elapsed between initial rolling over and sinking. This tragedy, occurring in heavy weather and at night, adds to the reasons why so many lives were lost.

The main design fault of such ships is clear — designed like a large box, the main car deck, if penetrated by seawater, will swiftly fill up and cause the ship first to roll over and then sink. All the stages in the sinking of a RoRo once water has entered the car deck involve very little time. The aims of the RoRo industry must be:

- To prevent seawater from entering the car deck
- To stop the seawater from flooding the car deck and making the vessel unstable
- To prevent the ship from rolling over
- To increase the time the ship takes to sink

Although the safety of passengers and crew onboard RoRo ferries must be of the utmost importance to the shipowner/operator, competition between ferry operators and other fixed methods of crossings, such as the Channel Tunnel, have forced owners to cut costs.

However, despite the extensive media coverage of disasters such as the *Herald of Free Enteprise* and the *Estonia*, ferry operations are still much safer than other forms of transport, such as the aircraft industry, and losses have been much less, in terms of numbers of ships, than other forms of seaborne transport. A great deal of design work, since the *Herald* disaster during 1987, has gone along the road of preventing water from entering the car deck. In the *Herald* case the bow door was left open as she sailed from Zeebrugge, with no indication on the main bridge that this was the case. Almost immediately after the disaster, in which over 150 people lost their lives, video cameras and indication equipment were installed onboard the majority of European ferries to combat this type of incident.

In the case of the *Estonia*, in which more than 900 passengers and crew were lost, heavy weather caused the bow visor to be ripped off and subsequently the inside bow door was damaged so leakage occurred, resulting in seawater entering the car deck. Water on the car deck caused the vessel to sink very rapidly.

In both the *Herald* and *Estonia* cases, although the design of the ship will inevitably be questioned as part of an overall RoRo design feasibility debate, it was operational procedures that caused the disasters. In the case of the *Herald* the operational reason is obvious — a ferry should not be at sea with its bow doors open. In the case of the *Estonia* many believe that the ship should have altered course and steered away from the weather and not directly into it, especially following the loss of the visor.

So there are two roads open to inquirers into RoRo safety: first design, and second operations. On the question of design, the need for a single open car deck is obvious and therefore very little can be achieved by altering that basic scenario. Ideas have been initiated to find a way by which water can be contained in certain areas of the car deck and/or ways by which the ship can be prevented from rolling over and thus increasing the time it takes the ship to sink.

The operational factors can be simply dealt with by the various regulatory bodies, which supervise the operation of such vessels. However, much design work has already begun to make RoRo ferries even safer.

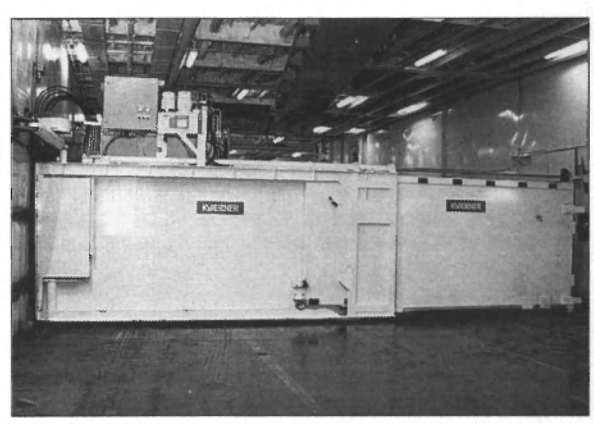
The initial reaction to the *Estonia* incident is that ferries operated throughout Scandinavia have had their bow doors sealed, which could be an answer, although RoRo pundits will recall the *Princess Victoria* disaster in the Irish Sea during the bad storms of 1953, when the sea entered the car deck through the stern door, her only means of access. The U.K. and near continent decided on a different approach, leaving the bow doors operational but limiting the sailings of RoRo ferries to weather conditions of below a wave height of 13 ft. (4 m) and a wind speed of 131 ft./sec. (40 m/sec.), although the latter restriction has now been dropped. Some ferries operating out of the U.K. had to adopt the Scandinavian regulations due to being classed and registered in Nordic countries.

One interesting fact has since occurred whereby the Stena *Felicity*, which operates across the Irish Sea and, because of her Scandinavian connections, had to have the bow door sealed, has, during the latter part of last year (1994), been released from this restriction due to her integrity.

Safety By Design

There are two design factors that are now being considered: first, the installation of flood prevention doors, which would limit any seawater on the car deck to certain compartments, inhibiting a free flow of water all the way along the car deck. Second, the installation of sponsons and/or buoyancy tanks along the ships' sides, which would lessen the possibility of the ship rolling over even if seawater had managed to get to the car deck. This second factor would give more chance for the life-saving equipment to be used and increase the time available for crew and passengers to leave the ship.

Although this second factor would inevitably have helped the *Herald* to stay upright in what was fairly calm and shallow water, it is doubtful that current sponson designs would have had any effect upon the sinking of



The world's largest ferry *Silja Europa* has been fitted with the prototype Kvaerner Ships Equipment flood prevention door. The door will go through a trial on the Turku-Stockholm run, prior to Silja Line deciding to retrofit the entire vessel (see story pg. 51).

the *Estonia*, which occurred in very bad weather.

Installing flood prevention doors is obviously a road many of the regulatory bodies may go down, and some designs have already been offered to ferry owners. However, until it is proven that such compartmentalizing methods are beneficial to the integrity of the vessel, there is very little chance of the majority of ferry operators fitting such equipment until it becomes law, which could take a number of years.

The cost of installing either sponsons or flood prevention doors would be fairly minuscule compared with the outlay for a newbuilding. Either option, at retrofit stage, would be in the region of $600,000. It is difficult to speculate on the cost at newbuilding stage but it is expected to be above $1 million for either system.

Meanwhile, some ferry operators are looking at this type of equipment as an answer to the problem of flooding on the car deck.

Immediately after the *Herald* disaster, Belgium operator RMT installed two hinged doors onboard its newbuilding *Prins Filip*, which now operates on the Cross Channel service between Belgium and Dover, and the *Spirit of Tasmania* had similar equipment installed during a refit prior entering service on the Australia/Tasmania service in the early 1990s.

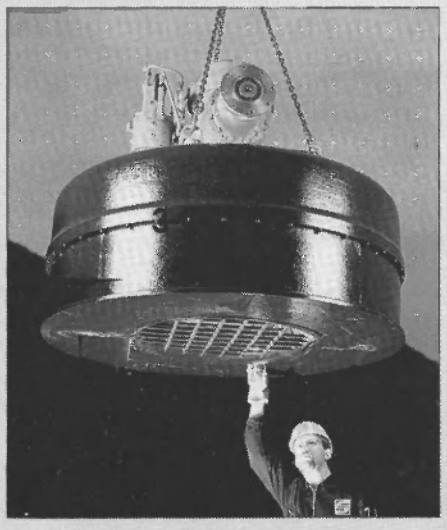
The latest ferry operator to look at this method of reducing flooding on the car decks is Effjohn International, owners and operators of the *Silja Europa* (see related story, next page), which runs between Stockholm (Sweden) and Turku (Finland). Flood prevention doors of the Kvaerner Ship's Equipment (KSE) design from Gothenburg (Sweden) are to be installed on this vessel as part of a trial period for the owner to ascertain the effectiveness of the system. Only one door will be installed initially, another three doors are required to make the system fully operational.

Also involved in this trial are the Nordic Maritime Authorities, which, if the system is accepted and therefore becomes mandatory, might require a possible 50 Baltic ferries to have such systems.

Apart from KSE, other ships' equipment companies such as the MacGregor Group have designed similar systems. While the various regulatory bodies throughout the world continue to grapple with the problems of RoRo safety, the main operators throughout northern Europe and the Mediterranean have made little changes to the design of their vessels. It is inevitable that no design changes will be made, apart from those mentioned above, until it becomes law to do so.

Despite the maritime industries having a reputation of taking a great deal of time to alter or append existing safety rules, the International Maritime Organization (IMO) moved uncharacteristically quickly following the *Estonia* disaster by committing a panel of marine experts as early as October — a mere month after the disaster — to recommend changes.

This panel is still sitting, an initial report into safety standards onboard RoRo ferries due during the first half of this year, when IMO's Marine Safety Committee meets in May. Meanwhile, the International Association of Classification Societies (IACS) has announced that it will wait for the outcome of the IMO panel before making any rule changes to existing ferries or newbuildings.



Schottel Pump-Jets are used both as maneuvering drives and for main propulsion.

162 ft. (49.5 m) long and 30 ft. (9.2 m) wide with an 11.1-ft. (3.4-m) draft. The vessel is designed to work primarily in coastal areas, and the independent maneuvering Schottel bowthruster unit is viewed as a crucial safety element. The unit, in essence, helps eliminate the safety risk should there be a failure of the main propulsion plant. This safety element also applies to failure of the steering gear or a jammed rudder. Even in these extreme scenarios, the Pump-Jet can maintain the safety of the ship and crew.

The main engine on the *No. 3 Tetsuryu-Maru* is rated at 735 kW, and a maximum speed of 11 knots was achieved during sea trials. On the Pump-Jet alone, the motor coaster can reach a speed of approximately six knots.

The Schottel unit — which develops 194 kW at an input speed of 1,469 rpm — is installed flush with the shell below the ship's bottom, eliminating the risk of air being drawn in when the vessel is partially loaded or during pure ballast trips.

Another motor coaster in the Japanese market fitted with the Schottel Pump-Jet as a bowthruster is the MS*Sumiho-Maru*. The ship was built at the Kegoya Dock Co. Ltd. for shipping company Sumiho Kisen Ltd., and is similar in dimension to the *No. 3 Tetsuryu-Maru*. To date, four ships featuring the Schottel Pump-Jet as bowthrusters have been put into service in Japan, with an additional two ships under construction.

How It Works

The Schottel Pump-Jet is an azimuthing propulsion unit. It works on the principle of a horizontal centrifugal pump. Water is drawn in from underneath the vessel, pressurized in the jet casing and expelled again at an angle of 13 degrees through three symmetrical nozzles in the bottom plate.

The thrust can be steered in any direction, since the bottom plate with its integrated nozzles is able to rotate 360 degrees. A protective grid in front of the intake prevents stones or flotsam from entering. For ice operation, Schottel has developed — in cooperation with the German shipbuilding research institute HSVA — special ice grids which prevent lumps of ice from being sucked in. The Pump-Jets can be driven by electric motors, diesel engines or hydraulic motors.

For more information from Schottel
Circle 1 on Reader Service Card

Maritrans Safety Program Specifies Flotation Coats

Maritrans, one of the largest independent domestic transporters of petroleum products, recently awarded its Eastern Division Tug and Barge employees with Stearns' flotation vests as part of the company's new Safety Award Program.

The program was designed by the tug crew employees, who formed a corrective action team to address and promote safety on the job. Based on past safety performance, the committee of seagoing and shoreside support personnel addressed the frequency and severity of injuries on the job and the dollar cost, then set goals to meet a new safety criteria. The committee chose to award Stearns Flotation coats if the top goals were met.

According to committee member **Tom Colgan**, the safety award program was designed to be more dedicated in promoting continuous safety awareness on the job. The flotation coats were chosen as an incentive award because employees can wear them on the job for both warmth and flotation protection. Approximately 240 employees received the coats.

Maritrans Upgrades To DGPS/ Ground Guard™ Technology

Maritrans has completed a fleetwide DGPS/Ground Guard™ upgrade program with Electronic Marine Systems, Inc. of Rahway, N.J. Over the past 18 months, Maritrans embarked on a fleetwide program to upgrade from Global Positioning Systems (GPS) to Differential GPS (DGPS) with passive grounding prevention called Ground Guard. It provides an automatic safety zone ahead of the vessel which protects against high bottom, rocks and historical grounding sites. (For more information on DGPS, turn to editorial on page 38.)

The system also does precise 3.3-ft. (1-m) navigation and is a complete voyage recorder. The Ground Guard technology is used by the U.S. Coast Guard and major oil companies. It is also ADS compliant for Valdez, Alaska. The system is called the DGPS/Navigator and is supplied with a comprehensive crew training program.

For more information on Stearns Mfg.
Circle 40 on Reader Service Card

For more information on Ground Guard
Circle 44 on Reader Service Card

Holland America Pioneers Cruise Training Program

Officers of the seven Holland America Line cruise ships will participate in a special training program conducted by MarineSafety International in Rotterdam, The Netherlands. More than one hundred officers will be trained. The goal is increased safety of ship operations.

The course will consist of seminars on subjects such as situational awareness, passage planning, error-chain analysis, communications and teamwork closely coupled to simulator exercises. The exercises are conducted in state-of-the-art, full mission bridge simulators, equipped with the latest in radar, navigational devices and ship controls. The simulator allows officers to practice the new techniques and demonstrate their efficiency under realistic, stressful environmental and operational conditions. The bridge teams' relationship with a harbor pilot will also be studied and a working pilot will be brought in for the simulator session.

A precise computer response model of the 704-ft. (214.6-m) cruise ship *Noordam* and geographic databases that include areas where Holland America Line ships operate will be used in the simulator.

For more information
Circle 41 on Reader Service Card

Nova Marine Introduces Lightweight, Rugged SART

Nova Marine has introduced the new RT600 SART, which employs state-of-the-art technology and complies with IMO resolution A694 (17) and 697 (17).

A SART is easily installed on a bulkhead and simply removed for carrying to a liferaft. The SART responds to the radar signal of any vessel in a five-mile range and sends

Kvaerner Ships Equipment Fits Prototype Flood Prevention Doors

Kvaerner Ships Equipment AB of Gothenburg won the contract to design and supply a prototype main deck flood prevention door to the world's largest passenger ferry, the 59,914-grt *Silja Europa*. The order was placed by Silja Line and is in advance of anticipated regulation by the Nordic Maritime Authorities to reduce the possibility of water on the main deck causing a RoRo to capsize. The aim of the door is to limit the extent of the flooded area, and the subsequent free surface effect, in the event of an accident. At the same time it is designed not to obstruct vehicle deck access during cargo handling operations.

Initially, Silja will gain operational experience with this prototype door, which, as it will be installed on the main deck portside only, will not itself be able to provide full watertight integrity. Following trials of the system, it is anticipated Silja will retrofit the ferry with three more doors to seal off the main deck on either side of the center casing both forward and aft.

In all, it is estimated by the system's manufacturer that at least 50 Baltic ferries will require this type of modification if new regulations are implemented for sub-compartment division on the main deck.

The hemicyclic prototype door is hinged at the ship's side and can swing a 180-degree arc by means of direct acting cylinders. An optional rack and pinion activation system can be specified.

Kvaerner Ships Equipment AB has also developed a number of alternative flood prevention barriers to suit most types of RoRo ship layouts, including: top-stowed designs; a sliding link horizontal bulkhead; and a vertical curtain door. Work is underway on a side stowing curtain design as well. Kvaerner Ships Equipment AB has been working on the concept of reducing the effect water ingress has on the stability of a RoRo vessel for some time, and the recent *Estonia* disaster prompted ferry operators to re-examine ship safety.

For more information on Kvaerner Ships Equipment Circle 4 on Reader Service Card

IACS Calls For Progress On Safety Issues

The need for "increasingly close cooperation" between major players in maritime safety and the unique ability of leading classification societies to be at the center of these efforts were key themes in the 1995 Chua Chor Teck Memorial Lecture, given in Singapore on January 13 by **James Bell**, permanent secretary of the International Association of Classification Societies (IACS). Mr. **Bell's** underlying message was on the vital need for consensus. "If we are to ensure ongoing satisfactory standards, and the elimination of substandard tonnage, then full cooperation between the various interests will be essential. A commitment to improved safety must be a commitment to work together."

Following the *Estonia* disaster, IACS moved for a coordinated technical response to the issue of RoRo safety regulations. The newly formed IACS Special Committee undertook the study, with a key objective being to secure maximum practical benefit from current investigations into RoRo ferry safety being undertaken by classification societies and others.

New Firefighting Agent Allows Close-Quarters Firefighting

The tanker *Nassia* after a raging fire was extinguished — thanks in part to Pyrocool, a new firefighting agent employed by Smit Tak.

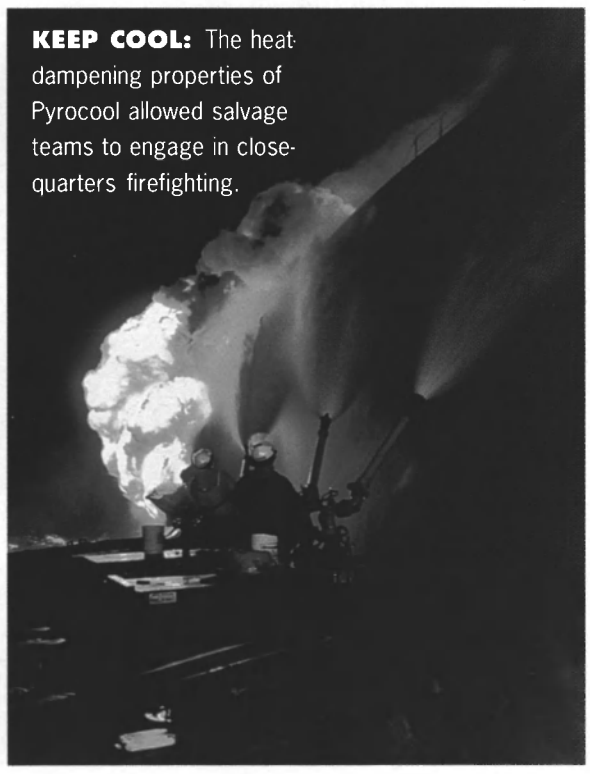
Leading salvor Smit International has revised its marine firefighting tactics to take advantage of the unusual properties of a new firefighting agent known as Pyrocool FEF.

Beyond applications for salvage, other end uses are under active investigation, including the use of Pyrocool for accommodation and engine room firefighting systems of advanced specification.

Smit International has acquired exclusive rights to use Pyrocool products for marine salvage purposes. In March of 1994, a Smit Tak salvage team gave a demonstration of the new agent's properties when fighting the huge blaze onboard the tanker *Nassia*.

This accident was severe enough to close the Bosporus, one of the world's busiest waterways. Hundreds of ships were delayed, and they may have waited longer but for Pyrocool. A much shorter period of preliminary seawater cooling was required, as Pyrocool itself cools as it extinguishes. The Smit Tak salvage teams applied just 1,800 liters of Pyrocool FEF in 12.5 minutes to extinguish one of the worst fires in recent years. Pyrocool's most unusual property is its ability to achieve an immediate and major reduction in fire site temperatures. This permits very close-quarters firefighting — within a few meters of large crude oil fires. Pyrocool owes its genesis to a defense requirement in the U.S. It was developed, in coordination with the U.S. Air Force, to combat extremely volatile hydrocarbon fires. Independent tests and operational experience have reportedly revealed a performance exceeding conventional foams. Smit Tak has already stockpiled Pyrocool at strategic locations in Europe, the U.S. and Asia.

