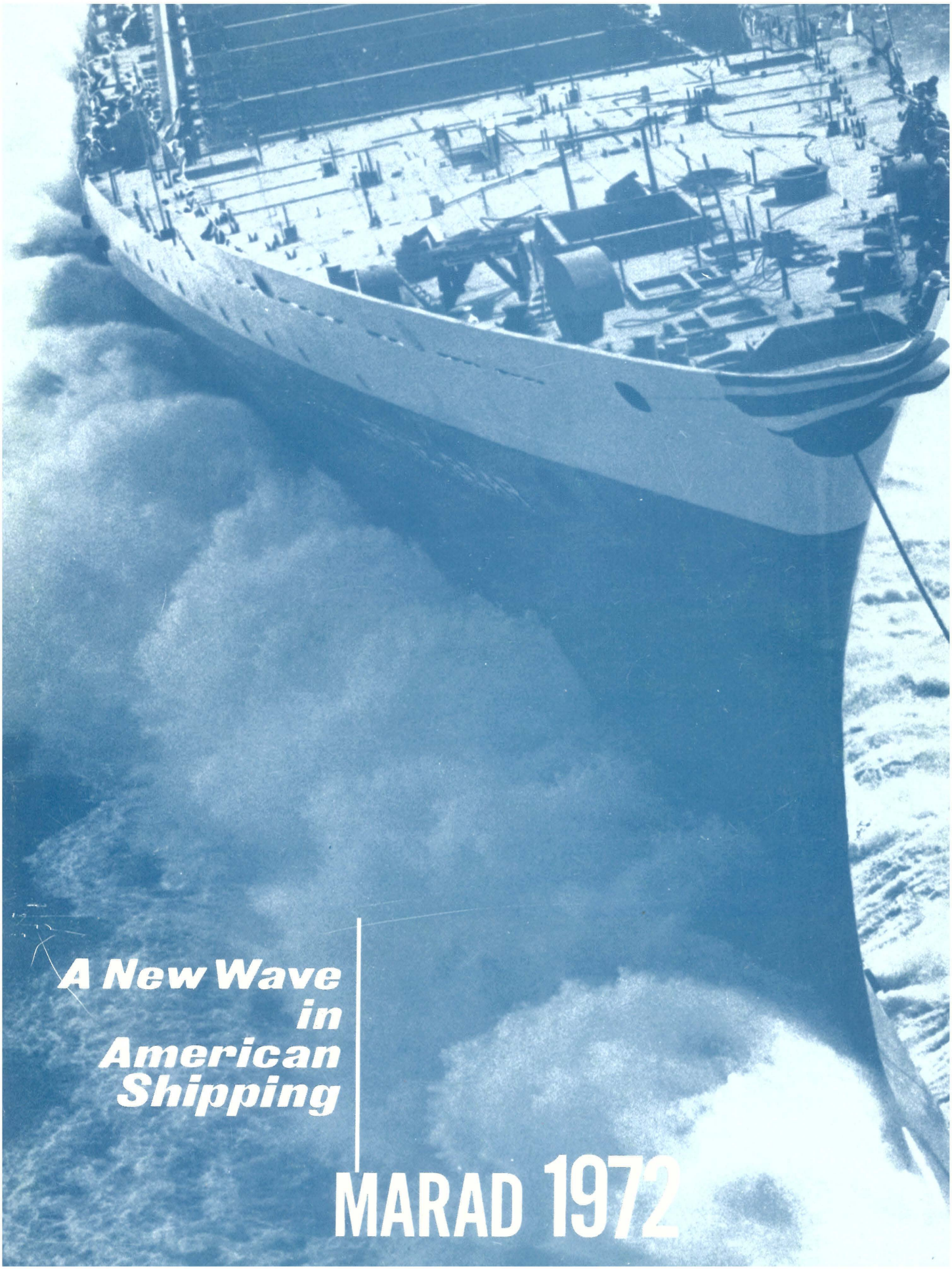
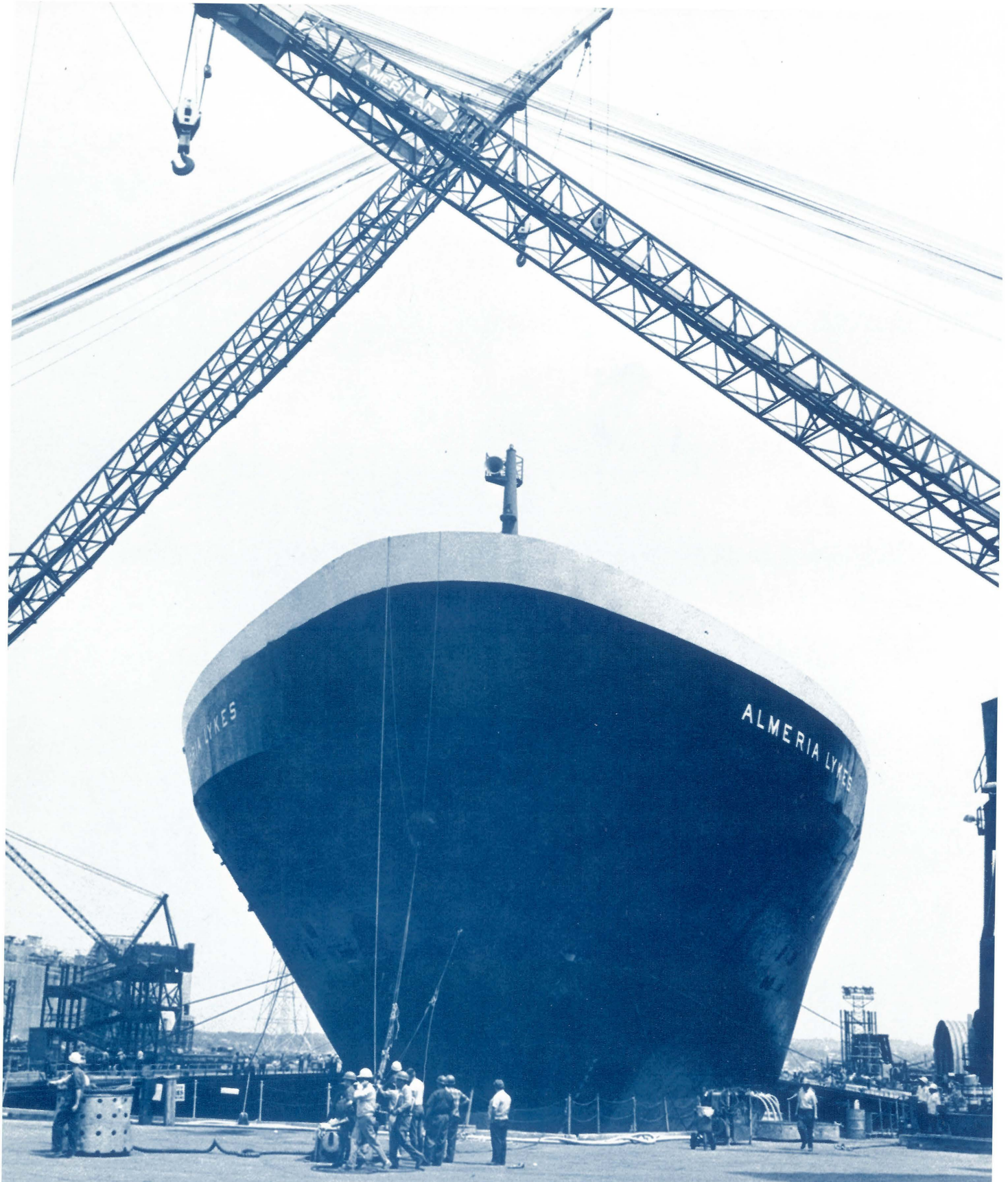

A New Wave
in
American
Shipping
MARAD 1972



Employees at the Quincy, Mass., Shipbuilding Division of General Dynamics Corp. ready the SS ALMERIA LYKES for its sea trials. The huge barge-carrier is the second of three Seabee-class ships being constructed for Lykes Bros. Steamship Co., Inc.

MARAD 1972

A New Wave in American Shipping

The Annual Report of the Maritime Administration for Fiscal Year 1972

1972

U.S. DEPARTMENT OF COMMERCE
Peter G. Peterson, Secretary
James T. Lynn, Under Secretary

MARITIME ADMINISTRATION
Robert J. Blackwell,
Assistant Secretary
for Maritime Affairs

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THE SECRETARY OF COMMERCE
Washington, D.C. 20230

December 11, 1972

The President
President of the Senate
Speaker of the House of Representatives

Sirs:

I have the honor to submit the Annual Report of the Maritime Administration for fiscal year 1972.

During the year, the activities of the Maritime Administration were directed toward further implementation of the President's innovative program under the Merchant Marine Act of 1970, the first major restructuring of the nation's merchant marine policy in three decades.

The President's program has invigorated all segments of the maritime industry. It has instituted the largest commercial shipbuilding program ever undertaken in this country in peacetime. The new, highly productive ships being built under the program will greatly enhance the competitive position of American flag lines. Additionally, as a result of the improved outlook for the merchant marine, a welcomed stability in the shipping industry's labor-management relations has been achieved.

The core of the President's program is rebuilding our merchant marine with modern and highly efficient vessels. As of June 30, 1972, orders had been placed for 30 new vessels of modern design and conversion of 13 conventional vessels. This represents an investment in high technology vessels of $1.1 billion, which will generate approximately 33,000 man-years of work for the American shipbuilding industry and a similar amount in supporting industries.

In fiscal year 1972 alone, orders for 21 new vessels with a total value of $772.1 million were placed. These vessels will enable American operators to take advantage of the most modern transportation techniques, and provide shippers with unsurpassed service. Among the more notable ships contracted for are three tankers which, at 265,000 tons each, are the largest ever ordered in the United States. Other vessels ordered under the subsidy program during the year included 13 tankers, three roll on/roll off freighters, and two barge carriers. Moreover, these vessels will be built with only a 43 per cent subsidy as compared to the 55 percent subsidy permitted prior to the President's program. Largely as a result of these orders, American shipyards at the end of the fiscal year had the largest peacetime orderbook in their history.

During the year, added impetus was given to the agency's domestic shipping efforts. Through a joint industry/government effort, the National Planning Conference on Domestic Shipping, a broad agency program to aid all segments of this vital industry is being finalized. Other areas, including market development, pollution control, value engineering, were strengthened to increase the responsiveness of the Maritime Administration to today's priorities. In addition, the agency's research and development activities provided vital support to make possible the technological advancements necessary to further improve the competitive position of the U.S. shipping and shipbuilding industries.

I believe that this report shows concretely that the Maritime Administration, by promptly and efficiently carrying out the provisions of the 1970 Act, is making steady progress in revitalizing the American Merchant Marine.

Respectfully,

Peter G. Peterson
Secretary of Commerce

INTRODUCTION AND SUMMARY

By **Robert J. Blackwell**
Assistant Secretary of
Commerce for Maritime Affairs

The new wave in American shipping—characterized by a vitality and dynamism the industry has lacked for many years—finds its expression in the high-productivity ships being built, the more stable labor-management relations in the industry, and the ability of U. S. shipbuilders to increase their efficiency.

As the principal federal agency responsible for promoting a strong American Merchant Marine, the Maritime Administration throughout fiscal year 1972 directed its efforts at cultivating and reinforcing these hopeful trends, which represent the maritime industry's response to the challenges of the President's maritime program as embodied in the Merchant Marine Act of 1970, which was enacted in October 1970.

• SHIP CONSTRUCTION

The keystone of the President's initiative is a ship construction program. As of June 30, 1972, over $1.1 billion had been committed to the construction of 30 new ships and the conversion of 13 existing ships. During fiscal year 1972, contracts were awarded for 21 new, highly productive vessels at a cost of $772.1 million. When these ships are delivered, they will add more than 2.1 million deadweight tons (dwt.) to America's shipping capability. Particularly noteworthy among the contracts concluded during the year are three for the largest tankers—at 265,000-dwt. each—and three of the largest roll on/roll off vanships ever built in this country.

At the end of the fiscal year the Maritime Administration was considering applications for the construction of nine liquefied natural gas (LNG) carriers and four oil/bulk/ore (OBO) carriers. If approved, the ships covered by these applications would add significantly to the U.S.-flag fleet's capability to transport this country's essential bulk cargoes.

All construction contracts awarded during fiscal year 1972 were subsidized at or below the prescribed guideline rate of 43 percent—attesting to the American shipyards' capabilities in meeting the challenge of the 1970 Act to reduce costs through increased productivity.

• FEDERAL SHIP MORTGAGE INSURANCE

Fiscal year 1972 was also a banner year for the federal ship mortgage insurance program, under Title XI of the 1936 Act. Designed to assist ship operators in obtaining the private capital necessary to replace or expand their fleets, this program enables the government to guarantee commercially placed ship construction and mortgage loans, aggregating up to $3 billion in upaid principal. During the year, Title XI applications covering 162 vessels and 1,171 lighters were approved, representing insurance commitments totaling $647,338,750. This is an increase of more than 130 percent from last year's record $280.7 million in insurance commitments. At the close of the year, less than two years after the statutory ceiling of this program was raised to $3 billion, the maximum was being approached. At the end of the year, applications approved and contracts in force covered a total of 434 vessels and 1,721 lighters with a total outstanding principal balance of $1,692,312,000; and applications were

pending that, if approved, would increase this sum to $2,723,720,000.

For the first time since the establishment of the Title XI program, applications were received from firms engaged in the oil exploration industry. By the end of the year, 15 offshore exploration vessels had been approved for mortgage insurance. They included mobile offshore drilling rigs, oceangoing tug-supply vessels, workover units and pipe-burying barges.

• CAPITAL CONSTRUCTION FUNDS

Also designed to aid operators in amassing the large quantities of capital necessary to build or convert ships, the Capital Construction Fund program gained momentum in 1972. By the end of the year, 91 funds had been established by operators in the U. S. foreign, Great Lakes, and noncontiguous domestic trades and in the U. S. fishery industry. The accumulation of assets under this program for approved ship construction, acquisition or conversion programs will aggregate more than $800 million.

• SHIPYARD IMPROVEMENTS

American shipyards have for the past five years been investing more than $100 million a year in capital improvements. These modernization efforts generally involve installation of automated equipment and highly mechanized production systems. In addition to the upgrading projects of most American yards, three new shipbuilding facilities were constructed during the period. It also appears likely that this investment trend will continue at the same or an increased level because of shipyards' determination to enter the world market for the construction of high technology ships.

• OPERATING AID

During the years, four operators entered the operating-differential subsidy (ODS) program. Contracts were signed with Margate Shipping Co., Aeron Marine Shipping Co., and Sea Service Tankers, Inc., covering a total of ten tankers which will be delivered between 1974 and 1976. The fourth contract awarded resulted in the American Steamship Company's being the first operator to be granted subsidy for bulk service in U. S./Canadian trade across the Great Lakes. The company was granted an experimental subsidy involving eight of its vessels through the 1973 Great Lakes navigation season.

• DOMESTIC SHIPPING

In the area of domestic shipping, the Maritime Administration launched the most comprehensive, long-range government program ever devoted to this segment of the merchant fleet. In May, 1972, a National Planning Conference on Domestic Shipping was held in St. Louis, Mo., to identify industry needs and develop a program that would be fully responsive to these needs. The conference consisted of four panels, each comprised of representatives from all segments of the industry. Over 100 specific program elements were identified and molded into a five-year program through which MarAd can assist this long-neglected segment of the U. S. maritime industry in capitalizing on its future growth potential.

Assistance to the domestic shipping segments operating in inland waterways, Great Lakes and domestic ocean trades was provided by expanding the agency's market development efforts to provide this segment, as well as the foreign segment, with

tools to generate greater shipper patronage for its vessels. During the year, a computerized cargo data bank was developed for the domestic industry. By providing information on cargo movement, traffic patterns and transportation forecasts, this data system will assist the industry in identifying new markets and balancing existing services.

• CARGO PREFERENCE

The Merchant Marine Act of 1970 assigned to MarAd the authority to oversee the administration of the Cargo Preference Act. To assure that government shipper agencies are transporting at least 50 percent of their cargoes (both by tonnage and revenue) on American ships, a Cargo Preference Control Center was established within the Office of Market Development. During the year the agency also issued two regulations to insure compliance with the Act: one assuring that adequate shares of PL-664 cargoes will be reserved for U.S.-flag ships and the second instituting informal grievance procedures to resolve conflicts between carriers and shippers of preference cargoes.

• RESEARCH AND DEVELOPMENTS

During 1972 MarAd's research and development (R&D) programs were expanded and redirected to foster near-term technological advancements which will improve the competitive position of the U. S. shipping and shipbuilding industries. Prior to enactment of the 1970 Act funds available for research totaled only $6.7 million. In 1972 this figure was almost quadrupled to $23.8 million. The agency's research investment in 1972 was increased by the addition of $9 million in industry funds and support services for specific projects showing high potential of yielding near-term benefits.

Among important projects undertaken during the year was a contract to develop and test a vessel control system using a shipboard computer linked through orbiting satellites to a shore-based computer. Through this project, the agency seeks to capitalize on U. S. advancements in the computer and space sciences to improve the efficiency and lower the operating costs of U. S.-flag vessels.

A major study to identify suitable potential sites for deepwater terminals was completed. Since few ports in the U. S. are capable of handling vessels above 80,000 dwt. and the trend in construction is toward much larger vessels, especially tankers, the U. S., in order to benefit from the economies inherent in the huge tankers, must expand its port capabilities. The study explored the economic and technical considerations involved in alternative solutions to this requirement.

During 1972 MarAd's nuclear propulsion program continued to be directed toward completion of preliminary engineering and initiation of tests to bring an advanced atomic propulsion system to the stage where U. S. ship operators and shipbuilders could enter into commercial construction contracts to build competitive nuclear merchant ships.

• OTHER ACTIVITIES

The Maritime Administration expanded participation in international maritime meetings. Most significant was the participation of the Assistant Secretary of Commerce for Maritime Affairs in the U.S.-U.S.S.R. negotiations on a wide variety of topics of interest to the U. S. shipping community.

The development of highly sophisticated merchant ships and transportation

systems increases the emphasis placed on port development and intermodal systems. During the year MarAd was actively engaged in promoting the welfare of, and developing new technology for, American ports—ocean as well as inland and river. The agency worked with the U. S. Army Corps of Engineers, Environmental Protection Agency, Economic Development Administration and various industry groups to develop and analyze facilities for the reception and disposal of oily wastes, and participated in river basin and regional bay studies, and the assessment of requirements for navigation locks on inland rivers.

Activities of the agency to eliminate ship-caused pollution of the oceans were expanded during the year. A Coordinator of Environmental Activities was designated and assigned principal responsibility for effectively implementing the National Environmental Policy Act of 1969 and related environmental regulations. The agency also developed data for the Intergovernmental Maritime Consultative Organization which will be used in developing international regulations aimed at the elimination of intentional oily discharges from tankers by the middle of this decade.

In addition to a study undertaken in cooperation with several government agencies and industry associations, the Maritime Administration is working with a local port authority to obtain a surplus U. S. Navy tank farm to demonstrate the technical and economic feasibility of recycling oily ship wastes.

To determine ways in which merchant vessels could aid the U. S. Navy in carrying out its logistic support missions, a standard merchant tanker, the SS ERNA ELIZABETH, was operated with U. S. Navy and NATO ships to test the feasibility of at-sea refueling of aircraft carriers, frigates and destroyers. During the two-month trial, the tanker successfully replenished 40 military vessels in the Caribbean, Mid-Atlantic and Mediterranean.

During the year the agency was restructured through the establishment of five new offices to give added impetus to high priority programs:

(1) The Office of Domestic Shipping was established as an independent office to aid the promotion and development of the Great Lakes, inland waterways and domestic oceanborne trades,

(2) An Office of Maritime Research Centers was created within the Office of Research and Development to control and coordinate the activities of the two National Maritime Research Centers,

(3) An Office of Marine Insurance was established under the Assistant Administrator for Maritime Aids to develop and administer the marine insurance activities of the agency,

(4) The Office of Budget and Accounts was formed by consolidating the budgeting and accounting functions within one office, and

(5) The Office of Financial Analysis was created to provide timely analysis of the financial condition of the shipping industry or its specific segments.

• CONCLUSION

As a result of these agency activities, and many others, substantial progress was made in implementing the Merchant Marine Act of 1970 during the year.

Specific details of the Maritime Administration's activities during fiscal year 1972 are provided in subsequent sections of this report.

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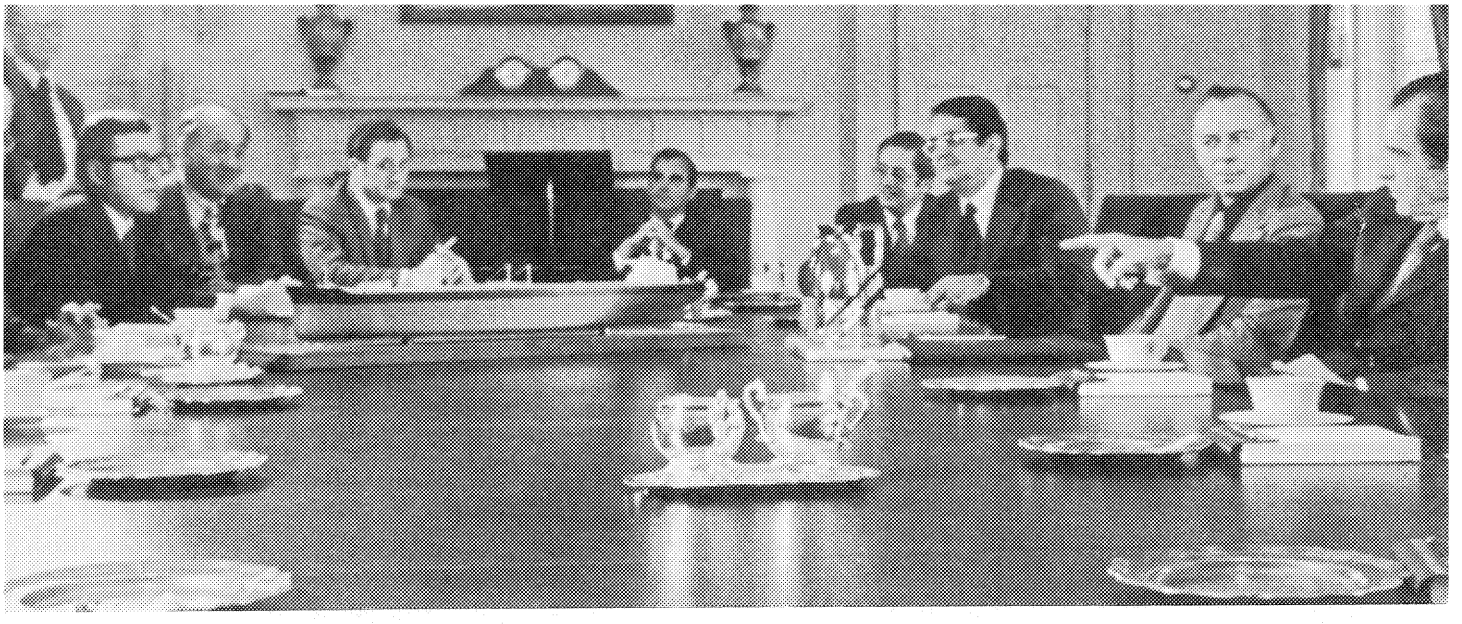


(Above) President Nixon announces the award of nearly $660 million in contracts for the construction of 16 advanced-design merchant ships in five U.S. shipyards. (Below) Shipyard workers at National Steel & Shipbuilding Company in San Diego hear President Nixon announce the award of a $54.6 million construction contract to their yard.