For more information on Pyrocool
Circle 54 on Reader Service Card

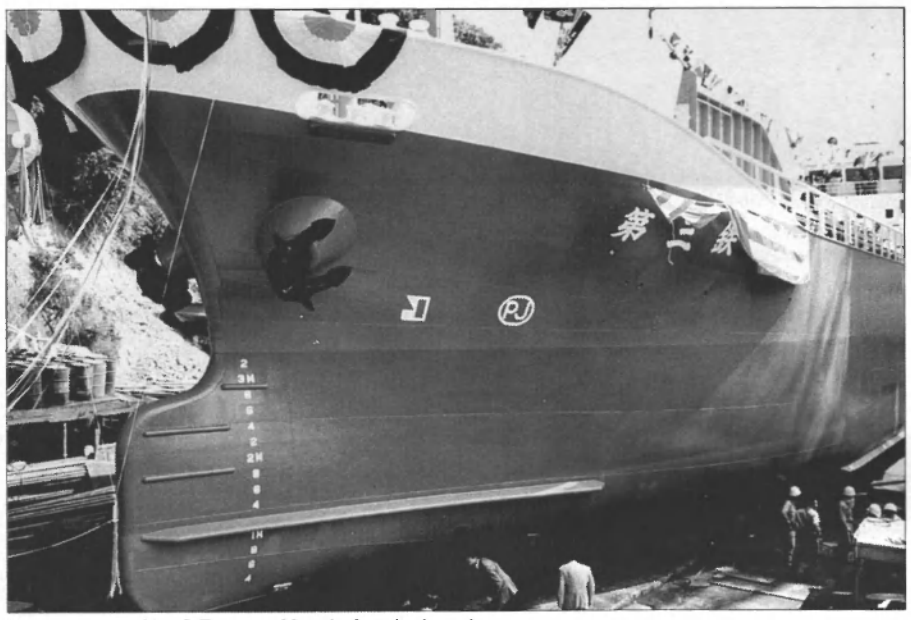


KEEP COOL: The heat-dampening properties of Pyrocool allowed salvage teams to engage in close-quarters firefighting.

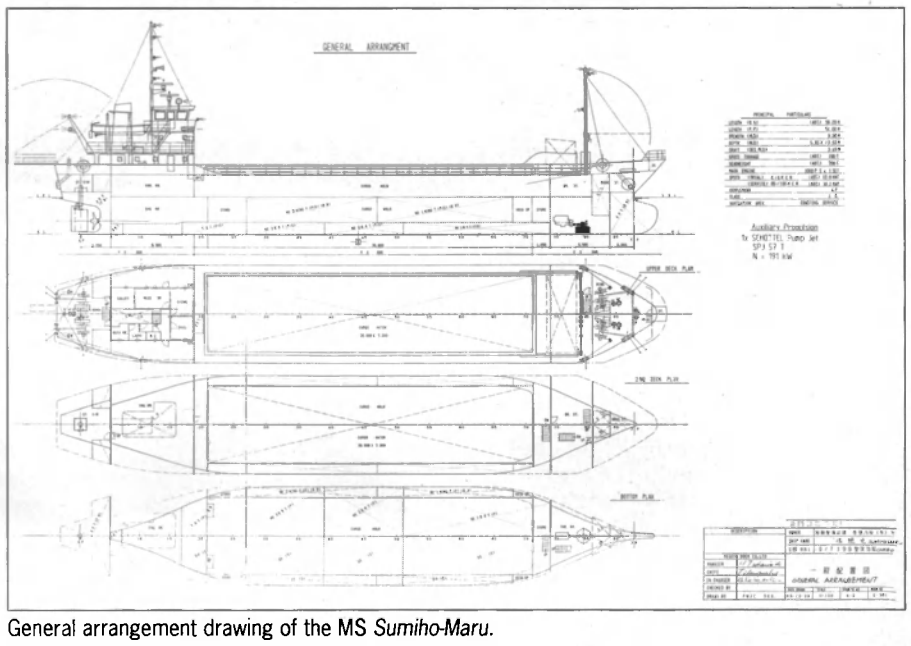
Japanese Newbuild Features Pump-Jet Bowthruster To Aid Safety & Maneuverability

Japanese shipping company Shigeyoshi Akita commissioned the motor coaster *No. 3 Tetsuryu-Maru* in late 1994, a 626-ton vessel which is equipped with a Schottel SPJ 57 T Pump-Jet bowthruster.

No. 3 Tetsuryu-Maru was built at Shinwa Sangyo Co. Ltd. and measures



Motor coaster *No. 3 Tetsuryu-Maru* before its launch.



General arrangement drawing of the MS *Sumiho-Maru*.

exam. Now the USCG is allowing an option: candidates may demonstrate on-the-job skills on a simulator during a two-week course that replaces parts of the written exam with simulator-based testing.

SIMSHIP Corp., a marine consulting and training firm in Northport, N.Y., developed the course for RTM Star (Simulation Training and Research) Center in Fort Lauderdale, Fla.

The first Master Level Proficiency Course and examination was held last month at the RTM STAR Center. Candidates for the Unlimited Master's License are required to show their competence on a full mission bridge simulator. Hands-on proficiency tests demonstrating skills in shiphandling, emergency response, rules of the road and bridge management procedures will be based on a series of structured simulator exercises.

The USCG's overall objective in approving simulator testing is to affirm that licensed candidates can indeed perform their responsibilities according to accepted standards.

"Increased safety on the high seas, in harbors and inland waterways is the driving force behind this change in mariner licensing procedures," said **Harry Crooks**, director of STAR programs. "We don't believe that a mariner's skills can be properly evaluated by just paper and pencil testing. An exam that includes simulation testing sets a higher standard for the Unlimited Master's License and means increased protection of life, property and the environment."

For more information on the course Circle 51 on Reader Service Card

New Fassmer Safety Boats Win 70-Plus Orders

The latest developments in the cruise business show increasing passenger capacity, and that means increasing need for tender, life saving and rescue boats. In order to fulfill the requirements of the market, Fassmer Shipyard has completed its program, with the following special types of boats:

- partially enclosed lifesaving boat type SEL 10.5
- new tender boat/lifeboat type SEL-11.0 - 12.0
- compact lifesaving and rescue boat type CLR 7.2/8.5

With these newly constructed successfully approved boats, the of the design results achieved reduction of boat dimensions; ining the 150-person passen- capacity; reduction of boat ht using high-quality GRP reinforced plastic) in a hand system; and simple and safe ing of the boat.

re than 70 of the new boats already been delivered, in- orders for two cruise liners g at Kvaerner Masa-Yards; for two TT-Line ferries under construction at Finnyards; two Magna Holding ferries building at Schichau Seebeckwerft; a ferry for an Irish owner building at Van der Giessen-de Noord; a cruise liner for SNCM building at Chantiers de l'Atlantique; a cruise liner for DSR building at Kvaerner's Turku yard; and two combi vessels under construction at MTW.

For more information on Fassmer Circle 52 on Reader Service Card

Stolt-Nielsen 1994 Results Show Overall Improvement

Stolt-Nielsen SA reported results for the fourth quarter and year ended Nov. 30, 1994. Net income for the quarter was $3.9 million ($0.13 per share) on net operating revenue of $270.2 million, compared to net income of $4 million ($0.14/share) on net operating revenue of $243.3 million for the same three-month period in 1993. Net income for the twelve months ended Nov. 30, 1994 was $39 million ($1.31/share) on net operating revenue of $1.078 billion. For 1993, net income was $7.1 million ($0.24/ share) on net operating revenue of $1.107 million. The 1993 figures included a gain of $14.8 million ($0.5/share), resulting from the initial public offering of Stolt Comex Seaway SA shares. Stolt-Nielsen SA's units include Stolt Parcel Tankers, Stolt Tank Containers, Stolthaven Terminals, Stolt Comex Seaway and Stolt Sea Farm.

SASMEX International '95

The Safety At Sea And Marine Electronics Show

SASMEX International 1995
April 4-6, Hyatt Regency Hotel, Baltimore, Md., U.S.A.

The Safety at Sea and Marine Electronics Exhibition and Conference (SASMEX) is scheduled to take place on April 4-6, at the Hyatt Regency Hotel in Baltimore, Md. SASMEX '95 is a conference designed for those involved in aspects of commercial marine safety. It is also an opportunity to exchange information, establish contacts, and discuss and view safety equipment with the international maritime community.

This year's program includes lecture topics such as:

- Revising the standards of training, certification and watchkeeping
- Advances in marine electronics
- Improving safety and survival

Specific discussions will focus on subjects such as the safety of integrated bridges, global navigation satellite systems, shipboard firefighting training, identifying substandard ships through a risk matrix, improving fishing vessel safety and advances in offshore safety training.

"The tragic sinking of the passenger ferry *Estonia* in the Baltic Sea last year, with the loss of over 900 lives, has focused public attention on the safety of roll-on/roll-off ferries," said **Eric Beech**, SASMEX '95 conference director. One of the conference sessions will address lessons from the *Estonia* disaster.

A group of consultants, sponsored by the IMO (International Maritime Organization), will discuss the proposed revisions to the Convention on the Standards of Training, Certification and Watchkeeping (STCW), in response to the rapid changes to maritime operations in recent years.

The keynote speakers for SASMEX '95 are Rear Admiral **James C. Card**, Office of Marine Safety & Environmental Protection and Hon. **Jim Hall**, chairman, National Transportation Safety Board.

For more information, contact: **Gillian Jones**, SASMEX International 95, 2 Queensway, Redhill, Surrey, RH1 1QD, U.K., tel: +44 1737 768611, fax: +44 1737 760564.

AMC Awarded Level E Open-Ocean OSRO Class

The U.S. Coast Guard (USCG) finally confirmed that American Marine Corporation (AMC) merits certification to final Level E Oil Spill Removal Organization (OSRO) classification in the offshore/open ocean (O/O) environment, after granting it in December and suspending it in January.

AMC was awarded Level E O/O classification from the U.S. Coast Guard Dec. 23, 1994, adding to its final OSRO Level E inland/near shore (I/N) and rivers/canals (R/C) classifications.

On Jan. 27, the USCG suspended AMC's status "pending a detailed review and reinspection of the company's resources."

The USCG said "possible discrepancies" had been found in their resource listings.

On Feb. 1, AMC announced its interim reinstatement to the O/O

(Continued on next page)

a response signal that appears on the radar screen as 12 dots — originating at the location of the SART. The lithium battery provides more than eight hours of active operation and 96 hours of standby operation, and has a shelf life of five years.

The new RT600 is of lightweight, rugged construction, supplied complete with storage bracket. A telescopic pole aids deployment through the observation port of a liferaft, or it may be suspended by the attached lanyard from inside the liferaft. Where local regulations permit, the RT600 may be supplied without a pole.

For more information on Nova Marine
Circle 42 on Reader Service Card

Times Microwave Introduces New LSRG Low-Smoke Cable

Times Microwave Systems introduced two new lines of coaxial cable: the new LSRG Low-Smoke/Non Halogenated Coaxial Cable series, in response to the immediate military need for Mil-C-17 low smoke cables, and a new Armored Low-Smoke, Flame-Retardant RF coaxial cable for applications in the oil rig and shipboard industries.

Times Microwave is reportedly the only "100 percent QPL'd" source for all of the new low-smoke cables (M17/180 through 200 and M17/210 through 218) required to address flame retardance, smoke, toxicity and corrosive off-gassing properties. The new LSRG Low-Smoke/Non-Halogenated coaxial cables are designed to use standard connectors used on RG cables.

The Armored Low-Smoke, Flame-Retardant RF coaxial cable is currently being supplied for use on the Hibernia oil platform, which will be located approximately 200 miles off the coast of Newfoundland, Canada.

Both lines of cable are subjected to a swept return loss (VSWR) and RF transmission loss (attenuation) test that helps assure cable performance over the entire frequency band.

Times Microwave Systems, a division of Smiths Industries Aerospace and Defense Systems Inc., has over 150 QPL listings for Mil-C-17 coaxial cable and has been combining electrical expertise, exclusive compound development and fully swept VSWR and attenuation capabilities to address customized needs for more than 45 years in the commercial and military industries.

For more information on
Times Microwave
Circle 43 on Reader Service Card

Thermax Joiner Material Is UL/USCG Certified

Thermax is a non-combustible, non-toxic 100 percent organic (including binder), mineral construction building board with hydrophobic qualities made from exfoliated mica particles called vermiculite. The material has been used extensively for marine joiner construction work on ceilings, doors, claddings, cable trays, ventilation systems, panel systems, furniture, decorative bulkheads and more.

Thermax contains no fibers or formaldehyde. It meets the non-combustibility requirements of SOLAS and IMO resolutions, has passed the Pittsburgh Toxicity Test, and has UL/USCG certification. In Europe and Asia, appropriate regulatory body certificates exist for marine applications.

For more information on Thermax
Circle 47 on Reader Service Card

Dunlop-Beaufort Offers 50-Person SOLAS Rafts

Dunlop-Beaufort Canada Ltd. has introduced what is reportedly the largest liferaft applying to SOLAS 74/83 requirements for passenger-carrying vessels. Approved by both the Canadian and U.S. Coast Guards, the RBS 50-person liferaft is considered by the company a major initiative toward reducing capital costs and improving safety at sea.

"Limited deck space may restrict the number of 25-person throw-over type units required to fulfill the vessel's life-saving complement," said **Paul Higginbotham**, technical manager for Dunlop-Beaufort. "The RBS 50-person was designed to reduce the total number of liferafts required and also to operate in conjunction with Beaufort's newly mar-

keted rapid passenger transfer system, the Marine Evacuation Chute."

Beaufort has been actively promoting the product internationally. The RBS 50-person has been enthusiastically accepted by two of the Pacific Northwest's largest passenger ferry operators. The British Columbia Ferry Corporation and Alaska Marine Highways are currently operating vessels using the approved 50-person liferafts.

For more information
Circle 48 on Reader Service Card

Inmarsat Buoy Allows Vessel Monitoring By Satellite

A buoy that communicates via Inmarsat satellites will make it possible to monitor and store information about the condition and safety of ships at sea, automatically alert authorities in case of an accident, and act as a floating "black box" repository of vital information.

The buoy, which was unveiled at the headquarters of Inmarsat in December 1994, is part of the Status Recording (Starec) system. Ship owners will be able to monitor the safe operation of their ships and flag or port states will be able to conduct random checks on ships under their jurisdiction. In the event of a disaster, key information on ship status will be available immediately without having to recover the buoy, saving valuable time and resources.

Inmarsat, in cooperation with Linkcom and the Japan Radio Company, developed the Starec buoy to remotely monitor critical parameters such as speed, position, course, excess water in the bilge, status of bow and stern doors and hull stresses. An Inmarsat-C communications terminal inside the buoy sends the data through Inmarsat satellites to a land earth station, which then forwards the data to the appropriate authority on shore.

The buoy stores up to 24 hours of data and can be programmed to send reports at regular intervals. Should a ship sink, the buoy will float free and send a distress message to a predetermined point on shore. The shore authority can then command the buoy to transmit all the recorded data in its memory, providing immediate information about what might have gone wrong.

For more information on Inmarsat
Circle 49 on Reader Service Card

Maverick Foam Vest System For HK Salvage & Towing

The Hong Kong Salvage & Towing Company Ltd. (HKST) recently acquired the Maverick Foam Vest System (MFVS) from the International Marine Supply and Service Co. (IMSSCO) of San Diego, Calif. to augment its salvage and firefighting equipment.

HKST's managing director, **Alan Curtis**, witnessed the Maverick Foam Vest System demonstration at the Rotterdam International Safety Center (RISC), held in conjunction with the 13th International Tug & Salvage Convention in Rotterdam, Holland. The vest, which is ABS type-approved and UL-listed, was used to extinguish a fairly large three-dimensional Class B fire.

"We intend to use the Maverick Foam Vest System as a portable firefighting appliance aboard our own tugs where the MFVS is ideal for those spaces where access is restricted, and as a firefighting tool in our salvage work," said **Alan Loynd**, HKST's fleet manager. "The ability of the firefighter to turn foam on and off at his own will and knowing how much foam remains at all times makes the MFVS an effective and safe tool."

For more information on IMSSCO
Circle 50 on Reader Service Card

USCG Approves Simulator-Based Master License Exam

The U.S. Coast Guard (USCG) has approved a simulator-based practical examination for the Unlimited Master's License. As a result of its Licensing 2000 And Beyond focus study group, the USCG has approved a performance-based certification standard for U.S. mariners in charge of large ships.

Previously, according to USCG regulations, qualified mariners could receive an Unlimited Master's License only after passing a written

MacGregor Establishes Task Force On RoRo Safety

The MacGregor Group, a leading supplier of shipboard cargo access equipment, has established a RoRo safety task force to assist operators in evaluating how the expected higher safety demands for these ships can best be met.

MacGregor's RoRo safety task force has already dealt with numerous inquiries concerning the safety of RoRo ferries and cargo vessels. It will investigate the safety status of each vessel in light of the anticipated new regulations that have been proposed by classification societies and various national authorities, and will indicate to shipowners any modifications necessary to meet these regulations.

Classification societies and national authorities alike have reacted strongly to the possible dangers of RoRo vessels since the *Estonia* tragedy, and proposals to increase the safety of RoRo vessels are frequently being published. Shipowners have similarly been concerned and, as a result, the industry has been overwhelmed by the demand for inspections of the safety condition of their vessels.

The proposed new regulations address three main issues:

- watertightness of the bow door
- integrity of the collision doors from the bow door area, and
- stability of the vessel when subjected to an ingress of water.

The MacGregor RoRo safety task force is investigating all three of these, and its current work includes cooperation with Stena Line to analyze and, if necessary, further improve the safety of its fleet sailing from Gothenburg.

MacGregor announced the development of its flood control doors as early as 1988; the doors were fitted onto the *Spirit of Tasmania* in 1993, and a newer version of the flood control door was installed in the *Silja Symphony* in December 1994. The new door is of telescopic type in which the outer blade is retracted into the main, hinged part of the door before the door is opened, and extended out to seal against the longitudinal bulkhead when the door is closed.

Like its predecessor, the door has a hemicyclic action (i.e., it can swing open in both the forward and aft directions), thus reducing any loss of RoRo cargo capacity or increase in turnaround time. It is designed for easy retrofit to existing vessels. Both versions of the door increase the damaged stability of the ship by restricting the movement of any water along the deck, thereby reducing the free water surface area.

MacGregor is also to participate with Silja Line and Kvaerner Masa-Yards in full-scale tests to determine the maximum forces acting on the bow arrangement. This work will be conducted in Finland.

MacGregor's RoRo Safety task force provides support to shipowners worldwide, using its technical expertise to define what is necessary to upgrade the safety of their fleets.

For more information on the MacGregor Group
Circle 55 on Reader Service Card

AMC Awarded Level E Open-Ocean OSRO Class

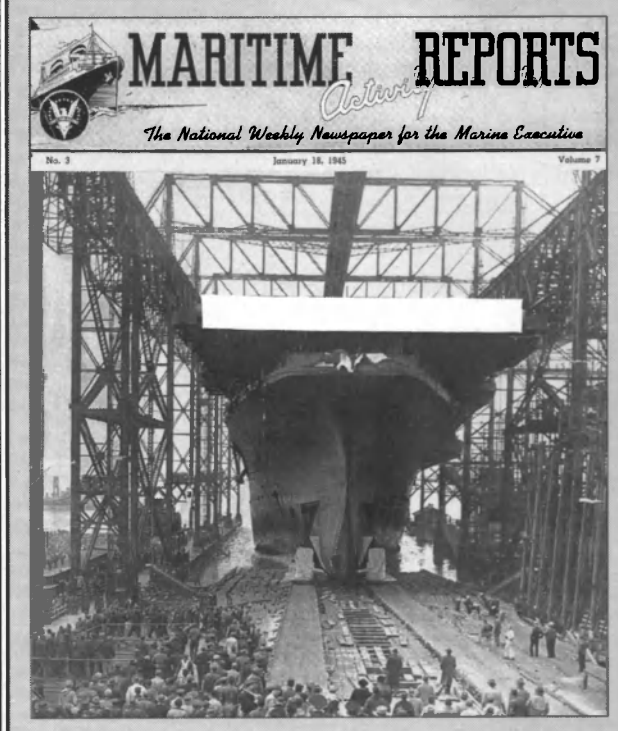
(Continued from previous page)

level while the USCG conducted a detailed review. The company maintains it always had the resources to merit the classification, and said its capability had not decreased but actually increased since the classification.

A more detailed audit of AMC's resources finally confirmed AMC's compliance with the O/O classification and settled the issue. The company announced its final certification on Feb. 8, immediately after the USCG informed them of it.

For more information on AMC
Circle 58 on Reader Service Card

50 Years Ago In *Maritime Reporter*


MARITIME Activity REPORTS

The National Weekly Newspaper for the Marine Executive

No. 3 January 18, 1945 Volume 7

From the ON THE COVER box in *Maritime Activity Reports*, cover date Jan. 18, 1945:

"Sliding down the ways after her recent launching at the Newport News Shipbuilding and Dry Dock Company, Virginia, is the aircraft carrier *Boxer*, the seventeenth vessel of the Essex class to be launched for the Navy since Pearl Harbor.

"The *Boxer*, the fifth Navy vessel of that name, has a displacement tonnage of 27,100 tons, is 850 feet long and carries more than 80 aircraft including fighters, torpedo bombers, scout bombers and scout observation craft."

For information on today's USS *Boxer*, see story, this page.

Ingalls-Built USS *Boxer* (LHD 4) Joins Pacific Fleet

The Navy's newest WASP (LHD 1) class multipurpose amphibious assault ship was commissioned USS *Boxer* (LHD 4) during ceremonies on Saturday, Feb. 11 at Ingalls Shipbuilding division of Litton Industries in Pascagoula, Miss.

U.S. Senator **Trent Lott** (R-Miss.), Senate majority whip, delivered the principal address for the ceremony, during which LHD 4 officially joined the Pacific Fleet.

Admiral **Jeremy M. Boorda**, USN, chief of naval operations, placed the new ship in commission. Captain **Robert E. Annis**, USN, a 1971 graduate of the U.S. Naval Academy, is LHD 4's commanding officer. Also participating in the ceremony was Admiral **Paul David Miller**, USN (Ret.), former supreme Allied commander, Atlantic and commander-in-chief, U.S. Atlantic Command. Admiral **Miller** was principal speaker at *Boxer*'s christening at Ingalls in August 1993. He is currently president of Sperry Marine, Charlottesville, Va.

The primary mission of the large-deck WASP (LHD 1) class of amphibious assault ships is as the centerpiece of an Amphibious Ready Group (ARG). A multimission ARG is capable of amphibious assault, advance force, and special purpose operations, as well as non-combatant evacuation and other humanitarian missions. In carrying out such missions, LHD 4 will transport, deploy, command and support all elements of a Marine Landing Force in assault by air and amphibious craft.

The 40,500-ton ship is 884 ft. (269.4 m) long, with a beam of 106 ft. (32.3 m). Two steam propulsion plants, developing a combined 70,000 hp, will drive LHD 4 to speeds in excess of 20 knots.

For more information on Ingalls
Circle 34 on Reader Service Card

Elliott Acquires Diesel Repair Company

Elliott Manufacturing has acquired American Diesel Engineering (ADE), Inc., a diesel engine and turbocharger repair company with headquarters in Yorktown, Va.

According to Elliott, the acquisition is a continuation of Elliott's commitment to expanding its presence in the turbocharger marketplace and complements its recent purchase of Turbine Specialties, Inc., headquartered in Salina, Kan.

Gary Huneycutt, formerly president of ADE, will continue as general manager of the new company, reporting to **David Jefferiss**, Elliott's vice president of industrial products.

Elliott, headquartered n Jeanette, Pa., is an international leader in turbine and compressor products for refining and process applications, industrial air applications, turbochargers, power generation, oil and gas production and boiler tube tools.

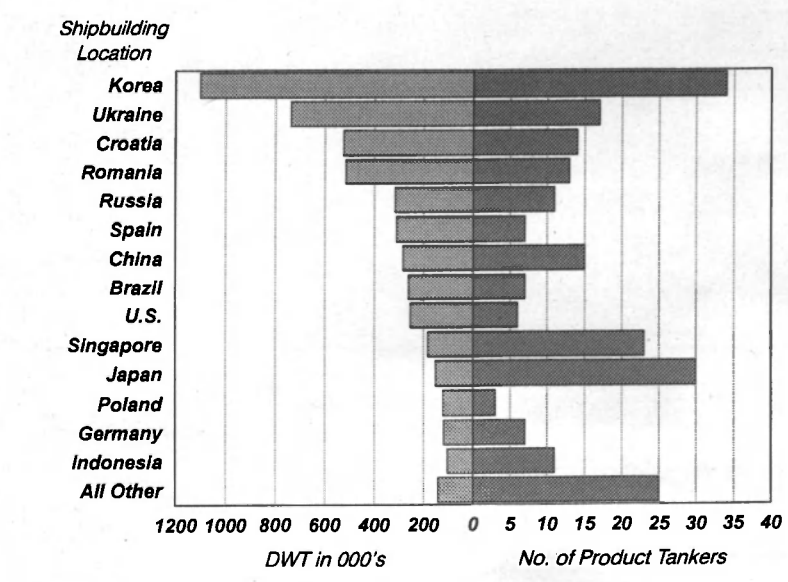
For more information on Elliott
Circle 59 on Reader Service Card

INDUSTRY TRENDS

by

James R. McCaul, President
IMA Associates, Inc.

223 product tankers are currently under construction or on contract in 86 shipyards — with Korean and East European yards accounting for 63 percent of the deadweight tonnage and 17 percent of the number of product tankers on order worldwide.



Source: IMA Associates, *Shipbuilding Industry Outlook, 1995 Edition*

USCG Orders Three More Tenders From Marinette

The U.S. Coast Guard (USCG) exercised its option to award three more buoy tenders to Marinette Marine Corporation (MMC), under its contract to design and build the Ida Lewis class of coastal buoy tenders. The option is for $36 million, covering construction with attendant warranty, manuals, repair parts, support, testing and training.

MMC was awarded the basic design and build contract for the class in June 1993, and is slated to deliver the first ship in January 1996.

MMC is currently constructing two classes of buoy tenders for the USCG, and has three of the larger Juniper class vessels under construction. The present contract totals almost $155 million. Additional options for two Juniper class and 11 Ida Lewis class vessels are expected over the next two to three years.

Dan Gulling, president of MMC, said, "I think this award confirms the fine job our people are doing for the Coast Guard, and it means a lot for our continued ability to provide employment in northeastern Wisconsin and upper Michigan."

For more information on
Marinette Marine Corporation
Circle 57 on Reader Service Card

EU Commission To Step Up Safety Measures On RoRos

RoRo passenger ferry operators may have to increase safety measures following a tightening of regulations proposed by **Neil Kinnock**, commissioner for transport of the European Union (EU) Commission.

Mr. **Kinnock** reportedly said the move is aimed at ensuring that the kind of tragedies which struck the *Estonia* and *Herald of Free Enterprise* ferries cannot happen again.

"Everyone who travels on ferries has the right to expect them to be safe and efficient," Mr. **Kinnock** reportedly said. He was also reported as saying the proposal is only the first of a series to be made this year.

Operators would be required to have a designated management board member to ascertain the codification and observation of safety regulations. The proposal is less concerned with the technical aspects of safety, and more with managing crews and procedures.

The proposal asks the council of EU transport ministers to require operators to observe the IMO's ISM Code for vessel operation. The proposal comes well in advance of the time frame requested by European leaders to have legislation on ferry safety ready by July 1, 1996.

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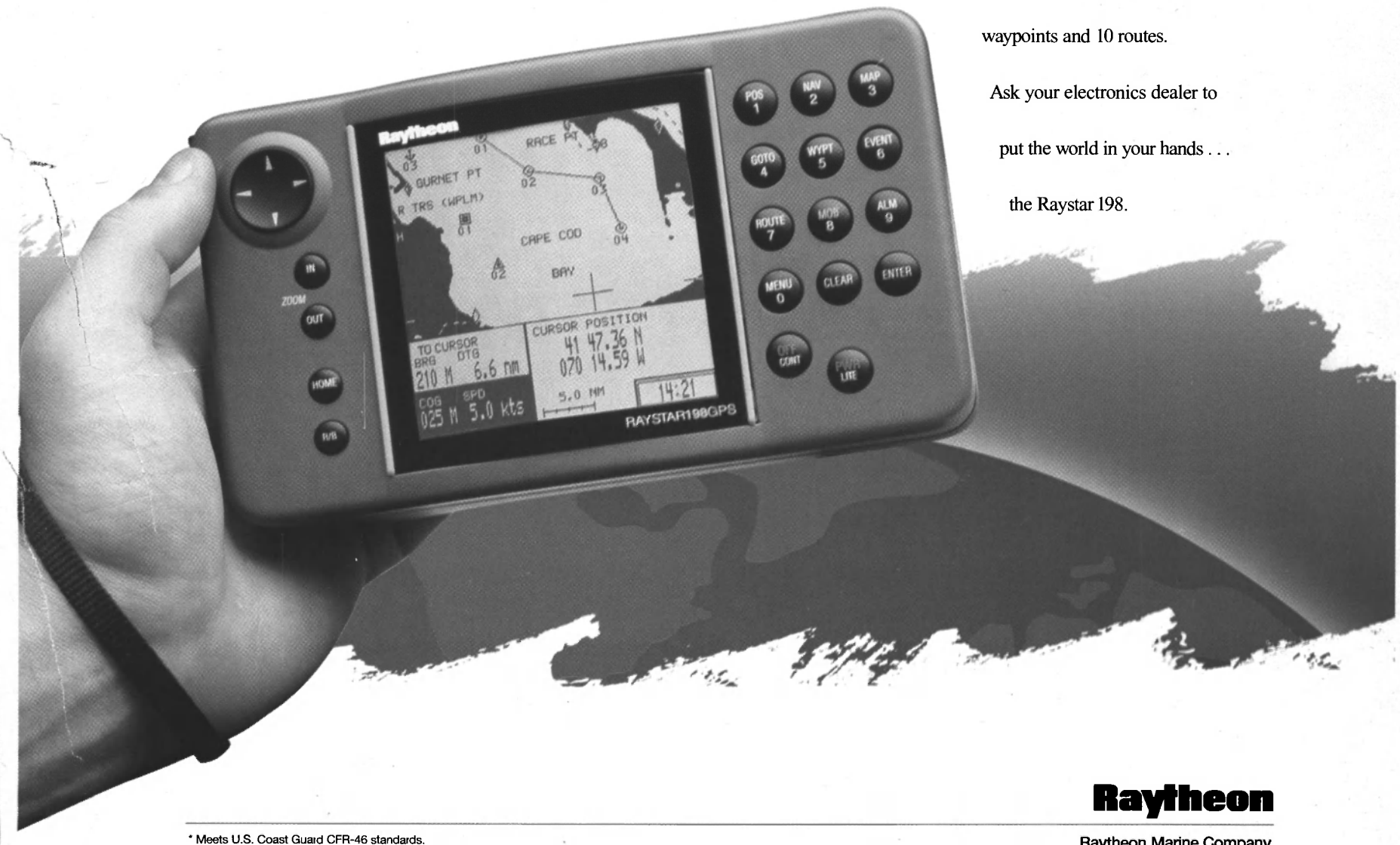
Raytheon's Raystar 198 GPS/Chartplotter. It's a waterproof* handheld GPS that fits as comfortably into your budget as it does in your hand.

The large (3"x 3") LCD screen has a crisp, sharp picture. Its flip-up patch antenna and five-channel parallel receiver assures you of pinpoint accuracy. Plus it's D-GPS ready and comes with a mounting bracket.

The Raystar 198 is also a full-function electronic charting system that uses C-MAP® mini-chart cartridges, has a built-in world map, a graphic course deviation indicator (CDI) of your route, and can store up to 200 waypoints and 10 routes.

Ask your electronics dealer to put the world in your hands . . . the Raystar 198.



Raytheon

* Meets U.S. Coast Guard CFR-46 standards.
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Raytheon Marine Company
676 Island Pond Road
Manchester, NH 03109-5420 USA
TEL (603) 647-7530
FAX (603) 634-4756

EUROPEAN UPDATE

Military designs for the future

One of nine vessels which will give the RNoN the first fleet of operational SES MCMs in the world.

by Carol Fulford and Andy Smith, contributing editors

Gone are the days when navies were restricted to ordering monohulls. Although traditional hulls are still popular with military forces the world over, today's European design teams are emerging with intriguing multihull designs which claim to offer significant advantages.

Blohm + Voss in Germany, Vosper Thornycroft in the U.K. and Kvaerner Mandal in Norway all have new concepts for the naval vessel of the future.

Blohm + Voss

The Mekat air-cushion catamaran, the latest product to spring from Blohm + Voss's MEKO (multipurpose combination) unique modular warship construction principle, is now truly off the design board and afloat as the prototype vessel *Corsair*.

An air-cushion catamaran (i.e. the combination of a catamaran with its two hulls and an air cushion craft), the Mekat series is available in three versions — the 80, 150 and 200 — all of which are suited to military and paramilitary requirements.

The largest — the Mekat 200 — is 146.3 ft. (44.6 m) long x 45.6 ft. (13.9 m) beam with an on-cushion draft of 2.6 ft. (0.8 m).

Two propulsion options are available: diesel to achieve speeds of around 40 knots and gas turbines for approximately 50 knots.

Operating in typical surface effect ship (SES) fashion, the vessel has forward and aft skirts to seal off an air cushion located between the two hulls. The cushion is fed by highly efficient radial fans which cause it to lift the vessel so that only 15-20 percent of its weight is borne by the water.

In addition to high speed and low draft during on-cushion mode, the glass reinforced plastic (GRP) built Mekat reportedly produces reduced pressure, infra-red, noise and electromagnetic signatures. Furthermore, its catamaran shape provides a large deck area which can be used to accommodate customer-specified modules from the MEKO range.

Blohm + Voss' SES *Corsair* offers military operators a host of advantages.

Vosper Thornycroft

Leading U.K. military vessel builder Vosper Thornycroft (VT) has also revealed details of two new vessel designs — one as a trimaran type and the other available as an SES or monohull. VT has tailored both primarily to the requirements of Middle East navies, as it is well versed in their specific needs, having secured considerable business with Gulf military forces.

VT chose the IDEX 95 exhibition in Abu Dhabi as the launch pad for its new concept patrol/mine countermeasures vessel (PMCM) and trimaran corvette.

As VT Technical Director **Bob Mulligan** explains: "They are flexible, efficient designs that are also cost-effective. As navies continually look towards matching their needs with the budgets available, we believe these designs are the way ahead."

Flexibility is obvious with the PMCM. Built in GRP, it can be constructed as a SES or monohull and is specifically aimed at customers who cannot devote resources to a dedicated MCM but would welcome a vessel that can also undertake patrol and hydrographic survey tasks.

Its basic configuration is, therefore, as a patrol vessel with ability to be re-programmed for MCM or other roles when additional equipment is fitted and, for this purpose, has been designed to the same shock standards as the modern MCM vessel.

At about 164 ft. (50 m) long, the vessel will be capable of speeds up to 25 knots (unusual for an MCM) with a slow speed range between zero and 12 knots and a range at 12 knots of 2,000 nm. For MCM duties, a variable depth sonar is fitted and a Ships Positioning Control System with navigational aids necessary for MCM/policing duties also incorporated.

The second design — a 311.7-ft. (95-m) long trimaran corvette — is the product of much investigation

into the benefits of the large trimaran for naval use. Advantages lie with low resistance and flexibility of layout. The former bonus means that either higher speeds than a conventional monohull can be offered for the same installed power or that speed can be matched with lower power requirements.

Layout has been another major consideration as for a trimaran of about 311.7-ft. waterline length, the cross deck structure between the main hulls is sufficient to accommodate a full deck. This provides useful volume in the center of the ship where space is most valuable thus making layout of accommodation spaces more flexible.

Having an open deck above the wide cross structure is for a helicopter flightdeck. The closeness of this flight deck to the pitching center of the vessel will significantly reduce the motion and thus extend helicopter operations to higher sea states.

It is understood that VT has received a good amount of interest in the new designs. The company, though, is currently keeping busy with 14 newbuild contracts on its books, including: seven 170.6-ft. (52-m) Sandown Class GRP minehunters for the Royal Navy; four 183.7-ft. (56-m) fast attack craft for Qatar which are loosely based on the Vita class, the first of which is due for launching in the spring; and final fit-out of the second of a two vessel Al Jawf class order for the Royal Saudi Naval Forces. The yard also awaits confirmation of three more of this class for Saudi and is also tendering for frigate orders from the UAE and the Royal Navy, U.K. Production is also on schedule for a second 272.3-ft. (83-m) corvette in build for the Royal Navy of Oman with the superstructure lowered into place in early January.

Kvaerner Mandal

Norwegian yard Kvaerner Mandal is working on an order for nine mine countermeasures vessels for the Royal Norwegian Navy (RNoN). Here, designers return again to the unconventional as when delivered, the RNoN will have the first fleet of operational SES MCMs in the world.

At 181 ft. (55.2 m) length by 44.5 ft. (13.5 m) beam by 2.95 ft. (0.9 m) draft on cushion, the designs are claimed to offer better operational performance, survivability and economy of operation than comparable monohulls and catamarans and, as 75 percent of the displacement is airborne, the transit speed is increased by more than 50 percent. Not only can they operate in shallow waters, but their maneuverability is reportedly superior due to the long distance between the twin hulls, which gives a large turning moment from the waterjets. The vessels are also able to move sideways without any rotation or forward movement.

The main propulsion and auxiliary plant are housed separately in unmanned machinery spaces, one over each hull just abaft midships. Each room houses an MTU 12V366 TE84 diesel engine developing 1,500 kW (2,040hp) at 1,900 rpm driving a Kvaerner Eureka waterjet with azimuthing nozzle for steering and a reversing bucket. For slow speed operations the waterjets are hydraulically powered via pumps. Vessels are equipped with two independent sonar systems which enhance safety and improve detection of mines when operating in mined waters.

Due to the improved seakeeping of the SES, the hazard involved in deploying divers or remote operated vehicles in adverse weather conditions is reduced. As the vessel has waterjets instead of propellers and rudders, the operator is free to maneuver the ROV without the risk of entangling the umbilical. Sonar conditions are also improved as less turbulence is created and the danger zone reduced as vessels can come close to target. Added to this, the open deck area combined with moderate roll angle maximizes safety for mine sweeping operations.

EUROPEAN UPDATE...