OPERATIONS

Ship Construction

• CONTRACTS AWARDED

In direct support of the national policy to revitalize the American Merchant Marine, the Maritime Administration (MarAd) entered into construction—differential subsidy contracts for the construction of 21 advanced, highly productive vessels during the fiscal year. Valued at $772.1 million, they constitute the largest investment in ship construction in any peacetime year since passage of the 1936 Merchant Marine Act. Included among these new ships are the three largest tankers, at 265,000-deadweight tons, and the three largest roll on/roll off vanships ever built in the United States. The vessels contracted for during fiscal year 1972 and those already under construction represent the initial flights of modern ships called for by the Merchant Marine Act of 1970 to rejuvenate the U. S. merchant fleet.

In addition to the 21 new ships, construction-differential subsidy contracts were awarded covering the conversion and modernization of five existing ships (See Table 1).

Private contracts were awarded for the construction of: one 80,000-deadweight ton (dwt) tanker and one 23,000-dwt deep-sea mining ship at Sun Shipbuilding and Dry Dock Co., Chester, Pa.; one 120,000-dwt tanker at Bethlehem Steel Corp., Sparrows, Md.; one 26,000-dwt Great Lakes ore carrier at The American Ship Building Co., Toledo, Ohio; one 28,100-dwt bulk carrier at Lockheed Shipbuilding and Construction Co., Seattle, Wash.; nine 25,000-dwt tankers at Bath Iron Works Corp., Bath., Me., and Todd Shipyards Corp., San Pedro, Calif.; one 7,200-dwt tanker at S B A Shipyards, Inc., Jennings, La.; and three 35,000-dwt tankers from Gunderson, Inc., Portland, Ore.

• SHIPS UNDER CONSTRUCTION

The total number of large merchant ships under construction or conversion in private U. S. shipyards, increased from 79 on July 1, 1971, to 92 on June 30, 1972 (See Table 2). Including both subsidized and unsubsidized construction, this shipbuilding volume—in terms of gross tonnage—represents the largest peacetime orderbook in the history of American shipyards.

The 92 ships under contract at year's end had a contract value of approximately

Owner	Shipbuilder	Type of Ship
Margate Shipping Co.	National Steel & Shipbuilding Co.	Tanker-T6-S-93a
Central Gulf Lines, Inc.	Avondale Shipyards, Inc.	LASH-C9-S-81d
Aeron Marine Shipping Co.	National Steel & Shipbuilding Co.	Tanker-T8-S-100a
MFC-Boston Tankers, Inc. II	Bethlehem Steel Corp.	Tanker-T10-S-101b
MFC-Boston Tankers, Inc. IV	Bethlehem Steel Corp.	Tanker-T10-S-101b
MFC-Boston Tankers, Inc. VI	Bethlehem Steel Corp.	Tanker-T10-S-101b
Sea Service Tankers, Inc.	Todd Shipyards Corp.	Tanker-T6-M-98a
States Steamship Co.	Bath Iron Works Corp.	RO/RO-C7-S-95a
Langfitt Shipping Corp.	Seatrain Shipbuilding Corp.	Tanker-T10-S-92a
Tyler Tanker Corp.	Seatrain Shipbuilding Corp.	Tanker-T10-S-92a
Polk Tanker Corp.	Seatrain Shipbuilding Corp.	Tanker-T10-S-92a
American Mail Line, Ltd.	Todd Shipyards Corp.	Containership-C6-S-1xa
Lykes Bros. Steamship Co., Inc.	Todd Shipyards Corp.	Breakbulk/Containership C5-S-37f

TOTAL CDS CONTRACTS AWARDED IN FISCAL YEAR 1972

[1] Total Contract Cost Including CDS and National Defense Features, but Excluding Engineering and Change Orders.
* Reconstruction

TABLE 2. SHIPS UNDER CONSTRUCTION/CONVERSION

	Number of Ships		
	Total	New	Conversions
Under Contract July 1, 1971	79	57	22
Award During FY 1972	42	37	5
Sub Total	*121*	*94*	*27*
Completed During FY 1972	29	15	14
Under Contract June 30, 1972	92	79	13

$2.05 billion. Of these, 60 with a contract value of approximately $1.5 billion were being built or converted with subsidy. The remaining 32 were being financed privately or with Title XI mortgage and loan insurance.

Ships under conversion at the end of the year included 12 subsidized cargo ships being modified to carry containers. In addition, one private tanker was being jumboized.

⊛-SMALL VESSELS

The Fishing Vessel Improvement Act expired on June 30, 1972, and the last two vessels built under this act were delivered to their owners during fiscal year 1972.

In September 1971 the stern trawler ROBERT F. O'HARA, built by Gamage Shipbuilding, Inc., South Bristol, Me., was delivered to Dorothy M. O'Hara, Inc. The last vessel, the J. BRADLEY O'HARA was delivered by Jakobson Shipyard, Inc., to Trawler Fordham, Inc. in October 1971.

ONTRACTS AWARDED DURING FISCAL YEAR 1972

No. of Ships	Total DWT. Tonnage	Estimated Completion Date	Total Estimated Cost [1]	Estimated Cost to Govt. of Construction-Differential Subsidy	Estimated Cost to Govt. of National Defense Features
3	114,900	1-31-75	$ 54,665,100	$ 23,435,043	$ 165,000
2	78,200	12-31-74	54,698,000	23,502,940	40,000
3	258,000	1-30-76	83,566,461	35,814,000	166,461
1	265,000	4-30-75	71,234,000	30,566,703	133,000
1	265,000	9-30-75	71,234,000	30,566,703	133,000
1	265,000	3-31-76	71,234,000	30,566,703	133,000
4	140,000	4- 1-76	79,460,000	34,120,000	—
3	56,730	3-11-76	114,129,477	48,744,000	729,477
1	225,000	2-28-73	46,043,200	19,766,000	43,200
1	225,000	2-28-74	62,929,700	27,017,500	57,000
1	225,000	12-31-74	62,929,700	27,017,500	57,000
1*	21,696	9-15-72	9,463,323	3,920,680	15,900
4*	58,760	2-18-73	13,958,276	5,998,276	—
26	**2,198,286**	—	**$795,545,237**	**$341,036,048**	**$1,673,038**

During the 12 years the Act was in effect, 45 fishing vessels were constructed under the program.

• DELIVERIES

On July 1, 1971, there were 33 new merchant ships being built with construction-differential subsidy (CDS) contracts. Of these six were delivered during the fiscal year. In addition, eight tankers and one ore carrier, built without subsidy, were delivered, making a total of 15 new ship deliveries (See Table 3). There were also 14 conversions completed of which 11 were subsidized, and three were privately financed.

• SEA TRIALS AND GUARANTEE SURVEYS

Sea trials and acceptance surveys were conducted on 11 subsidized ships. The Trial and Guarantee Survey Board also observed the sea trials of four vessels which were constructed under the Title XI Mortgage Insurance Program. Final guarantee surveys were conducted on 11 subsidized ships.

• DESIGN AND DEVELOPMENT

Together with the Department of the Navy, the agency undertook a study of the economic, procedural, procurement, and technical aspects of floating pier systems. The objective of the study is to develop portable terminals at which deep-draft, non-self-sustaining containerships can off-load supplies for Navy and Marine Corps contingency forces operating in undeveloped areas.

The growing importance of liquefied natural gas (LNG) tankers, which carry this clean-burning fuel in a liquid state at a temperature of minus 260 degrees, prompted an investigation of various proposed cargo containment and handling systems to determine which are most appropriate for construction in American shipyards in terms of the yards' capabilities. Preparation of in-house benchmark de-

TABLE 3. SHIP DELIVERIES DURING FISCAL YEAR 1972

Owner	Builder	Design	Delivered
	SUBSIDIZED		
PACIFIC FAR EAST LINE	Avondale Shipyards	C8-S-81b	5
LYKES BROS.	General Dynamics, Quincy Division	C8-S-82a	1
LYKES BROS.	Todd, Galveston, Tex.	C5-S-37e	6*
AMERICAN MAIL LINE, LTD.	Bethlehem, San Francisco, Calif.	C6-S-1x	3*
AMERICAN PRESIDENT LINES, LTD.	Todd, Seattle, Wash., & San Pedro, Calif.	C6-S-69c	2*
	Total Subsidized Deliveries		*17*
	NON-SUBSIDIZED		
HENDY CORP.	Bethlehem, Sparrows Point	Tanker	4
FALCON TANKERS, INC.	Litton, Ingalls	Tanker	3
MATHIASEN'S TANKERS	Sun SB and DD Co.	Tanker	1
BETHLEHEM STEEL	Litton, Erie Marine	Ore Carrier	1
TEXACO INC.	Maryland SB & DD Co.	Tanker	1*
AMERICAN OIL CO.	Newport News SB & DD Co.	Tanker	1*
SABINE TOWING & TRANS.	Newport News SB & DD Co.	Tanker	1*
	Total Non-subsidized Deliveries		*12*
	TOTAL DELIVERIES		*29*

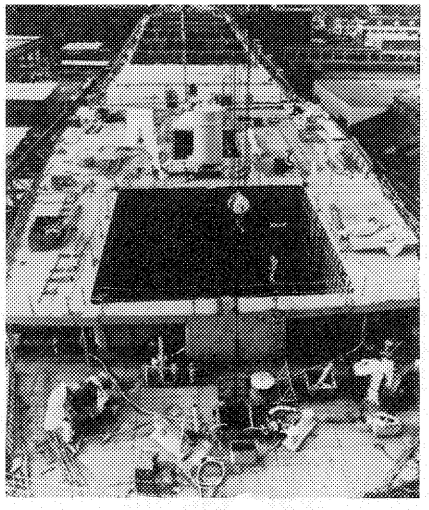
* Conversions

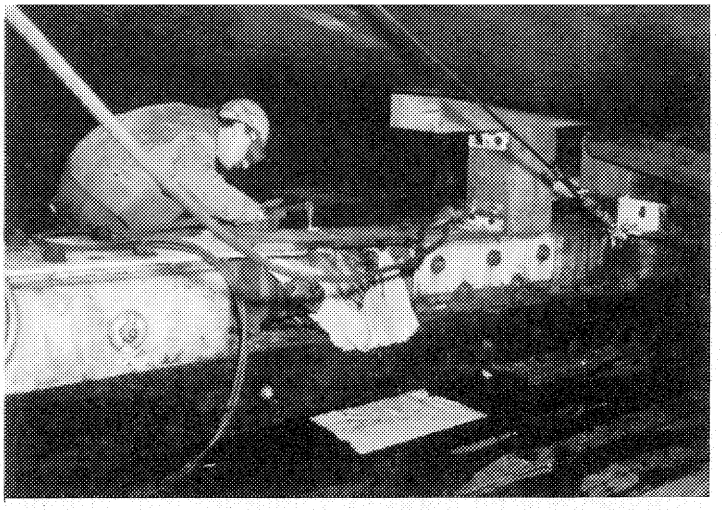
signs and comparative studies was initiated during the year to prepare for the future building of LNG ships in this country.

The Maritime Administration continued to promote the adoption of shipboard mechanization and automation, with particular emphasis on utilizing advanced systems to achieve reductions in shipboard manning. Completed studies for unattended enginerooms on American ships indicate that a remote engineroom watch is entirely feasible and that designs meeting the most recent regulatory requirements are in sight.

The third revision to the Maritime Administration's *Standard Specifications for Merchant Ship Construction* has been developed. Widely accepted by the industry as a basic reference book, the current revision of the *Specifications* is being expanded to include Lighter-Aboard-Ship (LASH), ore-bulk-oil (OBO), and tank vessels in addition to the ships covered by the original version. Future editions are expected to encompass LNG carriers, tug-barge combinations, and other specialized designs, so that it will remain a truly standard specification for the American Merchant Marine.

At the request of the municipal governments of Milwaukee, Wis., and Muskegan, Mich., for domestic shipping assistance, a preliminary design of a passenger/auto ferry to connect these two cities on Lake Michigan was prepared. The study was carried to the point that engineering feasibility, construction costs and ship characteristics were all determined in sufficient detail to permit the cities to determine the economic viability of such a venture.





• VALUE ENGINEERING

The value engineering program produced savings of $2,682,000 in fiscal year 1972. The cumulative program savings since its inception in 1957 are approximately $24,132,000.

• POLLUTION ABATEMENT

During fiscal year 1972, the Maritime Administration accelerated its efforts at the national and international levels to control and abate ship-generated pollution. To provide effective management of the agency's broad pollution abatement activities and programs, a Coordinator of Environmental Activities was designated and assigned principal responsibility for carrying out the functions required to implement the National Environmental Policy Act of 1969 and related environmental regulations. All such staff functions were delegated to a newly established MarAd Environmental Activities Group which provides full time consulting and technical support to MarAd operating units concerned with pollution abatement programs.

To provide an assessment of the environmental impact of MarAd's merchant ship construction program for the Seventies, a working paper was completed and submitted to the Council on Environmental Quality (CEQ). The preliminary draft of a similar paper for LNG vessels was completed describing MarAd's program in this field and related safety and pollution abatement activities. For the on-going CEQ Interagency Study on the Environmental Impact of Supertankers, the agency provided data on traffic movement and density of tankers carrying oil to selected port sites under evaluation. The study is scheduled for completion by the end of calendar year 1972.

All specifications for tankers contracted for under the ship construction program were reviewed to assure compliance with MarAd specifications governing the control of ship-generated pollutants, including oil, sewage, garbage and smoke. MarAd collaborated with the U. S. Coast Guard and the Environmental Protection Agency in the promulgation of two important national regulations to control oil spills and sewage discharges in U. S. waters. At the international level, MarAd, in conjunction with the Coast Guard, EPA, and industry, completed the *Segregated Ballast Tanker Study* for the Intergovernmental Maritime Consultative Organization (IMCO) covering tanker design configurations in the range of 120,000 to 500,000 deadweight tons. At the request of IMCO this study will be extended to smaller clean-product and chemical carriers.

Furthering the international effort aimed at the elimination of intentional oily discharges from tankers by the middle of this decade, MarAd representatives attended IMCO technical subcommittee meetings held to draft a convention on marine pollution, which will be the subject of an international conference to be held under IMCO auspices in October 1973.

In addition to the development of multi-national standards for the protection of the marine environment, the agency also worked with the Department of State and the CEQ to reach a bi-lateral agreement with Canada on preserving and enhancing the water quality of the Great Lakes and an accord with the U.S.S.R. on a broad-scale agreement to establish cooperative programs on mutual environmental problems.

An in-house study with the U. S. Coast Guard on preventing barge pollution of the inland waterways and Great Lakes was initiated with a Great Lakes' operator and a private research organization.

Additionally, ongoing research programs are being pursued on the effects of oil spills on marine organisms and the development of shoreside facilities for collecting and treating ship generated waste. Shore-based and shipboard equipment designed to economically separate oily wastes are being tested and oil monitoring and measuring equipment are being developed. Also, a national testing facility for oily water separators will be installed as part of the facilities of the National Maritime Research Center in Galveston, Tex.

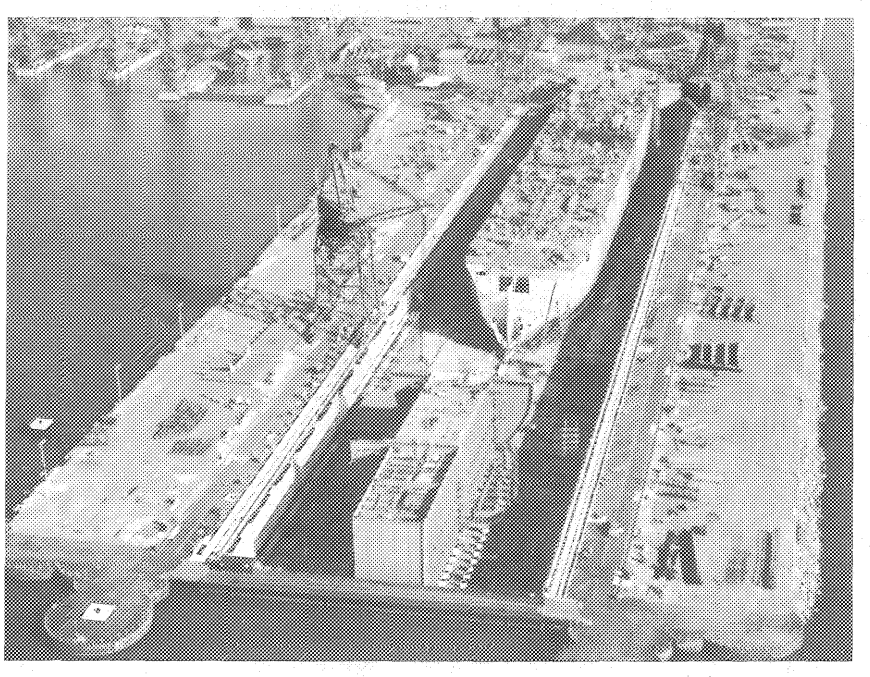
• SHIPYARD IMPROVEMENTS

In the five-year period, 1967-71, American shipbuilders invested nearly $500 million in modernization. This investment was directed at introducing automated equipment and highly mechanized production systems into the previously labor-intensive shipbuilding process. In addition to upgrading projects in most American yards, three new yards were built. Litton Industries, Inc., constructed a shipbuilding facility in Pascagoula, Miss., to build both large naval and merchant ships as well as a yard at Erie, Pa., to construct ore carriers and barges for the Great Lakes trades. Also, Seatrain Shipbuilding Corp. reactivated the former Brooklyn, N. Y., Navy Yard for the construction of very large crude carriers in excess of 200,000 deadweight tons each.

Highlights of specific improvements made at shipyards during this period are:

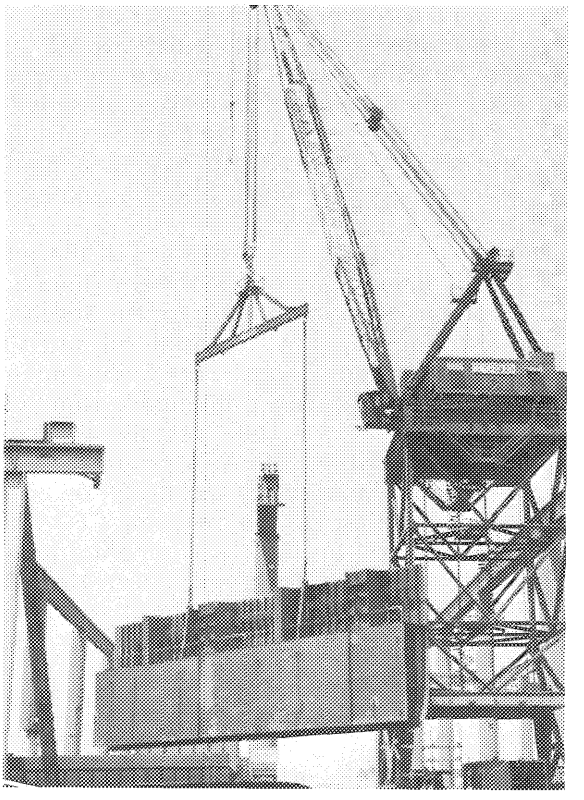
(1) Bath Iron Works Corp., Bath, Me., invested approximately $9 million to provide facilities to construct ships of far greater beam and displacement than was previously possible. The yard's modernization activities for steel processing and assembly involve extensive acquisition of new equipment, construction of an all-weather fabrication and assembly building with high capacity (200-ton) overhead cranes and better arranged flow lines.

(2) The Quincy Shipbuilding Division of General Dynamics Corp., located at Quincy, Mass., has created an in-house research and development program primarily directed toward the development of methods and facilities for constructing liquefied natural gas carriers and very large crude carriers to production-oriented designs. Since 1969,



Bethlehem Steel's new 1,200-foot long shipbuilding basin at Sparrows Point, Md., can build vessels larger than 300,000 dwt.

One of the capital improvements at the Los Angeles Division of Todd Shipyards Corp. was the installation of this 175-ton-capacity crane which is used to move large prefabricated sections of a vessel to the building basin.



the yard has spent $10 million to adapt its facilities for modular ship construction.

(3) Bethlehem Steel Corp.'s Sparrows Point, Md., yard recently completed an $18 million program to build a graving dock large enough for the construction of 300,000-dwt tankers and a modern steel-handling and steel-fabrication facility. Improvements at the yard include installation of a numerically controlled gas plate-cutting machine and an automatic plate and shape blasting-painting machine, as well as a new panel shop and blast and coating complex capable of handling ship sub-assemblies weighing as much as 200 tons.

(4) One of the most visible improvements at Newport News Shipbuilding and Dry Dock Company, Newport News, Va., is a 310-ton crane. Standing 19 stories high and spanning two shipways, this crane permits the efficient handling of large sub-assemblies, heavy machinery and propulsion components.

(5) Avondale Shipyards, Inc., New Orleans, La., has constructed a large production line served by computers and automated and mechanized material handling and fabrication systems at a total cost of $54 million.

(6) National Steel and Shipbuilding Co., San Diego, Calif., has undertaken extensive improvements amounting to $3.5 million for a new steel-handling facility, construction of two new building ways, a warehouse, and an engineering building.

(7) The Sun Shipbuilding and Dry Dock Co. has spent more than $2 million to construct an engineering building and extend its dry dock.

(8) Todd Shipyards Corp. invested $10 million to upgrade its shipyard facilities.

Although not comprehensive, this list is representative of the commitment of U. S. shipbuilders to compete more effectively with foreign yards, narrowing the price differential between them.

In addition, future modernization plans of existing yards are expected to aggregate more than $100 million annually because of the interest of American shipyards in entering the world market for the construction of liquefied natural gas (LNG) carriers and the requirements of the Alaskan oil trade. Table 4 shows future investment plans of the major shipbuilding companies. Although not comprehensive, this list is indicative of the desire of American shipyards to meet the challenge of the Merchant Marine Act of 1970.