Every month *Maritime Reporter* contributing editors **Andy Smith** & **Carol Fulford** bring you the latest news from Europe's small to medium-size builders.

First "Europatrol" boat goes to Greece

Three leading U.K. marine companies have collaborated in the design of a family of offshore patrol vessels to police and protect the maritime frontiers of the EEC. The first, a 154.2-ft. (47-m), 240-ton displacement vessel named *A.L. 50* has recently entered service with the Greek Customs.

McTay Marine Limited built the vessel based on Vosper International's Europatrol 250 MK1 design incorporating a three engine propulsion package developed by GEC-Alsthom Paxman Diesels. Capable of sustained speeds in excess of 40 knots during long range patrols in offshore conditions exceeding Sea State 6, this first of class has been constructed to IMO, NATO and USCG criteria.

The hull form, devised by Scotland based warship specialist Vosper International, is of modern round bilge semi-displacement type with transom stern, soft nose stem and well flared sections forward terminating in a knuckle below the weatherdeck. Hull and deck are of welded mild steel and the superstructure is of welded marine grade aluminum alloy construction. Innovative features of the design include a tandem system of spray rails to minimize drag and improve dynamic stability at high speed and noise attenuating caves installed over the propellers to eliminate propeller induced hull excitation. The two engine rooms are located aft in a further move to reduce on board noise levels.

Propulsion power is supplied by three 16-cylinder Paxman Valenta high speed diesel engines each de-

(Continued on page 65)

"Over the next decade, 10,000 ships...will need to be replaced"

• Kvaerner Invests In Research •

Norwegian shipbuilder Kvaerner is planning to spend $72 million on a major three year research program into marine transport for the year 2000. Such an impressive investment has been prompted, according to the company, by the sinking of the *Estonia*, which led several shipowners to contact the yard regarding its patented RoRo ferry design which uses transverse watertight doors to divide the car deck. The project will look at developing new, environmentally friendly and safe vessels to meet the projected growth in ferry transport and will involve Kvaerner's yards in Britain, Germany, Finland and Norway, all of whom will be working with independent research institutions. For example, the Kvaerner Govan yard will be working with the Universities of Glasgow, Strothclyde and Newcastle to develop improved cargo ships with fuel efficient hull lines and cargo systems with higher operational efficiency. "Over the next decade, 10,000 ships of different sizes will need to be replaced," states **Kjell Mikalsen**, managing director of Kvaerner Govan.

New tug for London

A new twin screw tug, *Impulse*, has recently entered service on the River Thames with the Port of London Authority (PLA). Although a multi-role vessel equipped for ship mooring buoy and chain maintenance operations, one of the new vessel's important tasks will be to push barges full of collected driftwood downstream to a site on the northern side of the estuary for disposal.

Built by David Abels, a Bristol based specialist steel boat builder, the vessel is 46 ft. (14 m) in length with a beam of 17.7 ft. (5.4 m) and a draft of just under 5 ft. (1.5m). A pair of type 3306B Caterpillar marine diesels each developing 235 bhp at 2,000 rpm drive Teignbridge propellers in fixed nozzles through Twin Disc MG 509 reverse reduction gears with a ratio of 3.39:1. On trials, *Impulse* achieved a static bollard pull of 5.7 tons and managed a free running speed just under 10 knots.

The vessel has a substantial pusher frame at the bow, but for conventional tug and buoy handling operations, a pair of six ton Spencer Carter winches are located at the forward end of the large flush deck area, immediately aft of the raised wheelhouse. The deck curves down towards water level though a wide gap in the transom enabling heavy items to be easily winched aboard.

The steering position is dead central in the forward wheelhouse and the vessel handles particularly well, with none of the difficulties sometimes associated with pusher tugs with fixed nozzles. The PLA called in the help of steering specialists Wagner Engineering to devise a power assisted arrangement with a failsafe system considered essential in the confined waters of the Thames.

The steering system installed was originally developed for the fleet of Cory Environmental tugs also working on the Thames. Comprising a hydraulic "amplifier" between the wheel pump and the twin rudders, finger tip control is achieved with just three turns of the wheel from hard over to hard over. One of the Caterpillar main engines provides the hydraulic power to the amplifier but should this fail for any reason, it reverts automatically and instantly to a fully manual system.

Driftwood is a major problem on the Thames. The PLA has a number of both static and active driftwood collection devices operating at well known trouble spots. This material is loaded into barges, which when full, are towed down river by *Impulse*.

(Continued from page 64)

veloping 3,250 kW at 1,640 rpm. Each is connected to a 1,500-mm KaMeWa four-bladed skewed propeller through a Reintjes gearbox, the center unit having a trolling valve to provide a loiter facility at two to four knots. Reduced speed operation is possible in the event of either engine room becoming flooded. Furthermore the vessel is divided into nine water, smoke and gas-proof compartments extending from keel to weatherdeck. All the machinery is arranged for unmanned operation; control and monitoring is effected from an air-conditioned machinery control room (MCR) equipped with CCTV and a Regulator Europa electronic surveillance and control system. Each engine is monitored by a 64 channel data acquisition unit which is interrogated by two processing units and the information relayed to both bridge and MCR. A built-in trend function allows for permanent recording of all channels. A high standard of air conditioned accommodation and recreational facilities has been provided for the normal ship's complement of 21 (with four extra berths for "visitors"), and active roll damping fins are fitted to enhance both crew comfort and platform performance in beam and quartering seas. The vessel is equipped with a 45-knot 21.3-ft.(6.5-m) RIB for rescue, boarding and high speed pursuit in shallow water. Manufactured by Delta, this daughter craft is powered by a 330-hp, 7.4-liter Mercruiser engine coupled to a PP100 waterjet. According to **Robert McBurney**, McTay's commercial director, the contract to build the Greek Customs Patrol Boat A.L. 50 was won against intense competition from European warship builders. Indeed, cost effectiveness is being highlighted by the three major concerns behind the Europatrol series, which includes versions spanning 150 to 600 tons displacement — all of which can be provided with a variety of naval weapon systems.

Kohlenberg Celebrates 100 Years

Kahlenberg Bros. Co. of Two Rivers, Wis. started as a gasoline engine manufacturer in 1895, and in the hundred years since, has developed an expanded product line and a reputation for quality service and supply to the maritime industry.

Now well-known as a manufacturer of airhorns and other quality marine equipment, Kahlenberg began making propellers in 1906, then airhorns in 1932. Marine diesel engine production stopped in 1964, but overall the company's product line has significantly expanded: today Kahlenberg's many offerings to the marine market include propellers up to 120 in. in diameter (three, four and five-blade); airhorns up to 12 in. in diameter (diaphragm size); piston horns; fog signal timers, automatic and at will switches; air compressors; air tanks; propeller RPRs; propeller shafts; air whistles; subcontract machine work; muff couplings; air strainers and whistle valves and lights.

The company's air horns are manufactured for just about every size of vessel, from aircraft carriers on down. Kahlenberg expects the marine market's future to include more computer-driven machinery, new propeller designs and a stronger shipbuilding industry and commercial fleet.

For more information on Kahlenberg
Circle 152 on Reader Service Card

Launch of All-Container Ship *Santa Ana*

The *Santa Ana*, an all-container ship built by Flender Werft, was launched on February 25th. The ship is a further development of Flender type series "FW 3000."

Kvichak Delivers Two High-Speed, Multipurpose OSRVs

One of two multipurpose OSRVs Kvichak recently delivered to different owners in Portland, Ore.

Kvichak Marine recently delivered two high-speed, multipurpose oil spill response vessels (OSRVs). The all-aluminum vessels were designed and built for Clean Rivers Cooperative and the Maritime Fire and Safety Association, both of Portland, Ore. The shallow-draft boats are powered by 380-hp Ford engines driving Hamilton waterjets, giving them response speeds well in excess of 30 knots. The new vessels are 36.6 ft. (11.1 m) long, with a beam of 11 ft. (3.4 m). Each has an enclosed pilothouse for all-weather operations, a bow ramp for boom handling, a 1,000-lb.-capacity davit, a rescue platform, towing equipment, and a LORI oil recovery system.

For more information on Kvichak
Circle 30 on Reader Service Card

Gold Coast Yachts Delivers Wave-Piercer To Puerto Rico

Eco Isleno is a new GC 45WP wave-piercing power catamaran delivered by Gold Coast Yachts to Marine Transportation Partners Inc., Fajardo, Puerto Rico The vessel joins her sisters in St. Thomas and St. Maarten in providing fast, comfortable transportation on another rough Caribbean inter-island route.

Eco Isleno is powered by twin 200-hp out-

boards that give a cruising speed of 23 knots at 4,400 rpm and a top speed of 28 knots — an important feature for the vessel's busy life providing excursions for the El Conquistador Resort and Country Club and ferry service to the islands of Culebra and Vieques. The wave-piercer sports a flybridge and excursion amenities for 30 passengers. Also under construction are GP 45WPs for Little Dix Bay Hotel and Dive BVI in Virgin Gorda, British Virgin Islands. Construction of a wave-piercing ferry for Surf Express is planned for the St. Thomas - St. Croix route.

For more information on Gold Coast Yachts
Circle 31 on Reader Service Card

Avondale Industries Announces Title XI Financing Completed

Avondale Industries, Inc. announced that it completed its $17.8 million financing of its plant modernization effort by issuing mortgage bonds guaranteed under the Title XI program of the Merchant Marine Act of 1936. The bonds bear interest at the rate of 8.16 percent and are repayable in equal semi-annual principal payments of $593,000 over a 15-year period. The modernization project will allow the company to improve its steel fabrication facilities and enhance its competitive position in the Navy and commercial shipbuilding market. The modernization project will be completed by the third quarter of 1995. Avondale also completed the refinancing of $4,268,000 of existing Title XI bonds and the reduction of the interest rate from 9.30 percent to 7.86 percent. These bonds are repayable in equal semi-annual principal payments and mature in the year 2000.

Avondale Industries, Inc., headquartered in metro New Orleans, is one of the nation's leading marine fabricators. In addition to its shipbuilding operations, the company specializes in boat construction and is a major repair contractor for commercial and Navy ships. It is also involved in the modular construction of facilities and components for a variety of land-based industries.

For more information on Avondale Circle 98 on Reader Service Card

DOT Announces New Shipbuilding Activity

$2.75 Billion In Title XI Pending

Maritime Administrator **Albert J. Herberger** announced the issuance of more than $160 million in Title XI shipbuilding loan guarantees. The guarantees will support the construction of four double-hull product tankers, two tractor tugs and one undersea warfare surface support ship. MarAd also terminated the application filed by Lockwood/Saracen Investments, Ltd., which sought Title XI guarantees to construct a series of multi-purpose container vessels, due to a lack of economic soundness.

Since the enactment of the National Shipbuilding Initiative 14 months ago, MarAd has extended nearly $600 million in Title XI loan guarantees for export and domestic vessels and to support shipyard modernization activities. In October 1994, MarAd issued a Title XI loan guaranty to support the purchase of the first U.S.-built large commercial vessel sold to a foreign purchaser in more than 35 years.

There is more than $2.75 billion in Title XI applications that are pending before MarAd in various stages of review. President **Clinton**'s FY 96 budget request seeks $52 million in new appropriations for Title XI which will support approximately $1 billion in new shipbuilding activity.

The tankers will be constructed for American Heavy Lift Shipping Company of New Orleans, La., by Avondale Industries and will be delivered between June 1996 and March 1997. The vessels will be constructed utilizing existing stern sections and propulsion systems and newly-constructed double-hull forebodies. These will be the first U.S.-flag tankers constructed for the domestic trades in more than ten years and they will comply fully with all domestic and international environmental requirements. The total amount of the guarantees will be $139 million.

The tractor tugs have been ordered by Bay Transportation Corporation of Tampa, Fla., and will be built by Nashville Bridge Co. of Nashville, Tenn. Delivery of these vessels will occur in the next six months and the total amount of the guaranty will be $10.1 million.

The undersea warfare surface support ship has been purchased by Edison Chouest of Galliano, La. The vessel, which was delivered in June 1994, is currently in service under contract to the Military Sealift Command. The vessel was constructed by North American Shipyard in Larose, La., and the total amount of the guaranty will be $11.7 million.

Extreme Machine, Based On New "Cyclocat" Design

USA Catamarans, Inc. of Fort Lauderdale, Fla., has developed a new foil-assisted planing catamaran. The new design, the Cyclocat, employs a fixed main foil between the symmetric round bottom demi-hulls. This combination is designed to produce an exceptionally smooth ride in choppy seas.

The 52.5-ft. (16-m) *Extreme Machine* was designed to be the ultimate snorkel/dive boat in every detail, including the high visibility pilothouse with the sun visor and open aft end for communication with the passengers.

The main engines are Caterpillar 3116s rated at 350 hp at 2,800 rpm. Propulsion is through fixed surface drives designed by USA Catamarans turning France Helices four-blade surface propellers. Full load speed of the 49-passenger catamaran is 25 knots.

For more information on USA Catamarans
Circle 33 on Reader Service Card

Avondale Industries Announces $143 Million Contract With AHL

Avondale Industries, Inc. announced the execution of a $143,865,000 construction contract with American Heavy Lift Shipping Company (AHL) for the construction of four U.S. flag product carriers that will comply with the double hull requirements of the Oil Pollution Act of 1990 (OPA 90).

The contract was made possible when AHL's application for a U.S. Government guarantee under Title XI of the Merchant Marine Act of 1936 was approved today by the Department of Transportation, Maritime Administration (MarAd).

The guarantee will be in the amount of $139.4 million and will be used as the basis for AHL's financing of the project which will have a total value of approximately $160 million.

The contract will become effective upon finalizing the financing commitment by AHL. Construction is scheduled to commence in mid 1995 and is scheduled for completion by the middle of 1997. Construction of the vessels is anticipated to require employment of 950 Avondale employees at peak production. The MarAd Title XI loan guarantee program was essential to the contract between Avondale and AHL.

In addition, Avondale's shipyard modernization program which was announced on November 3, 1994 was also facilitated by a MarAd Title XI guarantee. This modernization plan enabled the shipyard to provide a competitive price for the AHL project.

The vessels will be the first U.S. flag product carriers constructed in the United States in eight years and will provide environmentally safe oil transportation.

Albert L. Bossier, Jr., chairman and CEO, stated, "We are pleased to be part of this first OPA 90 domestic product carrier program and are encouraged that our shipyard modernization plan, supported by our own Title XI financing, has immediately shown the benefit of the more efficient ship construction process which will be utilized on this program."

Avondale Industries, Inc., headquartered in metro New Orleans, is one of the nation's leading marine fabricators.

In addition to its shipbuilding operations, the company specializes in boat construction and is a major repair contractor for commercial and Navy ships. It is also involved in the modular construction of plants and components for a variety of land-based industries.

For more information on Avondale
Circle 154 on Reader Service Card

Oriana Begins Fitting-Out At Meyer Werft

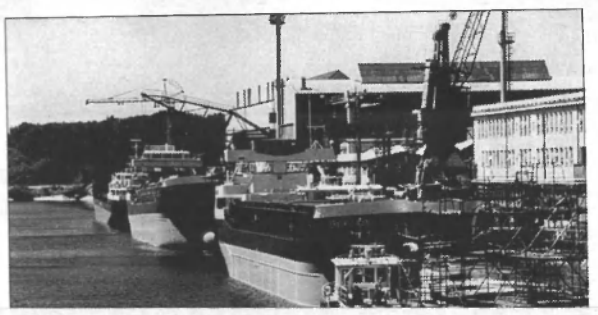
On Jan. 7, the 67,000-gt cruise vessel *Oriana* left the covered building dock of the Meyer Werft yard in Papenburg, Germany after extensive engine trials. The vessel was towed out to the fitting-out quay, where it will be further fitted out and then taken from Papenburg to Emden. Delivery is scheduled for the end of this month.

The owner of the vessel is P & O Cruises, London. With a length overall of 853 ft. (260 m) and a breadth of 105.6 ft. (32.2 m), the *Oriana* has a capacity of 1,975 passengers in 914 cabins. The engine output of 65,000 hp will provide the vessel with a service speed of 24 knots.

The Group, Miss., is owned by ... ity Industries, Inc., Dallas. With the

Deutz MWM Delivers 25th Propulsion Unit For Slovakian Yard

Deutz MWM division of the KHD Group delivered its 25th propulsion unit — a diesel engine of the 628 series — to the Slovakian shipyard



Equiport 95

May 16-19
LeHavre, France

Equiport 95, the third exhibition and conference for shipping, port equipment and shipbuilding and repair, is scheduled to take place May 16-19 in LeHavre, France.

Equiport 94 welcomed 302 exhibitors and 600 delegates from companies in Europe, Asia, and North America. This year's event is divided into two parts: services and equipment.

Special events highlighting Asiatic ports will take place, featuring the participation of Asian keynote speakers and professionals.

The events at Equiport 95 will concentrate on six themes:

- Asia: new port and logistic strategies
- The teleport: an international opening factor
- Port quality management
- Risk control and hazardous cargo
- Port handling
- Shipbuilding and repair

For more information on Equiport 95, please contact: Edit Expo International, 12 rue Vauvenargues - 75018 Paris, France, tel: 33 1 42 23 13 56, fax: 33 1 42 33 13 7.

Texoco Secures U.K. Approval For North Field Development

Texaco has received Annex B approval from the U.K. Department of Trade and Industry to proceed with its development of the Captain Field in the North Sea. Government approval follows a $500 million contract awarded in December 1994 to a joint venture team of contractors for the design, procurement, construction and installation of facilities for the field. The Captain Field is located 90 miles northeast of Aberdeen, Scotland. Field development is estimated to cost $800 million, and production is expected to begin in late 1996.

For more information on Texaco
Circle 86 on Reader Service Card

PPG Plans For South Carolina Fiberglass Plant

PPG Industries has announced plans for a continuous-strand fiberglass manufacturing plant in Chester, S.C., to produce reinforcement products for composites applications. The company reportedly approved a $50 million expenditure for the plant.

PPG has reached an agreement in principle to purchase the property, building and infrastructure on the former site of Glass Fiber Technology, which ceased production in 1986. The operation is expected to be running by spring 1996.

For more information on PPG
Circle 87 on Reader Service Card

MHI Develops Propeller Shaft Monitoring System

Mitsubishi Heavy Industries, Ltd. (MHI) has developed an on-board, real-time hp monitoring system which optically measures torsion of a ship's propeller shaft, and then optically transmits the measured data to a data processor for analysis. According to the manufacturer, the system displays both estimated data and real-time data such as horsepower and torsional vibration, and can be used for monitoring the safe operation of the propeller shaft and main engine.

For more information on Mitsubishi Heavy Industries
Circle 88 on Reader Service Card

Delivery Of M.V. *Federal Franklin*

The Fednav Group has announced the completion and delivery of the M.V. *Federal Franklin*. The vessel was built by Daewoo Heavy Industries Ltd., and was christened at Okpo Shipyard in Korea. The ice-class vessel at 43,700 tons is the highest ice-class bulk carrier built for commercial trading in the Canadian Arctic. The vessel is the first series of eight newbuilding vessels presently on order for Fednav in Korea and China.