TABLE 4. MAJOR SHIPYARD FUTURE INVESTMENT PLANS

Shipyard	Proposed Expenditures (Millions)	Improvements
General Dynamics Corp.	$ 12.0 (LNG) or 19.5 (VLCC)	To reconstruct yard facilities for building LNG transports and very large crude carriers (VLCC).
Chicago Bridge & Iron Co., Brunswick, Ga.	7.0 to 12.0	New facilities for constructing LNG tanks for shipyards with prime contracts for LNG ships.
National Steel & Shipbuilding Co.	116.0	New yard to construct LNG ships.
Newport News SB & DD Co.	106.0	New yard to construct LNG ships.
Seatrain Shipbuilding Corp.	2.5	New painting facility.
Todd Shipyards Corp., Galveston, Tex.	76.0	New yard to construct LNG ships.
Todd Shipyards Corp., San Pedro, Calif.	13.5	New cranes and shipways for ships as large as VLCCs.
TOTAL FUTURE INVESTMENT	$333.0—$345.5	

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Domestic Shipping

The Maritime Administration established the Office of Domestic Shipping in October 1971 to promote all segments of the domestic shipping industry. This includes inland waterways and Great Lakes operators, as well as those in the coastwise, intercoastal and non-contiguous trades. This action implements the longstanding mandate of the Merchant Marine Act of 1936, as amended, for the Maritime Administration to promote a merchant marine "sufficient to carry its domestic waterborne commerce . . . and to provide shipping service on all routes essential to maintaining the flow of such domestic . . . waterborne commerce at all times." This directive was given new impetus by the Merchant Marine Act of 1970, which specifies the extension of benefits to the entire merchant marine.

• PLANNING CONFERENCE

After preliminary, informal meetings with individual domestic shipping groups, MarAd sponsored a National Planning Conference on Domestic Shipping (April 30 to May 4, 1972). Held in St. Louis, Mo., its purpose was to identify industry needs and define goals for an effective program to meet them. A major objective of this "working conference" was to insure that the long-range program initiated by the Maritime Administration would be fully responsive to the needs of the industry. This was the first coordinated effort by responsible representatives of management, labor and government to define the current and future problems faced by the nation's waterborne domestic shipping industry.

As a result of the conference a recommended five-year program was developed. At the end of the fiscal year the proposed program was under evaluation by MarAd. A number of the conference's recommendations reflect programs already underway in the agency. These and additional programs which will result from MarAd decisions regarding conference recommendations will constitute the new national domestic shipping program.

• DOMESTIC OMBUDSMAN

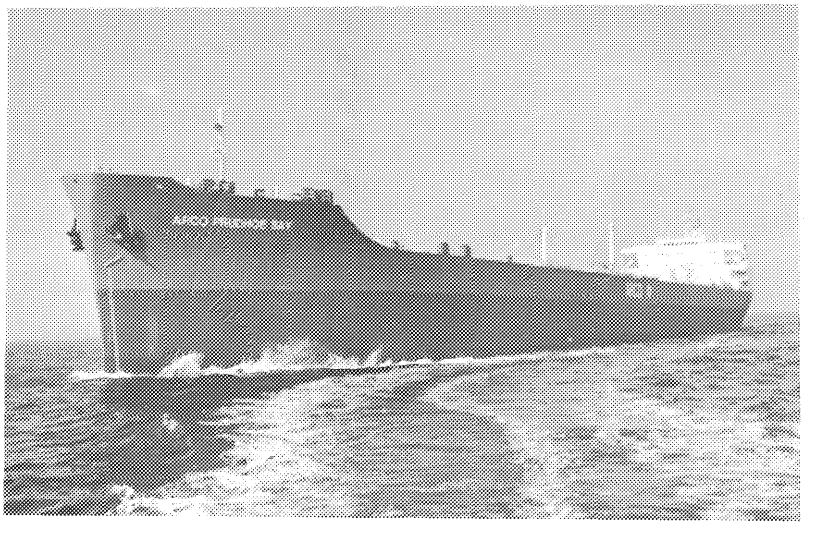
During the year, the Office of Domestic Shipping played a key role within the government as an "Ombudsman for the domestic shipping industry." Extending to the field of legislation, the best interests of the industry are brought to the attention of agencies whose actions may have an impact on the industry's operations. In addition, the Office of Domestic Shipping has provided a forum in which problems of mutual concern in the industry can be discussed and in which new ideas for improved equipment and services can be explored and evaluated.

Joint efforts with industry and other government agencies resulted in the creation of a computerized data bank for domestic commodity movements, traffic patterns and transport forecasts. These will aid the domestic shipping industry in pinpointing new markets and balancing out existing trades.

• EXTENSION OF GREAT LAKES SHIPPING SEASON

As part of a multi-agency federal three-year demonstration program to extend the winter navigation season on the Great Lakes/St. Lawrence Seaway, MarAd developed the design for a laser navigation system. Proposed for development during fiscal year 1973, this equipment will automatically provide precise position data to a vessel navigating on the lakes during the winter months when floating navigation aids are temporarily removed.

This 69,800-ton tanker, which was delivered during the year, is employed in the crude oil trade between the U.S. West Coast and Alaska.



• CHARGER LOG I

The feasibility of a standard merchant tanker to provide underway fueling to U. S. Navy and NATO ships was demonstrated by the joint Navy/MarAd project, Charger Log I. The SS ERNA ELIZABETH, a 35,000 ton, typical U.S.-flag merchant tanker, operated with U. S. Navy and NATO ships for a two-month period in the Caribbean, Mid-Atlantic and Mediterranean areas providing at-sea replenishment to 40 ships including aircraft carriers, frigates, and destroyers.

The significance of this successful operation was concisely expressed by Chief of Naval Operations Admiral Elmo R. Zumwalt, Jr.: ". . . it proved the feasibility of using commercial tankers to consolidate Navy replenishment ships and to provide limited replenishment of combatant ships. The knowledge that this surge capability is available can expand the employment options of our Fleet."

Other joint Navy/MarAd tests are contemplated for the future to determine other fleet support roles that can be assumed by commercial merchant ships.

To further increase the coordination between the Navy and the merchant marine, the Emory S. Land Chair of Merchant Marine Affairs was established during the fiscal year at the U. S. Naval War College, Newport, R.I. Through lectures and discussions with naval officers, the professor holding this Chair will be able to impart to them a better appreciation of the capabilities of the U. S. merchant fleet to meet this nation's vital defense needs.

• MARAD ADVISORY BULLETIN

During the year, 22 MarAd Advisory Bulletins were disseminated to U. S.-flag steamship operators.

The bulletins, containing significant, current operational data, are published and distributed as frequently as items of importance occur. They alert U. S.-flag operators to such matters as new or revised U. S. and foreign customs regulations, and entrance and clearance procedures which assist the operators in avoiding vessel delays and penalties.

• FOREIGN TRANSFERS

Approval was granted to transfer 141 ships of 1,000 gross tons and over to foreign firms. Over 50 percent of these vessels were sold for scrapping abroad. Thirty-three of the 141 ships were undocumented or registered under foreign flags though owned by a U. S. citizen (See Appendix V).

Charters of U. S.-owned ships to aliens were approved on 20 ships of 1,000 gross tons and over.

Applications for transfer foreign of 593 vessels of less than 1,000 gross tons (450 commercial and 143 pleasure craft) were approved, and charters of 67 ships to aliens were approved.

Of 12 violations involving the sale of privately owned ships to aliens without prior approval of the Maritime Administration, nine were mitigated or settled during the year.

Nine banks were approved as Trustees and 30 banks were approved to continue on the Roster of Approved Trustees, pursuant to Public Law 89–346 and General Order 107.

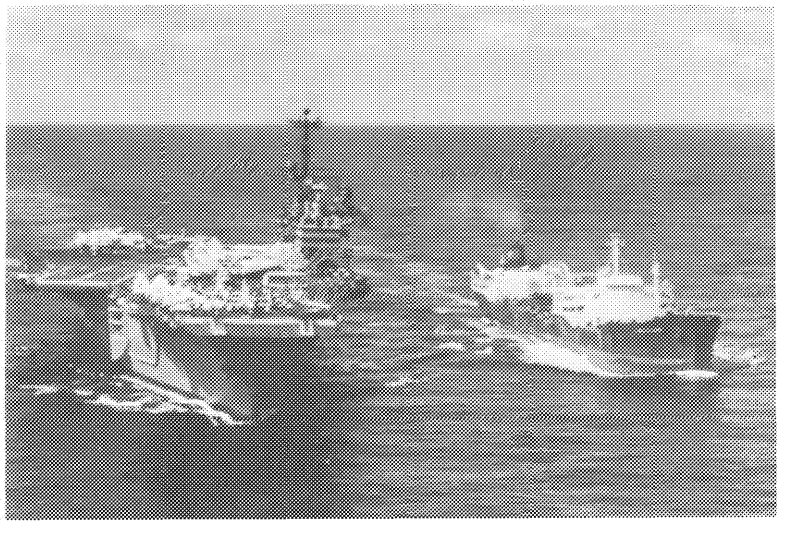
General Order 58, which sets forth the regulations governing foreign transfers, was amended to: (1) extend blanket approval previously granted to non-resident, non-citizens to all those residing in the United States, and (2) give blanket approval for U. S. shipyards to construct vessels designed primarily for use in exploration and drilling for oil, gas and other minerals at underwater locations for foreign owners.

User charges for filing applications for foreign transfers and similar actions amounted to $37,425 in FY 1972.

• MAINTENANCE AND REPAIR

The systematic processing of maintenance and repair cost information received from subsidized operators presents an efficient method for determining the suitability and reliability of equipment on subsidized

A commercial tanker, the SS ERNA ELIZABETH, refuels the USS INDEPENDENCE while underway. With MarAd's cooperation, the tanker was chartered by the Military Sealift Command to test at-sea refueling techniques with Navy vessels.



ships. During fiscal year 1972, several foreign shipping delegations, after reviewing many government plans for control of merchant marine maintenance and repair costs around the world, expressed the opinion that the Maritime Administration's Ship Maintenance and Repair Data Processing and Evaluation System is the most comprehensive and productive.

The modified federal surveillance over the maintenance and repair activities of subsidized ship operators, initiated in fiscal year 1970, continued in fiscal year 1972. The adoption of this procedure achieved a savings of $200,000 through manpower reductions.

Approximately 625 surveys were made during the year to assure compliance with various contractual commitments under the Title XI ship mortgage insurance and operating subsidy programs.

Maintenance and repair expenditures for the five state maritime academy school ships in FY 1972 totaled $890,500.

Maintenance and repair expenditures generated approximately 50,000 man-days of work throughout the marine industry and its supporting services.

During the year, a task force was established to review the survey and inspection requirements for ships under Title XI and preferred mortgages and those sold for scrap or nontransportation use. As a result of the task force recommendations, the number of inspections and surveys was reduced consistent with agency policy to eliminate nonessential surveillance over persons doing business with the federal government, while still protecting the government's interest.

• REACTIVATION EVALUATION PROGRAM OF NDRF SHIPS

A major responsibility of the Maritime Administration is to provide merchant shipping during times of national emergency. One of the immediate and larger sources of shipping available to MarAd are the vessels laid-up in the National Defense Reserve Fleet (NDRF).

During fiscal year 1972 MarAd embarked on a program to evaluate techniques necessary to rapidly and economically reactivate a Victory ship, laid-up under a dehumidified preservation system in the NDRF, giving full consideration to the maintenance, repair, reconditioning and betterment of the 123 Victory ships presently moored at three active fleet sites.

As a result of this test program, the overall time and cost to return Victory ships from the NDRF to a "ready for service" status will be significantly reduced. The theoretical aspects of this evaluation were substantiated with the actual breakout and partial activation of the SS GREELEY VICTORY from the James River, Va., reserve fleet.

• NATIONAL DEFENSE RESERVE FLEET

On June 30, 1972, 673 ships were moored in the four locations of the National Defense Reserve Fleet excluding 28 ships sold but not delivered (See Table 5). During the year 29 ships were placed in the fleet and 199 ships were withdrawn (See Table 6). The Olympia, Wash., reserve fleet was closed during the fiscal year, and the Mobile, Ala., reserve fleet phase-out continued to progress on schedule, with completion scheduled for fiscal year 1973.

The number of retention ships decreased from 381 to 356 during the year.

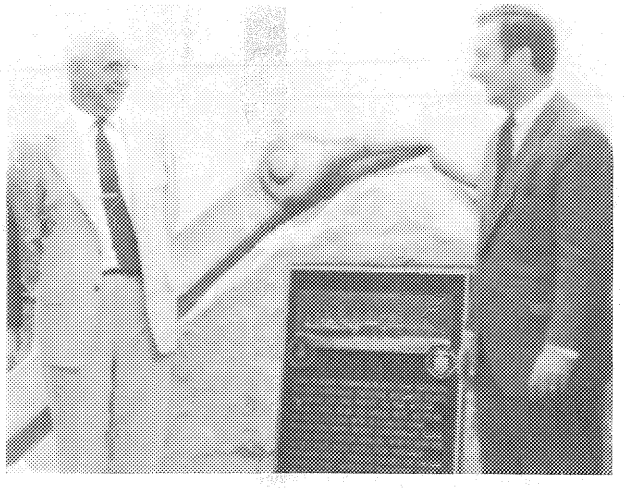
The preservation program (including conventional preservation, dehumidification, and cathodic protection) established for the remaining retention ships progressed satisfactorily. The fiscal year plan called for 29,888 man-days of work and was 99 percent completed.

TABLE 5. SHIPS IN RESERVE FLEET AS OF JUNE 30, 1972

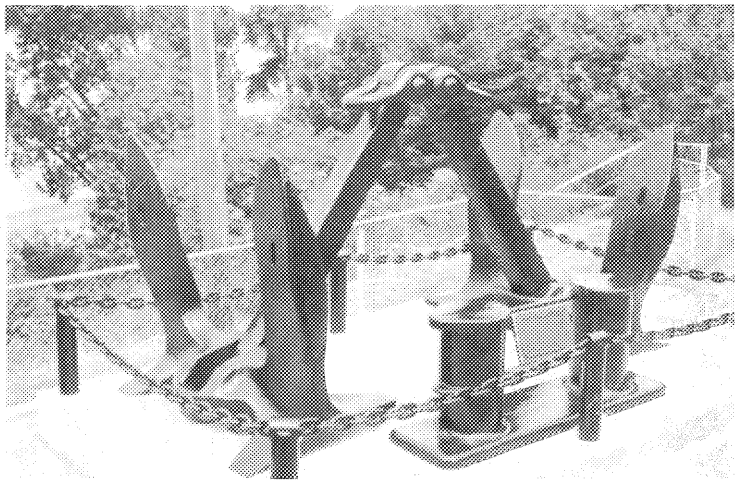
Fleet	Retention	Scrap and Cannibalization	SP[1]	Total
James River, Va.	143	123	1	267
Mobile, Ala.	—	30	—	30
Beaumont, Tex.	53	34	1	88
Suisun Bay, Calif.	160	126	2	288
TOTAL	356	313	4	673[2]

[1] Special Projects.

[2] Excludes 28 ships sold for scrap but not delivered. This total represents a decrease of 1,604 ships from the reserve fleets, peak of 2,277 vessels. (See Appendix VI)



Assistant Secretary Blackwell dedicates plaque commemorating the location of the Hudson River, N.Y., National Defense Reserve Fleet which was closed during the year.



This monument marks the position of the Olympia, Wash., National Defense Reserve Fleet, before it was closed during the fiscal year.

• VESSEL EXCHANGES

Under the Ship Exchange Act of 1960, as amended, Maritime traded out one R1–M–AV3 refrigerated cargo ship, the MV KERSTIN, an ex-Navy store ship, during the year. The KERSTIN was assigned to Star Kist Foods, Inc., a subsidiary of H. J. Heinz Company, in exchange for the ferryboat SANTA ROSA. Star Kist will reconstruct the ship and use it in fishing operations.

The Ship Exchange Act expired on July 5, 1972. Four hundred thirty-four applications had been filed for the exchange/transfer of ships during the program's 12-year history (1960–1972). MarAd exchanged 122 government-owned ships for 126 privately-owned ships belonging to 50 companies. In payment for the difference in value between vessels traded-out and those traded-in, the government received approximately $24,061,543.

TABLE 6. RESERVE FLEET ARRIVALS AND WITHDRAWALS DURING FISCAL YEAR 1972

Reason or Source	Arrivals	Withdrawals
Sold Scrap	—	191
U. S. Navy	15	0
Military Sealift Command	6	0
U. S. Army	1	0
U. S. Coast Guard	3	1
Title XI	0	1
Inter-fleet Transfers/ Retention Ships	4	6
TOTAL	29	199

• SHIP SALES

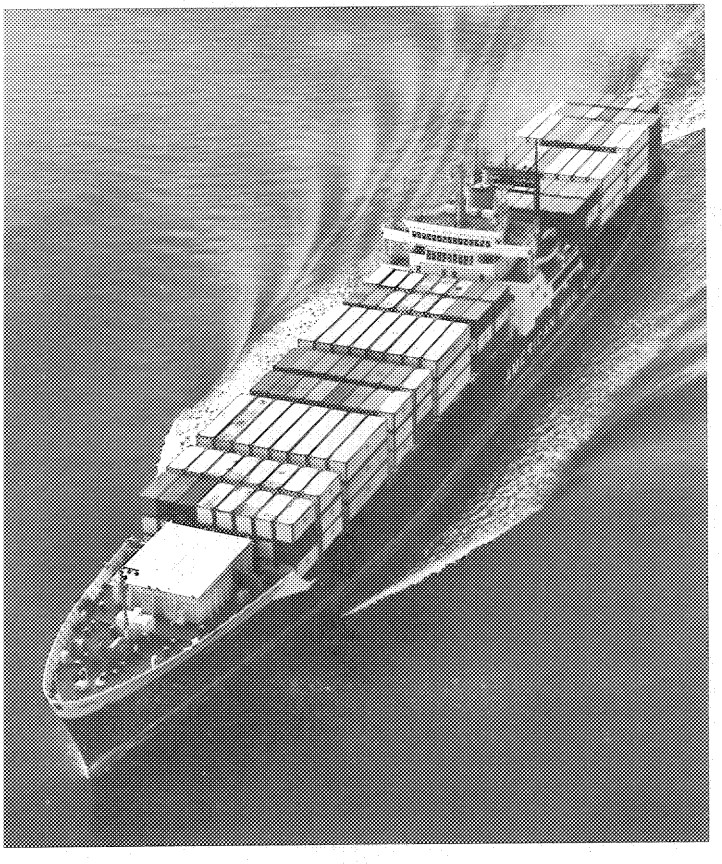
The sale of 111 Liberty and 92 other ships from NDRF anchorages for scrap or nontransportation use during the fiscal year yielded an aggregate return of $9,213,-113.25 to the government. An additional ten ships from non-fleet locations were sold for scrap or nontransportation use at a total price of $1,635,295.22 during FY 1972.

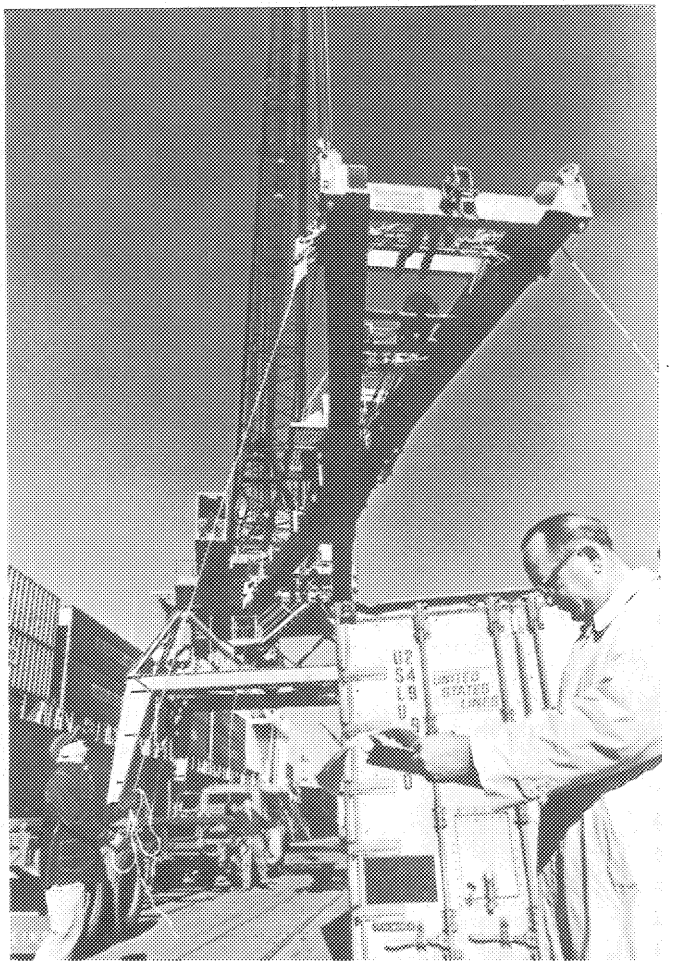
The Hydrofoil HS VICTORIA, built in 1966 with the aid of Title XI mortgage insurance and acquired by the government in January 1969, through a mortgage foreclosure proceeding, was sold in August 1971 for U.S.-flag operation at a price of $150,000.

In summary, 214 government-owned ships were sold during the year for a return of $10,998,408.47.

Under the Merchant Marine Act, 1936, as amended, and the Ship Sales Act of 1946, ships were sold to foreign operators with loans of $236,596,361. A total of $56,477,-798 in interest was collected during the life of these foreign loans. The agreement with Banco Do Brasil, covering payment on 11 outstanding mortgages for ships furnished to Brazilian operators under the 1946 Act, was terminated with the payment of the principal balance of $56,890 and $1,431 in interest by Banco Do Brasil. At the close of the fiscal year, all balances of principal and interest had been paid.

The use of containers has increased the productivity of ocean transportation systems. Containers can be lifted directly off truck chassis by cranes which deposit them on a vessel.





• INTERMODAL TRANSPORT

The development of intermodal transport continued to represent the promise and challenge of the future for the American operators competing in the international marketplace. Offering the economies of scale associated with capital intensive methods, containerization and other through-movement unitization programs have changed the nature of the ocean transportation business. Instead of simply providing port-to-port shipping services, steamship lines now offer the overall movement of freight from origin to destination.

Despite the innovativeness of American operators in this field over the last decade, this country's superiority in furnishing these high-technology services constitutes no monopoly, since foreign operators have aggressively responded to the challenge with equally substantial investment and effort to develop through-transportation systems.

On the mostly highly containerized trade routes the focus of concern is shifting from providing capacity to insuring high utilization of existing vessels and equipment. Information developed by the Maritime Administration reveals significant underutilization in many of the services offered by American operators.

During fiscal year 1972, efforts of the agency were directed to the identification of specific opportunities to overcome impediments, thus increasing intermodal traffic and overall system utilization.

A study on the *Impact of Marine Containerization on the U. S. Transportation System* was completed, providing forecasts of container fleets, trade, and port capacities for the remainder of this decade, by developing a computerized model for forecasting these variables under various assumptions, the study provides an analytical framework for rational decision making by containership operators and other firms involved in intermodal transportation.

Projects have been initiated to expand employment of refrigerated containers by maximizing their usage (a study of seasonal/area commodity requirements), by expediting movement (study of supply and dispatch problems), and by generally increasing shipper awareness of the transport potential inherent in the intermodal movement of perishable fruits and vegetables.

The increased penetration of marine containers into land transport has created institutional problems with domestic rail carriers. As a result, MarAd has intervened in regulatory matters before the Interstate Commerce Commission to assist the maritime industry in eliminating potentially disadvantageous proposals and practices of inland carriers. Similarly, MarAd has intervened with the Customs Bureau and the Federal Maritime Commission to seek satisfactory solutions to complex regulatory constraints relating to the development of new barge-carrying transport systems.