For more information on The Fednav Group
Circle 89 on Reader Service Card

Autronica Awarded $4.5M Order

Autronica of Norway has received a $4.5 million order for maritime instrumentation equipment from four Croatian yards. The yards are building 12 oil tankers for Russian shipowner Novorossiysk Shipping Company. The Autronica equipment package comprises radar-based level gauges, cargo monitoring and control systems, overfill alarm systems, condition control equipment, temperature sensors, pressure transmitters and fixed fire detection systems.

For more information on Autronica
Circle 90 on Reader Service Card

Shipping 95

March 27-29
Sheraton Stamford Hotel & Towers
Stamford, Connecticut U.S.A.

Shipping 95, sponsored by the Connecticut Maritime Association (CMA), is scheduled for March 27-29, at the Sheraton Stamford Hotel & Towers, Stamford, Conn. The theme of this year's conference is: "The Next Ten Years—Emerging Challenges," focusing on the upcoming challenges facing all members of the maritime community.

The CMA is an organization dedicated to the improvement and expansion of working relationships among individuals in the maritime industry and those involved in international trade, and has designed Shipping 95 with these ideas in mind. The conference will be a test market for new products and services, an opportunity to become informed, as well as a chance to network.

In 1994, more than 1,000 people attended the conference, including shipowners, operators, managers, government officials and maritime agents. In the eight years since the conference's

Extreme Machine, Based On New "Cyclocat" Design

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The contract was made possible when AHL's application for a U.S. Government guarantee under Title XI of the Merchant Marine Act of 1936 was approved today by the Department of Transportation, Maritime Administration (MarAd).

The guarantee will be in the amount of $139.4 million and will be used as the basis for AHL's financing of the project which will have a total value of approximately $160 million.

The contract will become effective upon finalizing the financing commitment by AHL. Construction is scheduled to commence in mid 1995 and is scheduled for completion by the middle of 1997. Construction of the vessels is anticipated to require employment of 950 Avondale employees at peak production. The MarAd Title XI loan guarantee program was essential to the contract between Avondale and AHL.

In addition, Avondale's shipyard modernization program which was announced on November 3, 1994 was also facilitated by a MarAd Title XI guarantee. This modernization plan enabled the shipyard to provide a competitive price for the AHL project.

The vessels will be the first U.S. flag product carriers constructed in the United States in eight years and will provide environmentally safe oil transportation.

Albert L. Bossier, Jr., chairman and CEO, stated, "We are pleased to be part of this first OPA 90 domestic product carrier program and are encouraged that our shipyard modernization plan, supported by our own Title XI financing, has immediately shown the benefit of the more efficient ship construction process which will be utilized on this program."

Avondale Industries, Inc., headquartered in metro New Orleans, is one of the nation's leading marine fabricators.

In addition to its shipbuilding operations, the company specializes in boat construction and is a major repair contractor for commercial and Navy ships. It is also involved in the modular construction of plants and components for a variety of land-based industries.

For more information on Avondale
Circle 154 on Reader Service Card

Oriana Begins Fitting-Out At Meyer Werft

On Jan. 7, the 67,000-gt cruise vessel *Oriana* left the covered building dock of the Meyer Werft yard in Papenburg, Germany after extensive engine trials. The vessel was towed out to the fitting-out quay, where it will be further fitted out and then taken from Papenburg to Emden. Delivery is scheduled for the end of this month.

The owner of the vessel is P & O Cruises, London. With a length overall of 853 ft. (260 m) and a breadth of 105.6 ft. (32.2 m), the *Oriana* has a capacity of 1,975 passengers in 914 cabins. The engine output of 65,000 hp will provide the vessel with a service speed of 24 knots.

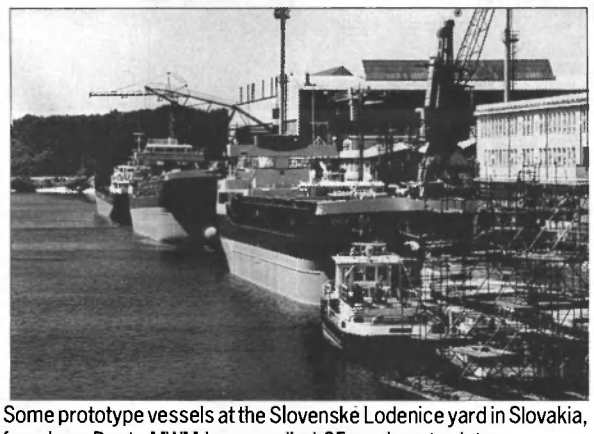
The *Oriana* is scheduled to operate cruises out of Southampton to the Mediterranean, Atlantic Island, Northern Europe and the Caribbean, as well as voyages around the world.

For more information on Meyer Werft
Circle 35 on Reader Service Card

Deutz MWM Delivers 25th Propulsion Unit For Slovakian Yard

Deutz MWM division of the KHD Group delivered its 25th propulsion unit — a diesel engine of the 628 series — to the Slovakian shipyard Slovenske Lodenice a.s. in Komarno (Danube). The engine is for newbuilding no. 1704, a coastal motor vessel of the German shipowner Wessels in Haren/Ems. In the past four years, Deutz MWM received orders from Komarno for more than 40 propulsion units. So far 24 engines have been delivered. At the moment the company is processing orders for the Slovakian shipyard for six main engines which will be delivered in 1995 and 1996. They are the first six-cylinder engines of this series with a power output of 2,550 kW at a speed of 600 rpm.

For more information on Deutz MWM
Circle 36 on Reader Service Card



Some prototype vessels at the Slovenske Lodenice yard in Slovakia, for whom Deutz MWM has supplied 25 engines to date.

Mitsui Delivers Bulk Carrier Star Hilda, *Bulk/Ore Carrier* Bungo Maru

The 45,000-dwt bulk carrier *Star Hilda*, built at the Tamano Works of Mitsui Engineering & Shipbuilding Co., Ltd. (MES), was recently completed and delivered to owner Grieg Shipping AS of Norway. Also recently delivered by MES was the 168,000-dwt ore/bulk carrier *Bungo Maru*, built at the Chiba Works for owner Nippon Steel Shipping Co., Ltd.

The *Star Hilda* is a sister vessel of the *Star Herdla*, built at the same yard. It is a so-called "open-hatch" type bulk carrier, having hatches as long and as wide as the corresponding cargo holds so that unitized cargoes (timber and wood chips packaged into box-shaped units), containers and general dry bulk cargoes can be efficiently stowed.

The vessel has a double-hull structure, and bow and sternthrusters for better maneuverability, together with a Becker type special rudder. Two MES-built self-traveling gantry cranes are installed on the upper deck to facilitate cargo handling.

The *Bungo Maru* is a flush decker with main engine and navigation bridge arranged aft. The large bulk carrier, designed to carry coal as well as iron ore, is a state-of-the-art, highly rationalized vessel embodying thorough pursuit of labor saving and energy conservation.

The cargo space is divided into nine holds having nine large hatches, each provided with two-way opening, side-rolling type hatch covers. Public rooms are arranged on the upper deck, and the superstructure is slimmed into a shape subject to less air resistance.

The vessel is designed as an automated vessel with equipment for uncrewed operation of the engine department, various automation systems and safety devices. It has the M0.A notation of Nippon Kaiji Kyokai (NK) for uncrewed engine room operation.

The *Star Hilda*, recently delivered to Grieg Shipping AS of Norway by Mitsui.

The main engine is an ultra-long-stroke type, fuel efficient Mitsui B&W 6S70MC (Mark-V) diesel.

A unifuel system, using the same fuel for both main and generator engines which are served by a unified fuel supply line, enables the generator engines to directly burn the heavier fuel oil for the main engine, resulting in a savings in operating costs.

Safe navigation is assisted by Global Positioning System (GPS) equipment, a collision-prevention support system, an automatic navigation system, an automatic receiver-recorder for weather information, and a Loran-C receiver.

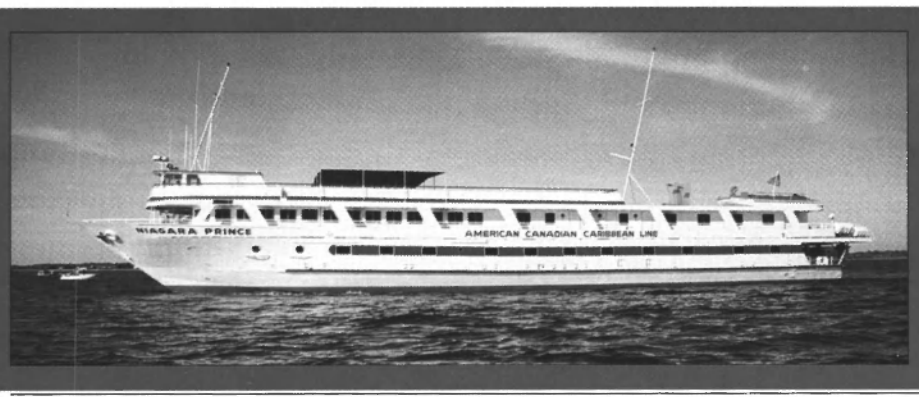
The vessel is also equipped with a Global Maritime Distress and Safety System (GMDSS), which allows distress messages in human speech, instead of morse code, to be transmitted and received.

For more information on MES
Circle 37 on Reader Service Card

The *Bungo Maru*, which Mitsui recently delivered to owner Nippon Steel Shipping.

***Star Hilda* Particulars**

Length o.a.	650 ft. (198 m)
Breadth molded	102 ft. (31 m)
Depth molded	62.3 ft. (19 m)
Draft molded	39 ft. (12 m)
GT	32,744
Deadweight	44,966 tons metric
Main engine	Mitsui MAN B&W 6S60MC
Max. trial speed	18 knots
Classification	DNV
Flag	Norway



***The Blount-built* Niagara Prince** *commenced sailing in late November. The vessel is specially designed for canal and river cruising, and is the first overnight passenger vessel in more than 100 years to offer passage along the entire length of the Erie Canal, from Albany to Buffalo. In order to make the innovative inland cruise itineraries possible, Blount not only had to design the vessel with a lower profile, but also had to adopt a submersing feature akin to a sub. With a retractable pilothouse and the superstructure dismantled, the* Niagara Prince *has an air draft of 16.5 ft. (5 m). The* Niagara Prince *is 175 ft. (53 m) long and accommodates 84 passengers. It is certified by the U.S. Coast Guard for cruising North and South American coastal waters, and also carries a full SOLAS 74 international certificate*

Trinity Wins Harbor Tug Order From Bisso

Construction has begun on two oceangoing harbor tugs for E.N. Bisso & Son, Inc., New Orleans, at the Trinity Marine Group's Halter Marine, Inc. yard in Lockport, La.

Both tugs will be 4,000-hp. The first will be 110 ft. (33.5 m) long with 34-ft. (10.4-m) beam and 15-ft. (4.6-m) normal operating draft. The second's length will be increased to 118 ft. (36 m) to accommodate firefighting equipment, which is to be located port and starboard on the 02 deck.

In making the announcement, **John Dane III**, president of the Trinity Marine Group, said, "I am very happy to announce this contract and construction start because these vessels are our very first for E.N. Bisso & Son, Inc., operators of 17 vessels on the Mississippi River and Gulf Coast. We welcome them as a new customer."

Each tug will be powered by two remanufactured General Motors (EMD) 16-645E6 diesel engines developing 2,000 hp each, driving 126-in. diameter four-blade propellers through Haley reverse/reduction gears. Electrical power will be provided by two 75-kW generators driven by two Detroit Diesel 6-71 diesel engines. A Skipper hydraulic system will control the boats' two steering rudders.

Deck equipment on both boats will include a double drum towing winch with 2,400 ft. (731.5 m) of two-inch diameter wire rope, an anchor winch with a single wildcat (drum) and gypsy (auxiliary drum) and a horizontal anchor windlass. Both tugs can carry up to 110,000 gallons of fuel, 2,700 gallons of oil, and 8,000 gallons of potable water.

While basically alike, the second tug will be equipped to fight fires with two remotely controlled Skum foam/water monitors mounted on the 02 deck. They will each have a 2,500 gpm capacity, and will be powered by a Detroit Diesel 12V92TA engine and supplied by a 4,000 gallon capacity foam tank. Both tugs will be American Bureau of Shipping (ABS) classed Maltese Cross, A1 ocean service. The Trinity Marine Group, Miss., is owned by Trinity Industries, Inc., Dallas. With the recent acquisition of Nashville Bridge Co. (Nabrico), the group includes 19 shipyards across the U.S.

For more information on Trinity Circle 101 on Reader Service Card

Avondale Launches The Rappahannock

T-AO 204, the 15th in a series of 16 fleet replenishment oilers built by Avondale Industries, Inc. for the U.S. Navy, has been christened the *Rappahannock*. The launching and christening ceremony marked another milestone in the Navy's continuing efforts to protect the environment. *Rappahannock* is the second Navy ship designed and constructed to satisfy the Oil Pollution Act of 1990 (OPA 90). The vessel is 677.5 ft. long (206.5 m) and has a beam of 97.5 ft. (29.7 m).

For more information on Avondale Circle 93 on Reader Service Card

Stolt, RMI In Subsea Production Pact

Stolt Comex Seaway S.A. and RMI Titanium Company announced that they have combined their expertise to manufacture and install titanium production risers, flowlines, and other titanium subsea systems. This combination of expertise provides for the marketing, engineering, fabrication, installation, and pre-commissioning of titanium subsea pipelines, risers and subsea systems.

The latest Stolt Comex Seaway ship, *Seaway Falcon*, will be equipped for titanium pipe laying installation, with innovative pipe joint technique. Stolt Comex Seaway and RMI will offer the gas and oil industry this technology for deep water development.

MR&S Awarded $2.5M USCG Contract

M. Rosenblatt & Son (MR&S) has been awarded a $2.5 million contract to continue providing support to the U.S. Coast Guard's Naval Engineering Division in Washington, D.C. The Naval Engineering Division provides complete life cycle management of Coast Guard floating assets/resources from concept through eventual disposal. MR&S will provide engineering and technical support in studying, analyzing, and evaluating engineering designs or problems and their solutions. The contract is for a base year and three option years.

For more information on M. Rosenblatt Circle 78 on Reader Service Card

Falk Announces New Disc Coupling Line

The Falk Corporation has announced the addition of new, reportedly low-maintenance, FDC close-coupled disc couplings to its disc coupling line. Available in interference or clearance fits, the manufacturer says that the disc couplings are easy to install and service, and eliminate fretting corrosion. Designed in both wide-gap and narrow-gap between-hub models, Falk's couplings can be used for retrofitting elastomer, grid, gear, or center plate-design disc couplings.

For more information on Falk Corp. Circle 79 on Reader Service Card

Canmar Supplier VII Changes Hands

Canadian Marine Drilling Ltd. (Canmar) of Alberta sold its 185-ft. (56.39-m), ice-classed tug supply boat *Canmar Supplier VII* to Ocean Navigation, Inc. of Quebec. Marcon International, Inc. acted as the sole broker in the sale.

The vessel will sail down the Pacific coast to the Panama Canal and up to eastern Canada, where she will undergo refurbishing and modification to an ice-breaking tug.

Crowley Marine Services Issued COFR

Crowley Marine Services, Inc. has been issued a Certificate of Financial Responsibility (COFR) by the USCG, after having met the requirements for financial responsibility set forth in the regulations implementing the OPA 90. The USCG issued individual certificates for 53 Crowley Marine tank vessels used in transporting hazardous materials, and a fleet certificate for 75 vessels. Crowley Marine provides specialized marine transportation services, including petroleum product transportation.

Early Opening To Seaway Navigation Season

The U.S. Administrator of the U.S. Saint Lawrence Seaway Development Corporation, **Stanford E. Parris**, announced that the 1995 navigation season on the St. Lawrence Seaway will begin on March 24th, matching the earliest opening date in the seaway's history. The mild winter weather along the St. Lawrence river and the anticipated high early-season shipping demand were key factors.

AMFELS Secures $17 Million Contract

AMFELS, Inc. was awarded a $17 million contract to build a power barge for Wartsila Diesel, Inc.

The barge will be capable of generating 76MW of power, and is expected to be delivered in less than eight months. The barge will then be towed to its destination at Old Harbour in Jamaica, to help resolve the current critical power shortage there. The contract requires AMFELS to provide detailed engineering, procurement of some material and equipment, and fabrication and construction of the barge-mounted power plant. The basic design and major equipment will be provided by Wartsila.

For more information on AMFELS
Circle 81 on Reader Service Card

For more information on Wartsila Diesel
Circle 82 on Reader Service Card

Gladding-Hearn Begins Construction Of Lobster Boat

Gladding-Hearn Shipbuilding, The Duclos Corp., has begun construction of a 55-ft. (16.7-m) high-speed lobster boat.

The boat, designed by Woodin & Marean Inc., of Wiscasset, Maine, measures 17 ft (5.1 m) abeam and draws 6 ft. (1.8 m). Powered by a single Detroit Diesel 12V-92TA DDEC engine, rated for 1,100 bhp at 2,300 rpm, and carrying 1,100 gallons of fuel, the aluminum shallow-V hull is expected to top out at 24 knots. The engine drives a 38-in., five-bladed nickel-bronze wheel on a 4-ft. (1.2-m) Aquamet shaft via a Twin Disc 2.5:1 reverse/reduction gear.

For more information on
Gladding-Hearn Shipbuilding
Circle 83 on Reader Service Card

Unitor AS Awarded $4 Million Stolt Contract

Unitor AS has secured a $4 million contract to equip seven Stolt Parcel Tanker Inc. newbuildings with nitrogen membrane inert gas generators. The 37,000-dwt tankers will be built by Danyard, and will be equipped with two Generon nitrogen membrane systems utilizing hollow fiber membrane technology and system engineering, developed by Generon, a Dow Chemical company. Reportedly, this will be the first time this type of system has been specified for a large parcel tanker in place of the traditional oil-fired inert gas generators, and will reportedly be the highest individual capacity membrane system ever supplied to any ship. As part of the contract, Unitor will provide a complete computerized training and maintenance program.

For more information on Unitor AS
Circle 84 on Reader Service Card

Mitsui Sets Up Servicing Subsidiary in Hong Kong

Mitsui Engineering & Shipbuilding Co., Ltd. (MES) has organized a subsidiary, Mitsuizosen Techno-service Hong Kong Ltd. (MTH), in order to meet the maintenance needs of clients in Southeast Asia.

MTH will engage in sales of parts, post-delivery servicing, maintenance and conversion of ship machinery, prime movers, and compressors for use in oil refineries and petrochemical plants, as well as cranes for use in port and harbor work.

Technical personnel will be stationed at MTH in order to facilitate prompt emergency repair work.

MTH is the second overseas subsidiary of MES to specialize in post-delivery servicing.

For more information on MES
Circle 85 on Reader Service Card

Equiport 95

May 16-19
LeHavre, France

Equiport 95, the third exhibition and conference for shipping, port equipment and shipbuilding and repair, is scheduled to take place May 16-19 in LeHavre, France.

Equiport 94 welcomed 302 exhibitors and 600 delegates from companies in Europe, Asia, and North America. This year's event is divided into two parts: services and equipment.

Special events highlighting Asiatic ports will take place, featuring the participation of Asian keynote speakers and professionals.