• PORT DEVELOPMENT

In the President's message to Congress of October 23, 1969, announcing his program for the rehabilitation of the American merchant fleet, he stated that "the larger capital investment necessary to construct a modern and efficient merchant fleet requires corresponding port development." Directly related to the efficiency and effectiveness of the Merchant Marine is the terminal capability of U. S. ocean ports, as well as those on the Great Lakes and inland waterways.

The port industry in America has traditionally been in the position of reacting to new requirements stemming from developments in naval architecture, cargo handling, and automation in an attempt to keep pace with these technological changes. As a result there frequently is a long lag between the introduction of new shipping technology and the development of adequate port capability to accommodate the vessel-oriented innovations. The Maritime Administration must, therefore, maintain a position of influence in promoting the welfare of, and developing new technology for, the American port industry. Now that the merchant marine revitalization program is underway, MarAd is involved in this equally important area of terminal activity. One principal contribution in this field during this fiscal year was the agency's providing

The world's first LASH (Lighter-Aboard-Ship) terminal became operational as part of the Port of San Francisco during 1972.

the initiative leading to the resolution of a problem concerning the proper size of a new navigation lock between the Mississippi River and the Mississippi Gulf Outlet in the vicinity of the port of New Orleans, La.

A prime objective of MarAd's port development program is to support and aid the currently ongoing efforts to develop deepwater facilities in the United States to accommodate the large bulk carriers necessary for the economical transportation of dry and liquid bulk commodities.

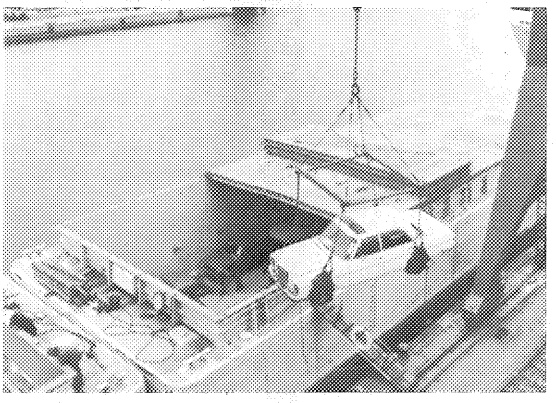
The completion during the year of an economic study relating to deepdraft offshore transfer terminals was a major contribution to such efforts. MarAd has also actively participated in detailed studies by the U. S. Army Corps of Engineers on the feasibility of offshore ports, in addition to the Corps' more comprehensive studies of the three major coasts of the United States.

Assisting in the development of adequate facilities to receive and dispose of oily waters in port areas is a major undertaking of the agency pursuant to the President's pollution abatement message of May 20, 1970, which calls for the elimination of vessel discharges at sea. In this effort, the agency aids port authorities, local government, and private industry.

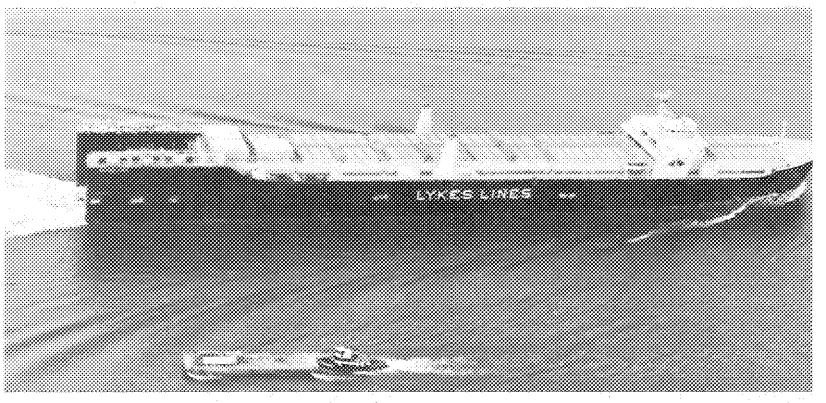
Working jointly with the American Association of Port Authorities, American Institute of Merchant Shipping, Environmental Protection Agency, American Petroleum Institute, and the U. S. Coast Guard, MarAd has awarded a contract to investigate the use of alternative shoreside systems for receiving oily water, recycling it, and disposing of residues by some method which would preclude environmental degradation.

To supplement this contract, MarAd is cooperating with a port authority in obtaining a surplus U. S. Navy fuel tank farm as a pilot project to demonstrate the economic viability of recycling oily waste.

Under the authority of the Water Resources Planning Act of 1965, the Maritime



The LASH and Seabee systems permit preloading of barges which can be floated to a mothership.



The SS DOCTOR LYKES is one of the world's largest general cargo ships.

Administration, as a member of the Department of Commerce Water Resources Coordinating Committee, has responsibility for the preparation of the marine elements of: (1) comprehensive river basin studies, such as the Southeast New England River Basin Study, the Long Island Sound Study, the Great Lakes Basin Commission Study, and the Lower Mississippi River Basin Study; (2) Congressionally authorized and funded regional bay studies such as the San Francisco Bay In-Depth Study and the Chesapeake Bay Study; and (3) the deep-draft regional port studies that are now authorized for Gulf and North Atlantic coasts and the soon-to-be authorized Pacific Coast study. These studies are designed to explore the best uses of water and related land facilities and resources to meet contemporary and long-range needs for safe, efficient, and adequate water transportation consistent with other national and regional objectives.

The Maritime Administration is also responsible for enhancing the readiness of the port industry in the United States to react promptly to national emergencies, including war and natural and man-made disasters. The objective of MarAd's program is to provide guidance and technical assistance and emergency operating and organization plans.

Recognizing the economic impact which ports have upon their local and regional economies and their contribution to the Gross National Product, the agency has initiated studies aimed at quantifying the economic stimulation being provided by this nation's ports and their industries.

Also aimed at promoting the general well-being of American ports in the Maritime Administration's more active role as technical port consultant to the Commerce Department's Economic Development Administration (EDA). Since 1965, EDA grants and loans for port-related public works have reached almost $100 million. MarAd analyzes applications from ports and furnishes EDA with comments on the feasibility of the proposed improvement projects.

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MARITIME AIDS

Subsidy Administration

• OPERATING-DIFFERENTIAL SUBSIDY

At the end of the fiscal year there were 16 operators holding operating-differential subsidy (ODS) agreements (see Appendix VII) and a total of 206 vessels were covered under these contracts. Payments during the year on operating subsidy due for 1972 and for prior years totaled $235,666,821 (See Chart I).

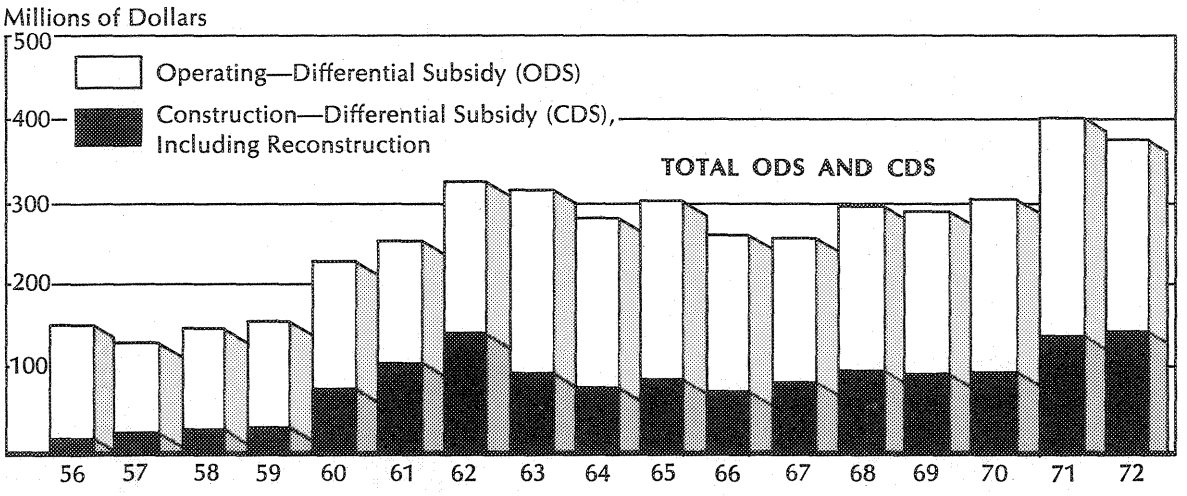
Operating-differential subsidy, accrued from January 1, 1937, to June 30, 1972, totals $3,730,438,304; recapture amounted to $238,617,774; net payable as of June 30, 1972, was $3,491,820,530, of which $3,420,846,488 had been paid out, leaving an estimated unpaid balance of $70,974,042 owed sixteen operators at the end of the fiscal year.

During the fiscal year five new operating-differential subsidy contracts were consummated under the provisions of the Merchant Marine Act, 1936, as amended, including amendments made by the 1970 Act. One contract, effective on January 4, 1972, was awarded to the Margate Shipping Co., while others were signed with Aeron Marine Shipping Co. and Sea Service Tankers, Inc., on June 30, 1972. However, these companies will not receive operating subsidy until their new tankers, which are under construction, enter service between 1974 and 1976.

American Steamship Company became the first operator to be granted subsidy for bulk carrier service on the Great Lakes, when a short-term contract was effected on April 21, 1972. Scheduled to terminate on December 31, 1973, unless extended, it covers two Great Lakes navigating seasons in U. S.-Canadian trade. Waterman Steamship Corporation, in addition to its long-term 20-year agreement covering sailings on Trade Route 18 (U. S. Atlantic and Gulf/India, Persian Gulf, and Red Sea) which was signed last fiscal year, concluded a short-term agreement on May 8, 1972 (terminating on May 7, 1975, unless extended) for operations on Trade Route 22 (U. S. Gulf/Far East).

One former subsidized operator, Gulf & South American Steamship Co., Inc., terminated its subsidy contract during the fiscal year on February 18, 1972. The Assistant Secretary for Maritime Affairs/Maritime Subsidy Board had earlier granted consent for the purchase by Lykes-Youngstown Corporation of W. R. Grace & Co.'s 50 percent interest in Ly-Gra Corporation, Gulf & South American's parent company; and Lykes thus became the sole owner of both entities. Also approved was the sale of the five C-3 vessels owned by G&SA to Lykes Bros. Steamship Co., Inc., for use on Trade Route 31 (U. S. Gulf/West Coast of South America). Thus, Lykes is continuing the service formerly operated by G&SA in this trade.