The events at Equiport 95 will concentrate on six themes:

- Asia: new port and logistic strategies
- The teleport: an international opening factor
- Port quality management
- Risk control and hazardous cargo
- Port handling
- Shipbuilding and repair

For more information on Equiport 95, please contact: Edit Expo International, 12 rue Vauvenargues - 75018 Paris, France, tel: 33 1 42 23 13 56, fax: 33 1 42 33 13 7.

Texaco Secures U.K. Approval For North Field Development

Texaco has received Annex B approval from the U.K. Department of Trade and Industry to proceed with its development of the Captain Field in the North Sea. Government approval follows a $500 million contract awarded in December 1994 to a joint venture team of contractors for the design, procurement, construction and installation of facilities for the field. The Captain Field is located 90 miles northeast of Aberdeen, Scotland. Field development is estimated to cost $800 million, and production is expected to begin in late 1996.

For more information on Texaco
Circle 86 on Reader Service Card

PPG Plans For South Carolina Fiberglass Plant

PPG Industries has announced plans for a continuous-strand fiberglass manufacturing plant in Chester, S.C., to produce reinforcement products for composites applications. The company reportedly approved a $50 million expenditure for the plant.

PPG has reached an agreement in principle to purchase the property, building and infrastructure on the former site of Glass Fiber Technology, which ceased production in 1986. The operation is expected to be running by spring 1996.

For more information on PPG
Circle 87 on Reader Service Card

MHI Develops Propeller Shaft Monitoring System

Mitsubishi Heavy Industries, Ltd. (MHI) has developed an on-board, real-time hp monitoring system which optically measures torsion of a ship's propeller shaft, and then optically transmits the measured data to a data processor for analysis. According to the manufacturer, the system displays both estimated data and real-time data such as horsepower and torsional vibration, and can be used for monitoring the safe operation of the propeller shaft and main engine.

For more information on Mitsubishi Heavy Industries
Circle 88 on Reader Service Card

Delivery Of M.V. *Federal Franklin*

The Fednav Group has announced the completion and delivery of the M.V. *Federal Franklin*. The vessel was built by Daewoo Heavy Industries Ltd., and was christened at Okpo Shipyard in Korea. The ice-class vessel at 43,700 tons is the highest ice-class bulk carrier built for commercial trading in the Canadian Arctic. The vessel is the first series of eight newbuilding vessels presently on order for Fednav in Korea and China.

For more information on The Fednav Group
Circle 89 on Reader Service Card

Autronica Awarded $4.5M Order

Autronica of Norway has received a $4.5 million order for maritime instrumentation equipment from four Croatian yards. The yards are building 12 oil tankers for Russian shipowner Novorossiysk Shipping Company. The Autronica equipment package comprises radar-based level gauges, cargo monitoring and control systems, overfill alarm systems, condition control equipment, temperature sensors, pressure transmitters and fixed fire detection systems.

For more information on Autronica
Circle 90 on Reader Service Card

Shipping 95

March 27-29
Sheraton Stamford Hotel & Towers
Stamford, Connecticut U.S.A.

Shipping 95, sponsored by the Connecticut Maritime Association (CMA), is scheduled for March 27-29, at the Sheraton Stamford Hotel & Towers, Stamford, Conn. The theme of this year's conference is: "The Next Ten Years—Emerging Challenges," focusing on the upcoming challenges facing all members of the maritime community.

The CMA is an organization dedicated to the improvement and expansion of working relationships among individuals in the maritime industry and those involved in international trade, and has designed Shipping 95 with these ideas in mind. The conference will be a test market for new products and services, an opportunity to become informed, as well as a chance to network.

In 1994, more than 1,000 people attended the conference, including shipowners, operators, managers, government officials and maritime agents. In the eight years since the conference's inception, overall participation has increased annually by 25 percent.

For more information about the exhibition and conference, contact: CMA Conference Coordinator, International Marketing Strategies, Inc., 66 Field Point Rd., Greenwich, Conn. 06830, tel: (203) 622-4014; fax: (203) 622-1929.

Stolt Partner S.A. Reports Financial Results

Stolt Partner S.A. reported net income of $2.6 million or $.05 per share for the fourth quarter, which ended November 30, 1994, on net operating revenue of $17.3 million.

Christer Olsson, chairperson of Stolt Partner said, "Our fourth quarter results reflect the continued improvement in the parcel tanker market and we expect the trend to continue into 1995. The full year results show a dramatic turnaround for Stolt Partner, with income from operations improving from a $1.8 million loss in 1993, to a profit of $7.9 million for 1994."

Stolt Partner owns 11 parcel tankers representing 24.8 percent deadweight capacity of the Stolt Tankers Joint Service, in which all the ships are operated. The ships carry a wide range of specialty liquids including fine chemicals, acids, vegetable oils and clean petroleum products in the international parcel tanker trade.

Steiner Completes *Clifty Creek*

M/V *Clifty Creek*, constructed at Steiner Shipyards, will be used by her owners, the Indiana-Kentucky Electric Corporation, for moving loaded and empty 195-ft. (59.4-m) and 200-ft. (61-m) hopper barges at Indiana-Kentucky's Clifty Creek Power Generating Station.

The hull and propulsion system design was based on the M/V *Safety Leader* and M/V *Cook Coal Terminal*, built by Steiner in 1993 for AEP Fuel Supply. Shearer & Associates, Inc. provided on-site owner representation and inspection during construction, testing and trials.

For more information on Steiner Shipyards Circle 92 on Reader Service Card

MarAd Report Released

The Maritime Administration has released *U.S. Export and Imports Transhipped Via Canadian Ports — 1993*. The report was prepared by the Port Authority of New York and New Jersey, the result of a joint project between the Port Authority and MarAd.

The report shows that 4.3 million metric tons of U.S. exports and imports were transhipped via truck or rail through Canadian ocean ports to/from overseas destinations/origins. This represents four percent of the total U.S. liner trade and one half of one percent of the total U.S. waterborne trade.

U.S. exports transshipped through Canadian ports in 1993 were valued at $5.8 billion, up $370 million from 1992, a 6.8 percent increase.

Requests for this data should be addressed to **Robert G. Christensen**, Data Coordination and Evaluation Group, Office of Statistical and Economic Analysis, tel: (202) 366-5507.

Comments Sought On Preference Cargo Trial

The Maritime Administration published in the *Federal Register* an amendment which would allow Great Lakes ports to compete for agricultural commodity preference cargoes during an entire season trial period. MarAd previously issued a final rule, assigned Docket R-153, on Aug. 8, 1994, that adopted the policy for the 1994 Great Lakes shipping season that had been in progress since April that year.

MarAd proposes allowing agricultural commodity cargoes subject to preference requirements to be carried by either U.S. or foreign-flag ships from U.S. Great Lakes ports along the St. Lawrence Seaway. The cargoes would then be transferred to U.S.-flag ships for the ocean portion of the shipment. Interested parties must file three copies of their comments with the Secretary, Maritime Administration, Room 7210, 400 Seventh St. SW, Washington, D.C. 20590, tel: (202) 366-1718.

ELECTRONICS UPDATE — Q&A with Raytheon

Maritime Reporter & Engineering News recently had the chance to discuss the current status and future prospects of the marine electronics market with executives from Raytheon Marine Co. and Anschütz & Co. GmbH (at press time, Raytheon was within days of formalizing the agreement to purchase Anschütz).

"The union of Raytheon and Anschütz dispels any notion in the mind of the competition or customers that we are leaving the marketplace," said **Bob Schwartz**, marketing manager, commercial programs, Raytheon. "Raytheon Marine Co. and Anschütz are here for the duration, and we are going to bring more, newer products to the market."

MR/EN: *How would you assess the current demand in the marine electronics market?*
Bob Schwartz: Marine electronics, particularly high seas, follows in general the worldwide economy. Newbuilding and retrofitting is based on the general economy and regulation, both IMO and specific country.

MR/EN: *What are the major factors driving the market?*
Dennis McIntyre, sales, Anschütz: The regulatory bodies are becoming more efficient. They are critiquing ships better than ever and requiring the shipowners to realize that in two years a particular ship will not meet regulations.
Rick Watmore, manager of product development, high seas products, Raytheon: Today you see the trend that newbuilding has the potential of climbing significantly based on the age of the world fleet.

MR/EN: *Why was the decision made to purchase Anschütz at this time?*
Schwartz: Our biggest lack of product was in the integrated bridge navigation system. The majority of new construction is requiring one or maybe two suppliers to provide a complete navigation/communication package. Realizing that we wanted to have such a product, and realizing that the Anschütz product was available, the decision was made to make the investment.

MR/EN: *What factors make an integrated bridge attractive to an owner/operator?*
McIntyre: If you look at a conventional ship, there may be from 25 to 50 systems on the bridge, supplied from 1 to 25 manufacturers. If there is a problem, you have to have a technician from that specific product line, and you could have seven or eight engineers onboard at once. An integrated bridge is a way to unify the equipment and keep repair and maintenance costs down.

MR/EN: *What about advantages for the builder?*
McIntyre: Ten to 15 years ago, a request for proposal for individual equipment went out and the shipyards had a full staff of electrical engineers to do the drawings, system interfaces, etc. Shipyards, in order to be more cost effective, are looking for manufacturers to provide these services.

MR/EN: *What's the projected market for the one-man bridge concept?*
Schwartz: Seventy percent of new construction asks to have a system which is classified as an integrated bridge.

MR/EN: *Assess the competitiveness of the marine electronics business.*
Schwartz: The competition is more fierce than it was five or 10 years ago. Companies are trying to drive the level of technology in equipment up, and the price down. As a manufacturer, you have to address the price market, but also those customers that appreciate technology, quality and products which will be supported.
Watmore: You have a split out there...some owners buy strictly on price, while others seek technical solutions. It's understood that it might cost a little bit more up front, but in the long run it might cost less because it makes the vessel more efficient.

MR/EN: *What technologies will be key in making marine electronics — i.e. vessels — more efficient tomorrow?*
Schwartz: A greater application of micro electronics and microprocessors to make functions even quicker and more efficient. Also, the integration using local area networks and fiber optic cables, as well as high-resolution displays to help the master or the mate do their jobs more efficiently.

Raytheon Co. is headquartered in Lexington, Mass. It is a $9.2 billion international, high-technology company which operates in four businesses: commercial and defense electronics, engineering and construction, aviation and major appliances. Raytheon Marine Co. was established in 1948. Raytheon Marine Co.'s headquarters expanded its offices in 1991 after the acquisition of Nautech, Ltd., manufacturers of Autohelm autopilots, chartplotters and data instruments.

For more information on Raytheon
Circle 150 on Reader Service Card

Bulk Carrier Ocean Duke *Completed*

The *Ocean Duke*, a 71,741-dwt bulk carrier built by Hitachi Zosen Corporation, was delivered to Golden Helm Shipping Co., S.A. in January.

The vessel was developed for passage through the Panama Canal and can carry a variety of cargoes, including grain, ore and coal. *Ocean Duke* is equipped with a Hitachi Zosen MAN B&W 6S60MCE type diesel as the main engine, and features good fuel economy.

For more information on Hitachi Zosen Circle 91 on Reader Service Card

***Ocean Duke* Specifications**

Length	705.3 ft. (215 m)
Breadth	105.6 ft. (32.2 m)
Depth	61.02 ft. (18.6 m)
Summer load draft	44.12 ft. (13.45 m)
Deadweight	71,741 metric tons
Gross tons	38,137
Main engine	HZ MAN B&W
Speed	16.01 knots
Classification	NK

International Council On Combustion Engines Preps For 21st Congress

The Swiss National Organizational Committee for the International Council on Combustion Engines (CIMAC) is busily preparing for the organization's 21st congress, scheduled for Interlaken, Switzerland from May 15 - 18.

The four-day CIMAC convention will feature more than 100 papers and the event will focus on four main subjects: Opportunities and Constraints for the Industry; Technological Outlook; Environmental Challenge; and Interaction Between Users and Industry.

Aside from the paper presentations — which will cover a wide range of topics from low-, medium-, and high-speed engines to gas engines and fuel injection — the meeting will include technical visits to ABB Turbo Systems Ltd., ABB Power Generation Ltd. and New Sulzer Diesel Ltd.

There will also be a one-day workshop on the topic of computational reacting fluid dynamics and laser diagnostics in internal combustion engine research, offered by the Laboratory for Internal Combustion Engines and Combustion Technology of the Swiss Federal Institute.

For more information on the CIMAC Congress, contact: Dr. **J. Mermod**, general secretary CIMAC '95, Kirchweg 4, CH-8032, Zurich, Switzerland, tel: +41 1 384 4844; fax: +41 1 384 4848.

Hynes Appointed To Nat'l Advisory Committee

Jack Hynes

Transportation Secretary **Federico Pena** appointed **Jack Hynes**, of Jefferson City, Mo., to a two year term on the Towing Safety Advisory Committee. The committee, sponsored by the U.S. Coast Guard, provides advice to Department of Transportation staff on coastal and inland navigation and towing safety. Mr. **Hynes** is presently the railroads and waterways administrator for the Missouri Highway and Transportation Dept., where he directs the planning and development of waterborne commerce in Missouri.

Center For Advanced Ship Repair And Maintenance Opens In Norfolk

Old Dominion University, Virginia's Center for Innovative Technology (CIT), the city of Norfolk and the South Tidewater Association of Ship Repairers (STASR) formed the Center for Advanced Ship Repair and Maintenance (CASRM) to develop and implement technological processes to reduce the cost of various ship repairs and give local yards an edge in the global market. **Thomas J. Fox**, formerly director of Industrial Programs in Old Dominion's College of Engineering and Technology, will head CASRM.

The center has received a two-year $1.05 million federal grant from the Technology Reinvestment Program administered by the Office of Naval Research. Initial research projects will focus on developing three technologies: improved processes to replace paint on ship hulls, stormwater runoff associated with the use of drydocks and methods to inhibit the biofouling of saltwater intakes.

Tramp Oil Appoints New Managing Director

Matthias Eckeberg has been appointed managing director of Tramp Oil Schiffahrts-und Handels GmbH & Co KG, Bremen, the German subsidiary of Tramp Oil & Marine Limited, London. Mr. **Eckeberg** joined Tramp Oil as a bunker trader in June 1993 from Alpha Reefer Transport, Hamburg.

Village Marine Tec. Aquires OffShore Marine Labs

Village Marine Tec. of Gardena, Calif. has aquired OffShore Marine Laboratories of Laguna Hills, Calif. With the acquisition of OffShore Marine Laboratories, Village Marine Tec's marine, commercial, and industrial divisions will be expanded, and customer base extended.

Thomas C. Duncan, former owner and president of OffShore Marine Laboratories, has joined Village Marine's team and will continue as president of the OffShore Marine Labs division.

For more information on Village Marine Circle 62 on Reader Service Card

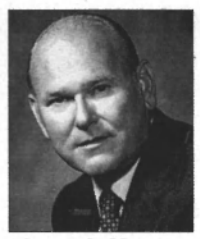
Harbormaster Marine Names Distributor

Allan V. Kaplan, marketing manager at Harbormaster Marine, announced that Untermohlen Inc. of La Habra, Calif. will have the responsibility for sales, parts and service for Harbormaster products in that state. Utermohlen was a Murray & Tregurtha/Harbormaster outlet several years ago, and established a reputation for engineering and customer support.

Harbormaster Marine manufactures tunnel thrusters and outboard drive propulsion systems, and supplies spare parts.

For more information on Harbormaster Circle 63 on Reader Service Card

Falk Corporation Names Myers VP Of Operations



Larry A. Myers

Larry A. Myers has been appointed vice president of operations for The Falk Corporation, a subsidiary of Sundstrand Corporation. Mr. **Myers** has held numerous management positions at Sundstrand Corporation, including director of manufacturing, director of plant operations and director of strategic manufacturing planning, as well as two terms as managing director of Sundstrand Pacific, Ltd. in Singapore.

For more information on Falk Corp. Circle 64 on Reader Service Card

Ocean Power Appointed U.S. Rep For Sperre Industri

Sperre Industri A/S of Norway has appointed Ocean Power & Equipment Co., N.J. as its exclusive agent for the U.S. Ocean Power will be

responsible for new compressor sales for shipbuilding, retrofit and replacement, plus spare parts sales for existing installations.

Sperre manufactures a full range of water-cooled and air-cooled reciprocating compressors for all types of shipboard air services.

For more information on Sperre Industri
Circle 65 on Reader Service Card

Comsat Maritime Services Appoints New VP

Tobin D. Seven has been appointed vice president of maritime program management and field engineering at Comsat Maritime Services. Mr. **Seven** will be responsible for managing the development of new products and services. He will also direct the activities of Comsat's applications engineering group. For over three years, Mr. **Seven** has held the position of director, service development, where he led the development, introduction and marketing of new Comsat services.

For more information on Comsat
Circle 66 on Reader Service Card

C-Map Opens Washington, D.C. Office

C-Map, designer and manufacturer of electronic charts, has opened an office in Washington, D.C., C-Map/Government Services, to be managed by **Walt M. Winn**.

As director, Mr. **Winn** will be responsible for maintaining existing contracts, developing new ones and working with hydrographic offices to further the development of a comprehensive electronic chart display and information system database to meet the International Maritime Organization (IMO) standard. The Washington, D.C. office was created in response to the growing number of commercial and government projects involving C-Map.

For more information on C-Map
Circle 67 on Reader Service Card

Zodiac Opens Factory Service Facility

Zodiac of North America has opened a factory service center in Fort Lauderdale to serve customers and dealers in southern Florida. Zodiac manufactures inflatable products such as boats and liferafts.

The facility will be managed by **George Faye**, a former Zodiac engineer with extensive design experience.

For more information on Zodiac
Circle 68 on Reader Service Card

Seaward Announces Changes In Executive Staff

Seaward International Inc. announced that **J. Hamilton Lambert** will serve as senior vice president of operations and **Marie Colturi** will serve as director of marketing.

Mr. **Lambert**, formerly a Fairfax County, Va. County executive and founder of a private consulting service, has worked for Seaward on a consulting basis for a year.

Ms. **Colturi** is formerly of Electronic Data Systems and has served as the program director of the National Association of Counties National Enterprise for Technology (NACoNET).

Seaward International Inc. is involved with plastics and elastomer technology.

For more information on Seaward
Circle 69 on Reader Service Card

Executive Shift At Alexander & Baldwin, Inc.

Robert J. Pfeiffer, chairman of the board at Alexander & Baldwin, Inc. (A&B), has relinquished his post after 37 years with the company. His retirement will include leaving his current positions as director and chairman of the board of A&B subsidiaries, A&B-Hawaii, Inc. and Matson Navigation Company, Inc. Mr. **Pfeiffer's** community and professional leadership have earned him numerous honors, and upon the announcement of his retirement, was unanimously elected to the post of chairman emeritus of A&B.

John C. Couch has been elected to replace Mr. **Pfeiffer**, and will add the chairman's position to his current responsibilities as company president and CEO, in which capacities he has served since 1992.

Alexander & Baldwin, Inc. deals in ocean transportation and international marine container leasing.

Coastal Names New Vice Chairman, President

Coastal Towing, Inc. has named its president, **Ed C. Griffin**, vice chairman of the firm. Mr. **Griffin** has been president of the firm since 1973, when he and **Doyle Pickett**, chairman of the firm, bought Coastal.

Robert V. Walsh has been elected president of the transportation company. Mr. **Walsh** previously worked for Schlumberger, an oil field corporation, where he acted as director of marketing for North America. Coastal Towing transports petroleum products on the western rivers of the U.S. and on the Gulf Intracoastal Waterway.

Pool Energy Services Co. Expands Staff

Pool Company, Gulf Offshore Operations, a division of Pool Energy Services Company, announced the addition of two staff members to its Gulf Offshore Operations based in Harvey, La.

Charles Bruno has joined the organization as senior sales representative, bringing with him 25 years of involvement in oilfield sales and management on the Gulf Coast.

Lloyd King has joined the company as safety and training coordinator, after 17 years of experience in the engineering, safety, training and environmental aspects of the oil and gas industry.

Pool Energy Services Co. is a diversified energy services company providing well servicing, workover and drilling services on land and offshore in the U.S. and selected international markets.

For more information on Pool Company
Circle 70 on Reader Service Card

ASRY Appoints Deputy Chief Executive

The Arab Shipbuilding and Repair Yard Co., (ASRY) Bahrain, has appointed **Mohamed M. Al-Khateeb** the new function of deputy chief executive, reporting directly to ASRY's chief executive, Mr. **Hans G. Frisk.**

ASRY's personnel department, finance and accounts, public relations and security services will report to Mr. **Al-Khateeb.**

Mohamed M. Al-Khateeb

For more information on ASRY
Circle 71 on Reader Service Card

CMS Hires Director Of Strategic Accounts

Robert Grune

Robert Grune has joined Crowley Marine Services, Inc. (CMS) as director of strategic accounts. Mr. **Grune** is responsible for CMS sales and marketing efforts directed at worldwide customers who use more than one of the company's services, which include petroleum products transportation and sales, tanker escort and ship assist, modular and general cargo transportation, marine salvage and emergency response services provided by CMS and by the joint venture Marine Response Alliance, and all-terrain transportation.

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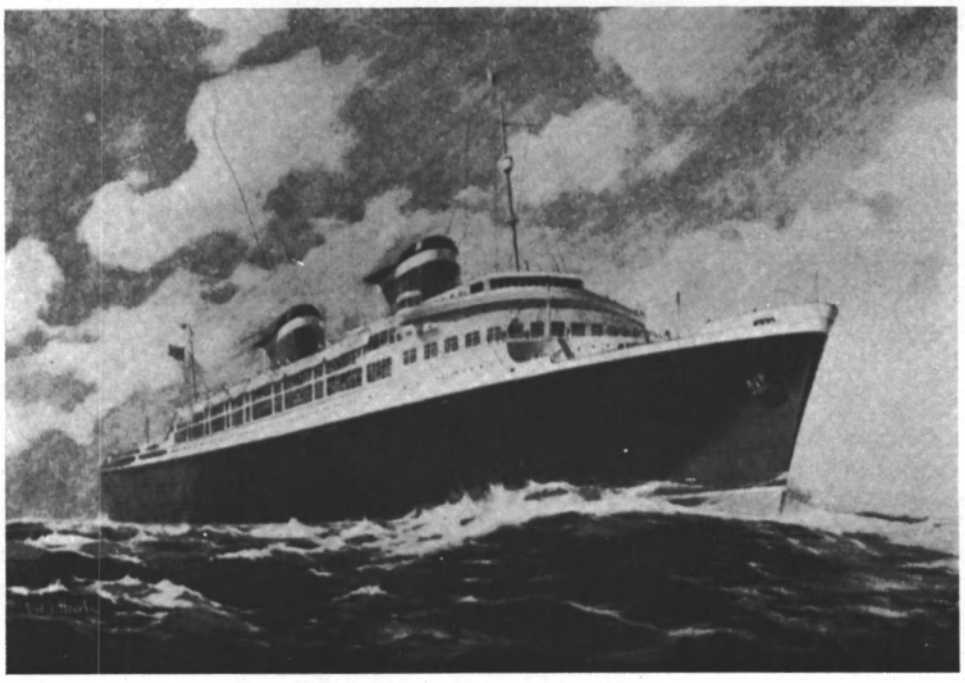

The new United States Liner *America* which will make her maiden voyage on August 10 to begin a series of twelve-day cruises.

AMERICA ENTERS CRUISE SERVICE AUGUST 10

That the new steamship **America,** largest and costliest commercial vessel built in this country, would be emlpoyed in the West Indies cruise trade instead of being tied up until the end of the war, was confirmed by **John M. Franklin,** president of the United States Lines. He said the company's 27,000-gross-ton, $17,500,000 flagship would leave here at noon on Aug. 10 on her maiden voyage to begin a series of twelve-day cruises to the neutral ports of St. Thomas, Virgin Islands ; San Juan, Puerto Rico ; Port au Prince, Haiti, and Havana, Cuba.

The luxury liner was built to run with the **Manhattan** and the **Washington** to England, Ireland, France and Germany, but not long before she was completed by the Newport News Shipbuilding and Dry Dock Company the war had broken out and American shipping was barred from the trade by the neutrality act.

Up until a few weeks ago it was expected that the United States Lines would be forced to tie up the **America,** the **Manhattan** and the **Washington,** but a way was found to keep them running under the provisions of the Bailey-Bland bill, which provides financial assistance to all American companies whose vessels have been forced out of their regular services by the neutrality act.

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MARITIME REPORTER AND ENGINEERING NEWS

OMI Corp. Announces Appointments

OMI Corp. has appointed **Judy Blackman** to the position of vice president in the chartering department, specializing in dry bulk, and **Robert Bugbee** to assistant to the executive vice president and COO, in the area of purchase, sales and special projects.

Ms. **Blackman** has served as director of the Office of Cargo Preference for the Maritime Administration in Washington, D.C., and returns to OMI Corp. after her prior work for the corporation from 1983 to 1992. Mr. **Bugbee** most recently served as head of business development at Gotaas-Larsen Shipping Corporation before his appointment at OMI Corp.

OMI Corp. is a bulk shipping company that operates in domestic and international shipping markets.

Jackson Named President of WDDA

David N. Jackson has been named president and general manager of Williams Detroit Diesel-Allison (WDDA) Midwest, Inc. Mr. **Jackson** joined WDDA Midwest in January 1994 as general manager. Prior to joining WDDA, Mr. **Jackson** served as worldwide manager of marketing services at The John Deere Industrial Equipment Div.

For more information on WDDA
Circle 94 on Reader Service Card

RGF Environmental Systems Appoints Project Manager

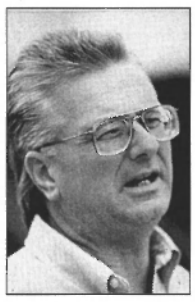
RGF Environmental Systems, Inc. has appointed **Cynthia Lougee** as marine project manager. Ms. **Lougee** will manage all aspects of the marine division, including marketing, regional sales and distribu-

tor interfacing.

The RGF Environmental Group, founded in 1985, consists of six companies all dedicated to design, engineering, manufacturing and sales of pollution prevention equipment.

For more information on RGF
Circle 72 on Reader Service Card

Haberli Appointed VP Of Palmer Johnson Savannah



Eric Haberli

Palmer Johnson announced that **Eric Haberli** has been appointed vice president and general manager of its Savannah repair and refit yard. Mr. **Haberli** has an engineering background, and began his career with Palmer Johnson at its Sturgeon Bay facility 20 years ago. He was a significant member of the team responsible for the creation of the Savannah operation.

For more information on Palmer Johnson
Circle 73 on Reader Service Card

Yourch Joins IRI

Eugene Yourch

International Registries Inc. (IRI) has announced that **Eugene Yourch** joined its legal staff from the Federation of American Controlled Shipping (FACS) where he was executive secretary and treasurer. Mr. **Yourch** will be based at the New York office.

Promotions At Station 12®

Theo Lodewijkx has been named general manager at Station 12® to succeed **Hein De Bont**. Mr. **Lodewijkx** previously worked for Infonet Nederland. Mr. **De Bont** has been appointed president of International Telecommunications at PTT Telecom Netherlands.

For more information on Station 12®
Circle 95 on Reader Service Card

Inmarsat-P Endorsed By 56 Countries

Inmarsat's plans to launch a global hand-held satellite phone service by the end of the decade received the unanimous approval this week of its Assembly of Parties, which represents Inmarsat's 75 member countries. The Assembly also agreed to change Inmarsat's formal name from the International Maritime Satellite Organization to the International Mobile Satellite Organization. Inmarsat was originally set up 15 years ago to provide commercial and distress and safety communications for the maritime community. Fifty-six governments sent representatives to the London meeting. "It is very rewarding to see the strong support of governments the world over for the creation of the Inmarsat-P affiliate," said **Olof Lundberg**, Inmarsat's director general.

For more information on Inmarsat
Circle 16 on Reader Service Card

Latest Marinet Systems Allow Multiple Function

U.K.-based Marinet Systems demonstrated the new Windows version of its Marinet data communications software, which allows the user to manipulate multiple forms on the same screen or to superimpose one form on top of the other. The computer based system allows integration into office networks, international data switching systems and X.400 public networks. "Marinet's intention is to make data communications simple and friendly for ship's crew and office staff alike," said **Dennis Williamson**, Marinet's managing director. The Marinet message handling system was designed to improve ship to shore data communications and cut charges.

For more information on Marinet
Circle 14 on Reader Service Card

Hiller Gets Approval On Cargo Hold Smoke Detector

Hiller Systems announced U.S. Coast Guard approval of the "firehold" cargo hold smoke detection system. The system is a drop in replacement for retrofit of troublesome existing smoke detection cabinets. "Firehold" utilizes a single detection element.

For more information on Hiller Systems Circle 75 on Reader Service Card

Hydrocomp Introduces New Software

Hydrocomp, Inc. announced the release of NavCad SS propulsion and powering software. NavCad SS is a software tool for the prediction and analysis of speed and power, and for the selection of propulsion system components — engines, gears and propellers. NavCad SS can be used for displacement, semi-displacement, planing and sailing craft of up to 164 feet (50 m). NavCad SS provides a complete platform for the steady-state equilibrium analysis of performance from hull to engine.

For more information on Hydrocomp Circle 76 on Reader Service Card

SUNY Maritime College Receives Gift

Jo Tankers, the chemical tanker operator of Norwegian-owned Odfjell Group, recently supported SUNY Maritime College with a donation in the amount of $25,000. The donation is earmarked for Maritime College's training facility, CSMO — the Center for Simulated Maritime Operations.

PORT PROFILE

Streamlining For Survival — The Port Of Los Angeles' Blueprint For Success

The Los Angeles Harbor Commission has released the findings of a report, written by Booz-Allen & Hamilton, on the Port of Los Angeles, and how it can be developed in the 1990s to improve its competitiveness and ensure its success as a critical resource in the lives of its residents.

The Port of Los Angeles is the leading containerport in the U.S., with billions of dollars worth of merchandise moving through the port yearly. Port-related activities account for $21 billion in industry sales, $5 billion in wages and salaries and $725 million in tax revenues each year. Booz-Allen & Hamilton's report found ways to contain costs, increase efficiency and provide greater value to customers, while maintaining the Port of LA as a strong, stable organization.

The Harbor Commission has moved aggressively to initiate development projects, fueled by competition from neighboring ports such as Long Beach, whose 60 percent smaller staff currently outproduces the Port of LA staff by 50-213 percent per employee. The Pier 300/400 Implementation Program, which includes the largest dredging project in U.S. history, is currently underway at the Port of LA. The necessary railroad rights of way have been acquired to begin construction of the Alameda Corridor, a road and rail improvement program linking the port to rail facilities in downtown Los Angeles. The Board of Harbor Commissioners has also initiated a Futures Commercial Task Force to explore ways to begin development of commercial projects in local port communities.

The Booz-Allen & Hamilton's report found that the Harbor Department is involved in numerous activities that support core maritime activities, but do not directly increase overall port productivity. The organization needs to place greater emphasis on customer service.

Another suggestion made by the report is to use part-time staff for non-emergency, non-core services to improve customer responsiveness and efficiency. The report also found that application of automation and technology would increase efficiency in the Harbor Department. Many of the Port of LA's construction activities, such as the Pier 300/400 Implementation Program, are not in need of the large management and engineering staffs that are currently in place. Although inefficiencies in port operations could be solved by downscaling employment rates, Booz-Allen & Hamilton's report did not suggest lay-offs, but employee attrition and retirement incentives.

In the interest of streamlining operations, a vital recommendation made by the report was the need for change in the structural relationship between the City of Los Angeles and the Port. Some city-required procedures are costly and inefficient, and de-linking the port from the city could improve things. **Leland Wong**, chair of the Strategic Planning Task Force, and chairperson of the Board of Harbor Commissioners, responded positively to this recommendation, stating, "Because we are part of a somewhat antiquated government structure dating back to 1925, procedures are mandated which are costly and inefficient. Our employees are forced to spend far too much time on paperwork and are not able to spend enough time working with and assisting customers. We must pursue City Charter reform to eliminate barriers to the Port's productivity and competitiveness."

Approved on February 8, 1995 by the Los Angeles Board of Harbor Commissioners, a Organizational Change Management Plan went into action, initiating a five phase project that will put recommendations of the Booz-Allen & Hamilton report into effect. According to Mr. **Wong**, implementation of the Booz-Allen & Hamilton report recommendations could result in a $10 million annual saving to the Port, funds that could be used to implement Mayor **Richard Riordan**'s election promises of enhanced public safety, increased economic development, and modernization of the city government of Los Angeles.

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SMI

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Changing Tides In Riverboat Gaming:

The Ebb and Flow Marketplace

by
Bridget Ann Murphy, assistant editor

Since its inception in 1991, the riverboat gaming market has ridden a wave of prosperity, although in recent months there has been an ebbing of the financial high tide. The future of riverboat gaming is being monitored carefully, with one eye being kept on state legislatures and another on the state of the American economy. The current marketplace is erring on the side of caution, and while gaming still appears to exhibit qualities of a growth industry, the rules of the game are constantly evolving. Buyers are getting smarter, and competition seems to be stimulating industry consolidation. It is nearly impossible to forecast the future of the riverboat casinos, but an examination of current trends in the gaming market and consequently how the industry is being effected by these changes can offer clues.

Growth Slowing: A Natural Evolution

Riverboat gaming is exhibiting the signs of a soft marketplace, as **Mark Grossman**, senior vice president of corporate affairs at Hilton Hotels, stated. "It has slowed down, but it's not necessarily a bad thing," he said. "It gives the industry a chance to settle. We're not going to jump into anything. You have to look at the long-term return potential."

There are several reasons for the temporary lull that appears to be occuring. The question of constitutionality of gaming in Indiana and the legislation concerning games of chance in Missouri, both issues resolved in favor of the industry, did a lot to shake the confidence of both investors and builders, nevertheless. There was also the defeat of referendums in Florida, Rhode Island and West Virginia, the delay of state legislatures in Texas and Pennsylvania in addressing the passage of gaming, as well as the boat failures in Mississippi due to the oversaturation of a locality. According to **Ed Doherty**, president of Atlantic Marine, "The demand for new boats has slowed. The pace will not return to the pace of two years ago. Although activity is picking up, the pace is slower than it has been."

The Bender-built, Guido Perla-designed *Grand Palais*.

However, after hurdling numerous obstacles, and readying itself to withstand potential blows from the newly elected government and the influence of the Christian Coalition, riverboat gaming is still growing at a rapid rate. "Realistically, I think you're looking at two things: new markets and the expansion of existing markets," said **Larry Hairston**, senior vice president of marketing at Service Marine Industries, Inc. — although the trend toward expansion is tending on the side of caution.

"Nobody is going to build anything unless they have a license," said **Ronald Babin**, sales and marketing manager of Avondale Industries, Inc. "Some people are waiting to be licensed, and then they look for an existing vessel."

"The question that everyone is asking is how much is enough?" according to **Ed Doherty**, president of Atlantic Marine. Oversaturation is an issue, but the industry seems to be taking a lesson from the failures in Mississippi, as pointed out by **Buddy McCormick**, vice president of Alabama Shipyards. "In a capitalistic environment, there's a tendency to act like sheep, that is, everyone wanting to do what everyone else is doing. I think there will be an overbuild in the beginning, followed by a natural fallout or shakedown that will stabilize things. In the long haul, it will even out, and good quality will prevail." **Scott Cooper**, executive vice president of corporate operations at Players International, expressed a similar sentiment: "I don't think oversaturation will occur if the states that legalize gaming are cautious about how gaming develops." Mr. **Grossman** of Hilton said that licenses should be given to only a few companies in each market in order to "let the operations that are there succeed."

The Atlantic Marine built *Empress III*.

> ***"I think there will be an overbuild in the beginning, followed by a natural fallout or shakedown that will stabilize things. In the long haul, it will even out, and good quality will prevail."***
> ***— Buddy McCormick***

Several states were mentioned by industry executives as future hotbeds for gaming, among them Pennsylvania, Virginia, West Virginia, Texas, Alabama, and Maryland. Additionally, expansion of gaming in 1995 is predicted in Illinois, Iowa, Missouri, Louisiana and Indiana.

Tracking New Trends

As stated by **Gary Lipely**, sales and marketing, Trinity Marine, "Without a crystal ball, it is impossible to say where the market is going." While this may be true, the face of riverboat gaming will undoubtedly change as a result of

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the current marketplace. In order to gather insight into the future of the industry, it is helpful to examine the trends of today's market.

One outstanding trend is industry consolidation. Riverboat gaming is generally progressing away from its original reputation as a diversified marketplace. According to some industry leaders, smaller companies are beginning to have problems with access to capital. **Jack Pratt**, president of Hollywood Casinos, commented, "I believe that tremendous consolidation will occur once everybody recognizes what new venues will be approved. There will be a big race for companies to expand. In three or four years, less than half of the companies that exist now will be in operation."

Buyer demands are also a factor in the current market. As stated by Mr. **Hairston** of Service Marine, "Overall, the industry has become much smarter. Buyers are becoming much more aware of what they're buying."

More boats are coming into being as a result of competition, and owners are upgrading, particularly in the area of vessel interiors. Yards are emphasizing their ability to meet the specific requirements of the customer, as explained by **Bruce Croushore**, vice president at Bender Shipbuilding and Repair. And while the designs are evolving, owners still want the vessels as fast as they can get them, mentioned Mr. **Lipely**; and some are purchasing vessels that have already been constructed, according to **Roy Fleshman**, director of marketing at Jeffboat.

Although legalization is the key factor when identifying a new market, other factors include analysis of the money-making potential of a location and identification of the audience likely to patronize the operation.

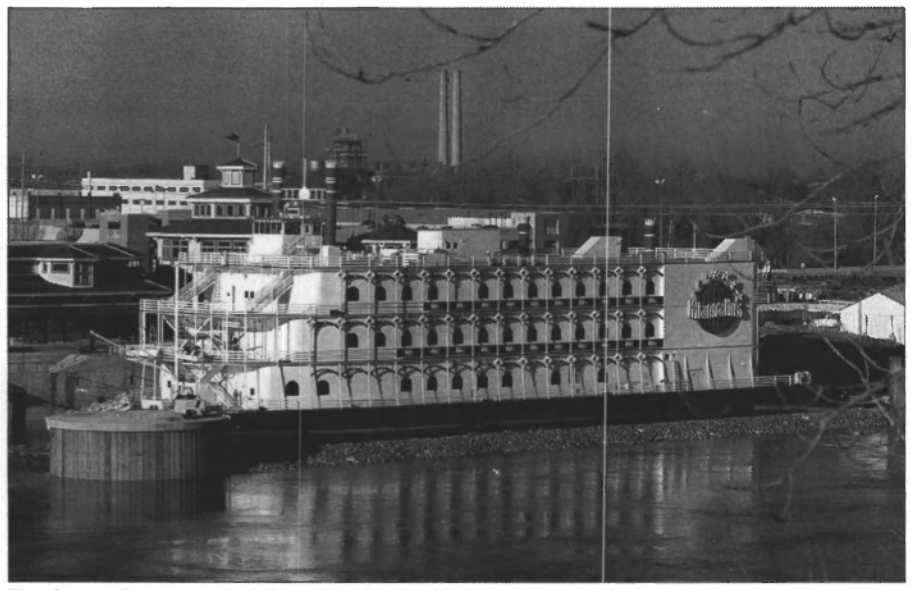
According to Hollywood Casinos' Mr. **Pratt**, riverboats located within suburban areas existing in the shadows of a metropolis are generally the most lucrative operations as compared to boats in downtown locations, attracting "local or regional drive-in customers."

In terms of patronage, as stated by Mr. **Grossman** of Hilton, "The target audience depends on the market you're operating in. Riverboats draw regional or local markets. New Orleans draws a tourist market. It depends on the demographics of an area. We're looking for people with disposable income."

As summed up by Mr. **Cooper** of Players International, current market trends are directed at maximizing "opportunity and return on investments."

A Maturing Marketplace

In the four years since riverboat gaming began, the industry has experienced tremendous growth, followed by a slowdown, and now seems to be stabilizing, although continuing to maintain impressive growth rates and exhibit new market trends.



The *Shreve Star*, recently delivered by Service Marine to Harrah's Casino in Shreveport, La.

Several factors have influenced the history of the market's development, perhaps most significantly, the acceptance and support of gaming in individual state legislatures.

Introduced as a way of boosting a lagging American economy, riverboat casino vessels have been providing jobs and surplus tax dollars in communities in several states.

The initial boom that characterized the early gaming years seems to have drawn to a close, evidenced by the caution with which owners are contracting newbuildings, often waiting for final licensing agreements to be approved before going ahead with projects.

The industry is smarter and more mature in 1995 — it is evolving and consolidating in order to survive and maintain a competitive position in the national business arena. Threats of oversaturation are being foregone as the gaming industry adapts to fit the needs of the improving American economy.

As explained by Mr. **Grossman** of Hilton, "One of the points we make is that we always have the wherewithal to complete a project. We also invest in the community. We need to strike a balance between doing what's appropriate for our shareholders and continuing to do the community good."

IGBE EXHIBITOR PROFILES

IGT-North America

IGT-North America, a subsidiary of International Game Technology, and a designer and manufacturer of microprocessor-based gaming products, claims 80 percent of the total gaming machines in legalized riverboat and dockside legislatures. According to IGT, a recent market analysis revealed that 20 U.S. riverboat casinos in five states have purchased all of their slot machines from IGT.

IGT's gaming innovations include the S-Plus Slot Series of reel-type slot machines and Players Edge-Plus video gaming machines.

For more information on IGT-North America
Circle 108 on Reader Service Card

Univeral Distributing Of Nevada, Inc.

Universal Distributing manufactures a full line of innovative stepper slot and video gaming machines. The company provides gaming machines in a wide variety of metal cabinet designs and sizes to meet the gaming, space and maritime safety needs of riverboat customers. Universal can respond to customer custom requirements, and meet all standards of compatibility — for example, player tracking and accounting systems.

For more information on Universal Distributing
Circle 109 on Reader Service Card

Fenco

Fenco designs and manufactures steel products for cash/coin handling, producing products such as drop boxes and change carts. The company also offers design and layout assistance, as well as architectural support and installation of its products to ensure a customized, effective environment for gaming cash, coin, chip and coupon handling areas.

Fenco product features include welded, double wall construction, flush mounted hardware, 400 lb. slide suspension systems and a durable, baked-on powder coat finish in several colors.

For more information on Fenco
Circle 110 on Reader Service Card

Chipco International, Ltd.

Chipco manufactures casino gaming chips with full graphic capability and an invisible bar code. The Pro-Tech Series 10 gram ceramic chip reportedly offers the highest security currently available. Chipco offers unlimited graphics, allowing the customer to design custom chips. According to the manufacturer, the Pro-Tech token acceptor unit makes slot machines completely secure against counterfeits.

For more information on Chipco Interntional, Ltd.
Circle 111 on Reader Service Card

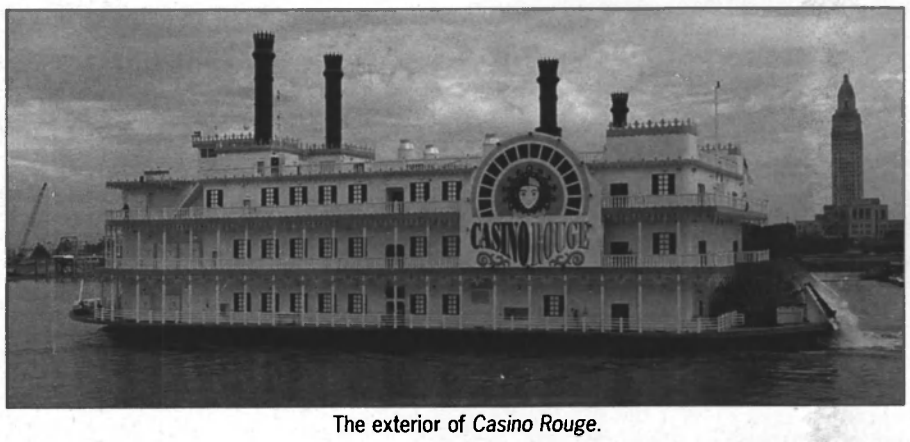
The Gage Corporation International

The Gage Corporation International manufactures creative ceilings for the gaming industry. Gage features a large selection of standard designs such as Italian marble, granites, exotic woods, and textured and metallic patterns. The company also designs custom developments such as thematic ceilings for the riverboat industry. Gage's designs are exhibited on several of the industry's vessels, such as the *Boomtown Belle* and the *Argosy III* and *Argosy IV*. Gage panels are designed to be lightweight, and fire and corrosion resisitant

For more information on Gage
Circle 112 on Reader Service Card

Bender, Guido Perla Collaborate On *Casino Rouge*

The *Casino Rouge*, the Guido Perla-designed, Bender-built 260-ft. (79.2-m) sternwheeler gaming vessel was delivered last fall to Louisiana Casino Cruises. The vessel offers 28,580 sq. ft. of casino space on main, upper and Texas decks. The vessel measures 224 ft. (68.2 m) long, 90 ft. (27.4 m) wide, with a 14-ft. (4.26-m) depth. The draft at full load is 8 ft. (2.43 m). The USCG-approved full atrium may be the last of its kind. The atrium is capped by an 80-ft. by 28-ft. (24.3-m by 8.5-m) dome on the bridge deck.



The exterior of *Casino Rouge*.

The *Casino Rouge*'s propulsion system includes a single stern paddlewheel and two Z-drive propeller systems. The paddlewheel is powered by two 600-hp hydraulic motors. Schottel Z-drive propeller systems are located on port and starboard. A 450-hp bowthruster is also hydraulically driven. Propulsion hydraulics and electrical generators are powered by Caterpillar engines throughout. Generators consist of two 1,440-kW and one 290-kW plants.

Guido Perla prepared design drawings, and the computer cutting tapes for cutting out vessel parts, including all the "gingerbread" used for exterior decoration. Interior Design International designed the interior portions of the vessel.

For more information on Guido Perla
Circle 105 on Reader Service Card

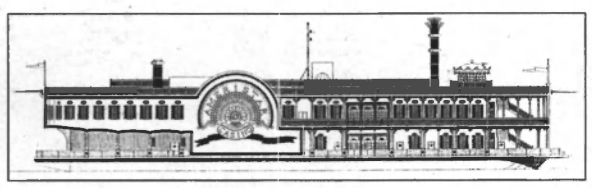
Players Int'l To Acquire *Showboat Star* Riverboat

Players International, Inc. announced that it has signed a preliminary agreement to acquire the Showboat *Star Casino*, and move it to its riverboat site in Lake Charles, La. Financial terms of the agreement were not disclosed. Completion of the agreement is subject to regulatory approvals from the Louisiana Riverboat Gaming Commission, the Louisiana state police and other government agencies.

Player International, Inc. planned to request the necessary approvals from the Louisiana Riverboat Commission at its January 28th meeting.

Players International Inc. is a developer and operator of casinos in new gaming markets.

Leevac Signs To Build Cummins-Powered Riverboat Casino



Leevac Shipyards, Inc. has announced the signing of a contract with Ameristar Casinos Inc. for the construction of the *Ameristar II*, a 272-ft. (82.9-m) by 98-ft. (29.8-m) by 14-ft. (4.2-m) replica sidewheel casino riverboat for Council Bluffs, Iowa. The vessel, designed by Rodney E. Lay & Associates, will contain two levels of gaming totaling 27,500 sq. ft. of casino space. The vessel will be powered by three Cummins Marine KTA 38-M diesel engines rated 800 hp each, driving three 330 Schottel Pump Jet Unit SPJ bowthruster. The electrical system will be driven by three Cummins KTA 38-M diesel engines, and the emergency generator will be a 300 kW Cummins/Onan model NTA-855G2.

This vessel will be Leevac's 10th USCG-certified casino vessel.

For more information on Leevac Shipyards
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High Speed Ferry Proposal For Long Island, N.Y.

According to a report released in January by the Suffolk County, New York Budget Review Office (BRO), the legislature is exploring plans to implement a $76 million project that would connect Shoreham, Long Island and New Haven, Conn. via high-speed ferries across the Long Island Sound.

The ferry prosposal originates from the need to find an alternate and more economically efficient mode of connecting New York and New England for trading purposes.

The Long Island Sound Shuttle Limited Partnership (LISSLP), authors of the ferry proposal, submitted a theoretical cross-Sound ferry operational plan whereby two vessels would be constructed, each designed to cross in 30 minutes at a cruising speed in the 40-knot range—carrying people, cars and trucks. The proposed LISSLP vessel is the HM 780, to be designed by Hovermarine International, Ltd. The HM 780 will be propelled by four 7,000 hp diesel engines and two 14,000 hp waterjets. The vessel proportions would be 262 ft. (79.8 m) by 81.25 ft. (24.7 m), with a weight of 850 gt.

The vessel's cruising speed is designed to be 40 knots, topping out at 60 knots. Although this vessel would be the first of its kind, some existing vessels meet most of the specifications of the HM 780. For example, Schichau Seebeckwerft's SSW 320 vessel, Stena's 407-ft. (124 m) catamaran, FBM Marine's 147.6-ft. (45 m) aluminum catamaran TriCat, Dutch yard Royal Schelde's 230-ft. (70 m) catamaran, Kvaerner Fjellstrand's 131-ft. (40 m) catamaran (Flying Cat), and Westamarin's 50-knot FoilCat 3000. The estimated cost for each vessel is $24 million.

The Budget Review Office's study estimated that losses would total $2.8 million for the first year, and after five years, would total $10.2 million.

By the sixth year, there is a predicted turnaround in net income and cumulative net would turn positive in year nine.

LISSLP financial projections estimate they would stand to break even the first year, experience losses in the next two years, and absorb long-term profits of $15.8 million after 10 years.

The cost of meeting environmental standards has not been substantiated, although it has been estimated that extensive overhauling of the Shoreham dock configuration would not be necessary, since LISSLP's proposed vessels are surface vessels, not requiring excessive space for manueverability. Other projects, such as dredging channels, constructing jetties and breakwaters, and reducing shoreline erosion would also be considered in the assessment of environmental costs.

The conclusion of the Suffolk County Budget Review Office is that the project is economically feasible, but, like most ventures, would carry financial risks.

The development of the ferry proposal has the potential to impact both the regional economy and transportation network. The Budget Review Office projected a net benefit for local Long Island communities due to the availability of lower cost goods from New England.

Both Connecticut and New York would benefit from the additional transportation option, which would be aquired with no public outlay.

In early February, the Suffolk County legislature voted down a resolution, discouraging the Long Island Lighting Company (LILCO), the owners of the proposed Shoreham site, from leasing the property to LISSLP for development of the project. Some of the legislators appear to be concerned that the project will dip into public funds, and possibly require government subsidies.

Ultimately, the ferry project has been designed to create jobs and open new markets, and to function solely on private funding.

According to Budget Review Office Director **Fred Pollert**, the resolution was designed to direct LILCO, and is non-binding. The ferry proposal is not dead, and shuttle group investors are continuing negotiations with LILCO, while investigating other sites for the ferry project's development.

The details pertaining to the ferry proposal plan were obtained from the Suffolk County, New York legislature's Budget Review Office report, Review Of The Proposed High Speed Ferry Service Between Shoreham, New York & New Haven, Connecticut.

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President Names Aircraft Carriers

President **Clinton** approved Secretary of the Navy **John Dalton's** recommendation to name CVN-75 and CVN-76, Nimitz-class aircraft carriers currently authorized for construction, the USS *Harry S. Truman* and USS *Ronald Reagan*, respectively.

"Our military today is the best-equipped, best-trained and best-prepared fighting force in the world", the President said in a statement. "These two aircraft carriers represent my pledge to ensure our security is underpinned with military forces that are ready to fight. It is because of their enduring contributions in protecting our nation's security that we honor these two Presidents of different parties and different times."

Essex Wins Navy Contract

Essex Corp. said it was awarded a $6 million contract by the U.S. Navy to provide engineering support. The work will be performed in the company's N.H. facility.

Pena To Address Technology Meeting

U.S. Secretary of Transportation **Federico Pena** will address 4,000 transportation leaders expected to convene for the Fifth Annual Meeting of the Intelligent Transportation Society of America (ITS America), March 15-17 at the Sheraton Washington Hotel in Washington, D.C.

The event will bring together government officials, business executives, engineers, scientists and academics from around the world. Approximately 125 U.S. and international exhibitors will display the latest intelligent transportation systems technologies and products during the meeting.

For more information on the ITS America Annual Meeting, contact **Sandra Fitzgerald** at tel: (202) 484-2902.

Pacific Basin Acquires $120 Million Debt Facility

Pacific Basin Bulk Shipping Ltd. announced the signing of a $120 million debt facility, arranged as a seven year revolving credit by the Hongkong and Shanghai Banking Corp. and Den norske Bank A.S. The funds — payable over seven years at the rate of $10 million annually with a final repayment of $50 million in the year 2002 — will be used to refinance certain maturing loans and to provide the debt portion of finance for the 14 handysize vessels which the company has already acquired.

Pacific Basin Bulk Shipping specializes in the acquisition, operation, employment and sale of handysize dry bulk carriers.

Kollmorgen Awarded $35 Million Navy Contract

Kollmorgen Corp. announced that its Electro-Optical Div. received a contract valued at $35 million from the Naval Sea Systems Command for design and construction of the U.S. Navy's Photonics Mast. The contract includes various production options valued at up to an additional $46 million. Kollmorgen will serve as prime contractor and is teamed with Hughes, Raytheon and AEL Industries. The initial development phase is scheduled for completion in 1998 and the contract options could extend into the year 2000. The Photonic Mast system is a non-hull penetrating electro-optical sensor system which provides visible and infrared imaging, image enhancement and storage, laser ranging, electronic warfare support measures (ESM) and communications capabilities. This system is planned for installation on the new attack submarine and may also be backfitted onto SSN 21 and 688 class submarines.

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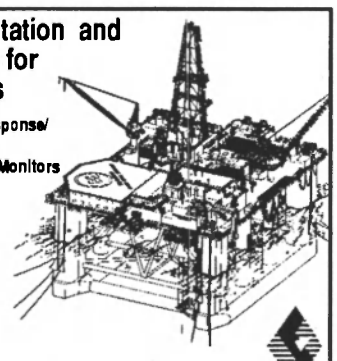

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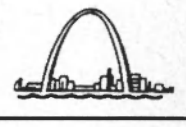

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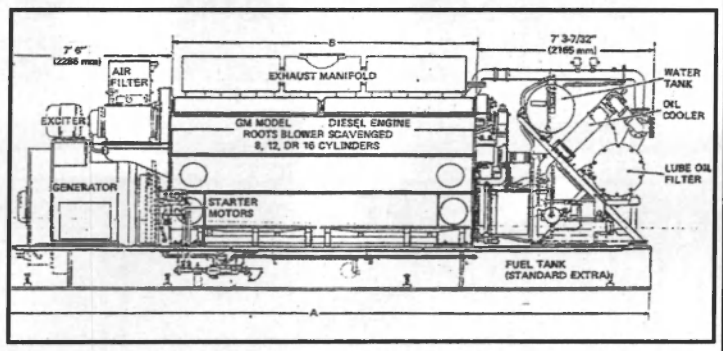

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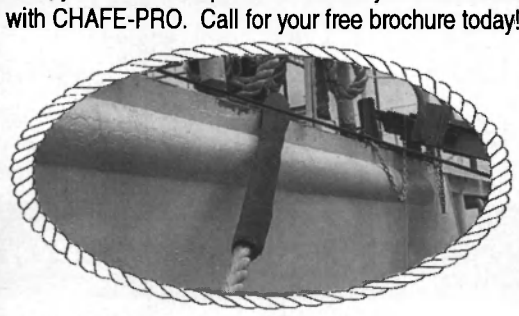

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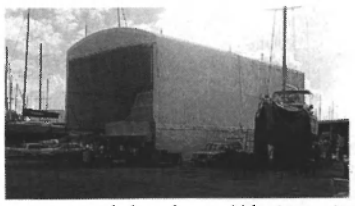

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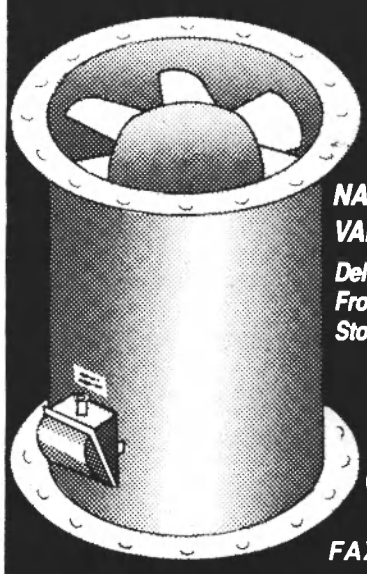

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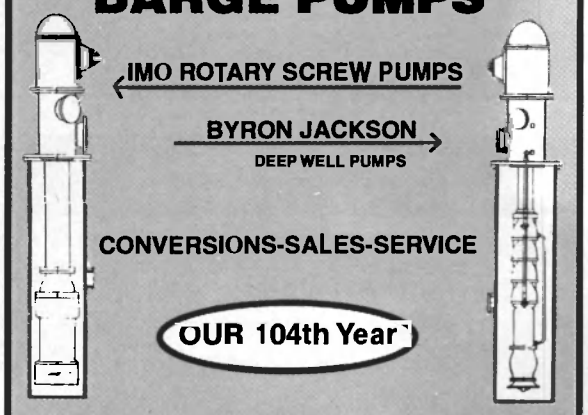

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