Chart I MARITIME SUBSIDY EXPENDITURES



FISCAL YEAR	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
TOTAL ODS & CDS	151.3	128.6	147.4	156.4	226.7	253.5	323.0	315.4	282.0	301.0	260.0	258.2	297.8	290.2	302.5	404.7	378.9
ODS	135.3	108.3	120.0	127.7	152.8	150.1	181.9	220.7	203.0	213.3	186.6	175.6	200.1	194.7	205.7	268.0	235.6
CDS (incl. Reconst.)	16.0	20.3	27.3	28.7	74.0	103.3	141.0	94.7	78.9	87.7	73.4	82.5	97.7	95.5	96.7	136.7	143.3

Fiscal Year	Construction Differential Subsidy[1]	Reconstruction Differential Subsidy[1]	Total Construction and Reconstruction Subsidy (CDS)[1]	Operating-Differential Subsidy (ODS)[2]	Total ODS and CDS
1936					
1937					
1938					
1939	$ 131,571,571				
1940	(Reflects CDS				
1941	adjustments cov-				
1942	ering World War			$ 16,601,213	
1943	II period)				
1944	plus				
1945	$ 105,852,291	$ 3,286,888	$ 246,249,167		$ 471,968,043
1946	(Equivalent to				
1947	CDS—allowances				
1948	made in connec-				
1949	tion with Mariner				
1950	ship construction			$ 5,784,595	
1951	program)			14,018,284	
1952				41,437,567	
1953				62,838,704	
1954	$ 5,538,417			85,038,513	
1955	5,358,663	0	$ 5,358,663	115,391,111	$ 120,749,774
1956	1,613,737	$ 14,368,688	15,982,405	135,342,146	151,324,551
1957	16,379,076	3,909,695	20,288,271	108,292,274	128,580,545
1958	22,637,540	4,709,383	27,346,923	120,031,522	147,378,445
1959	21,679,547	7,065,416	28,744,963	127,693,052	156,438,015
1960	69,156,794	4,828,227	73,985,021	152,756,154	226,741,175
1961	102,118,519	1,215,432	103,333,951	150,142,575	253,476,526
1962	136,858,263	4,160,591	141,018,854	181,918,753	322,937,607
1963	90,514,302	4,181,314	94,695,616	220,676,685	315,372,301
1964	77,234,458	1,665,087	78,899,545	203,036,847	281,936,392
1965	87,649,008	38,138	87,687,146	213,334,409	301,021,555
1966	70,810,939	2,571,566	73,382,505	186,628,357	260,010,862
1967	81,592,502	932,114	82,524,616	175,631,860	258,156,476
1968	97,610,561	96,707	97,707,268	200,129,670	297,836,938
1969	95,460,092	57,329	95,517,421	194,702,569	290,219,990
1970	74,999,309	21,723,343	96,722,652	205,731,711	302,454,363
1971	109,250,401	27,450,968	136,701,369	268,021,097	404,722,466
1972	113,567,240	29,748,076	143,315,316	235,666,821	378,982,137
Total all FY	$1,517,453,230	$132,008,442	$1,649,461,672	$3,420,846,489	$5,070,308,161

[1] Data for construction and reconstruction subsidies are stated on an accrued expenditure basis and do not include any refunds of CDS made for operation of CDS ships in domestic trades.

[2] Data for operating differential subsidy are stated on basis of vouchers approved for payment.

The passenger ship legislation (Public Law 92–296), signed into law on May 16, 1972, was of particular significance to several of the East Coast subsidized operators who had American-flag passenger ships laid up, because of consistent losses, despite subsidy. While idle and without subsidy, the lay-up costs for these ships (estimated by the operators to be about six million dollars) represented a constant drain on the financial resources of these companies. The bill authorized sale to foreign buyers of the SS SANTA ROSA and SS SANTA PAULA of Prudential-Grace Lines, Inc., the SS ARGENTINA and SS BRASIL of Moore-McCormack Lines, Inc., and the SS CONSTITUTION owned by American Export Lines, Inc., (formerly American Export Isbrandtsen Lines, Inc.). The legislation also authorized the the government to acquire the SS UNITED STATES from United States Lines, Inc., for retention in the reserve fleet.

Both American President Lines, Ltd., and Pacific Far East Line, Inc., continued to operate passenger ships from the U. S. Pacific Coast. Also, Prudential-Grace Lines, Inc., was granted permission to operate three of its four M-class passenger-cargo ships in combination service on Trade Routes 23, 24 and 25 (U. S. Pacific/Caribbean, East Coast of South America, West Coasts of South America, Central America and Mexico), with service scheduled to begin during July 1972.

Eleven subsidized lines were given permission to reduce the required number of minimum sailings on various freight services during calendar year 1971 because of disruptions caused by longshore strikes, charter of some of their vessels to the Military Sealift Command, and other reasons beyond their control.

Eight applications for operating-differential subsidy were pending at the end of fiscal year 1972. Isthmian Lines, Inc.'s applications for breakbulk operation cover two services (U. S. Atlantic and Gulf/India, Pakistan, Ceylon, and U. S. Atlantic and Gulf/Persian Gulf, Red Sea) on Trade Route 18. Applications for U. S./foreign tanker service include the following companies: Mathiasen's Tanker Industries, Inc., Langfitt Shipping Corporation, Polk Tanker Corporation, Tyler Tanker Corporation and Texas City Tankers Corporation. In addition to these applications from non-subsidized operators, two companies with existing ODS contracts have applied for operating subsidy on other services: American Export Lines, Inc., for its container service on the North Atlantic (Trade Route 5–7–8–9) and Waterman Steamship Corporation for breakbulk operation on Trade Route 21 (U. S. Gulf/Western Europe).

The Maritime Administration, in cooperation with the subsidized shipping lines, implemented the provisions of the 1970 Act calling for the application of a wage index system. This system will substantially eliminate the need for the agency's detailed review of each collective bargaining agreement, including changes in work rules, rates of pay, fringe benefits, contributions to special funds, etc., to determine whether employment costs are fair and reasonable. The rate of change in an appropriate index to be compiled annually by the Bureau of Labor Statistics will be deemed the measure of change in fair and reasonable employment costs after an initial determination has been made. With some modifications, revised regulations applicable to liner-type operations have been applied to bulk-carrying vessels which are being subsidized for the first time.

Judicial appeals from disallowances by the Secretary of Commerce of operating-differential subsidy on certain items of expense, most notably severance payments and contributions to union training funds, are still pending before the courts.

Tentative ODS rates applicable to liner operations under the 1970 Act have been calculated for all companies and have been incorporated by addenda in all contracts amended pursuant to the new law. Of 228 operating-differential subsidy rates required for calendar year 1969 for all subsidized items of expense, 77 have been completed by the staff and are undergoing examination by or discussion with the operators concerned prior to submission to the Board for approval.

• SECTION 804 ACTIVITIES

Under Section 804 of the Merchant Marine Act of 1936, as amended, it is unlawful for any contractor receiving operating-differential subsidy, or any holding company, subsidiary, affiliate or associate of such contractor, directly or indirectly to own, charter, act as agent or broker for, or operate any foreign-flag vessel which competes with an essential American-flag service. This prohibition also applies to any officers, directors, agents or executives thereof.

Artist's conception of a 35,000 dwt. tanker being constructed for Sea Service Tankers, Inc., by Todd Shipyards Corp.'s Los Angeles, Calif., Division.

The Merchant Marine Act of 1970 amended this Section to permit steamship operators who did not hold ODS contracts on April 15, 1970, but who later became contractors, to continue certain specified foreign-flag activities with respect to the carriage of dry or liquid cargoes in bulk, provided that the operators filed with the Secretary of Commerce full and complete statements of such activities within 90 days of enactment of the 1970 Law. A total of 24 companies filed statements of foreign-flag activities with the Secretary.

Two operators, Waterman Steamship Corp. and American Steamship Co. have made use of these "grandfather clause" waivers in connection with their ODS contracts. Waterman filed a statement of the foreign-flag operations of United States Freight Company (which owns 50 percent of the stock of Waterman's parent company) and a waiver was granted for three small liquefied petroleum gas tankers owned and/or operated by subsidiaries of U. S. Freight. American Steamship Co. was granted a waiver for three foreign-flag dry bulk carriers owned by Leadale Shipping Ltd., 50 percent of the stock of which is owned by American Steamship.

• TRADE ROUTES

Reviews of several trade routes and bulk cargo trades (liquid and dry) were made in connection with applications for operating-differential subsidy, mortgage insurance, and construction-differential subsidy on new ships or the conversion of old ones.

The following services were found to be essential to the foreign commerce of the United States:

1. Combination cargo-passenger service between U. S. Pacific Coast ports (Washington to California, inclusive) and ports in the Caribbean, East Coast of South America, West Coasts of South America, Central America and Mexico.
2. Dry bulk service between U. S. ports on specified Great Lakes and connecting rivers and Canadian ports on specified Great Lakes and connecting rivers and on the St. Lawrence River and Gulf of St. Lawrence.
3. Worldwide liquid bulk services in the foreign oceanborne commerce of the United States.

• CONSTRUCTION-DIFFERENTIAL SUBSIDY

At the end of fiscal year 1972 there were

TABLE 7. APPLICATIONS FOR CONSTRUCTION-DIFFERENTIAL SUBSIDY PENDING ON JUNE 30, 1972

Shipowner and/or Operator	No. of Ships	General Ship Type	Carrying Capacity
El Paso National Gas Co.	6	LNG Carriers	125,000 M^3
Moore-McCormack Lines, Inc.	2	Oil/Bulk/Ore Carriers	80,000 DWT
Penn Navigation Co.	2	Oil/Bulk/Ore Carriers	160,000 DWT
Transportation Techniques, Inc.	3	LNG Carriers	120,000 M^3

48 ships under construction or on order with construction-differential subsidy (CDS) aid. This figure is comprised of 12 LASH (lighter-aboard-ship) vessels, 13 containerships, two "SEABEE" carriers, three roll on/roll off ships, 16 tankers, and two ore-bulk-oil carriers. Twenty-one of the 48 vessels were contracted for during fiscal year 1972 at a total cost of $772,123,638 of which the government's share is $333,774,230, including the cost of National Defense Features (NDF). The sixteen tankers are the first carriers of this type to be built with construction-differential subsidy funds.

Under the trade-in and build program two companies (both subsidiaries of Seatrain Lines, Inc.) traded in a total of nine vessels with an aggregate net trade-in allowance of $17,310,566 to be applied against the applicants' construction costs of two 225,000-dwt tankers.

As of June 30, 1972, 12 vessels were undergoing conversion to full or partial containerships for subsidized operators. Contracts for five of these conversions were awarded during fiscal year 1972 at a total cost of $23,421,599 of which the government subsidy is $9,934,856 including NDF (See Table 1).

During the year the first new "SEABEE" barge carrier was delivered to Lykes Bros. Steamship Co., Inc., and five new LASH type vessels were turned over to Pacific Far East Line, Inc., by their builder.

Pending at the end of the fiscal year were four applications for construction subsidy for nine liquefied natural gas (LNG) carriers and four combination ore-bulk-oil carriers (See Table 7).

• CAPITAL CONSTRUCTION FUND

The new program to rejuvenate the American Merchant Marine extends tax-deferral privileges under Capital Construction Fund agreements, established in accordance with Section 607 of the Merchant Marine Act, 1936, as amended, to any U. S. citizen owning or leasing one or more eligible vessels operated in the foreign or domestic commerce of the United States or in the fisheries of the United States.

The Capital Construction Fund Program is designed to aid ship operators in accumulating capital necessary for the construction or reconstruction of vessels for operation in the United States foreign, Great Lakes, or noncontiguous domestic trades and in the fisheries.

Ninety-one Capital Construction Fund agreements had been executed with eligible shipping companies as of the end of the fiscal year. The accumulation of assets for approved new ship construction, acquisition, or conversion will aggregate over $800 million.

• RESERVE FUNDS

On June 30, 1972, balances in the construction reserve funds of five operators totaled $1,106,986, compared with $2,077,025 in five funds at the beginning of the fiscal year —a decrease of $970,039. One fund was established during fiscal year 1972, and two were closed (See Appendix VIII).

At the year's end, statutory reserve funds of subsidized operators totaled $56,019,018 consisting of $47,272,163 in capital and $8,746,855 in special reserve funds, as compared with $120,626,276 at the beginning of the fiscal year—a decrease of $64,607,258 (See Appendix IX).

In addition to the mandatory deposits in special and capital reserve funds, one subsidized operator was authorized to make voluntary deposits aggregating $2,300,000.

• Federal Ship Mortgage Insurance

During fiscal year 1972, applications under Title XI of the 1936 Act, as amended, were approved for federal ship mortgage and/or loan insurance totaling $647,338,750. These covered 158 vessels and 1,171 lighters, as well as second mortgages on three American President Lines vessels and one American Mail Line ship already having Title XI first mortgages (See Table 8). In addition, mortgage insurance contracts aggregating $133,972,000 were placed on 88 vessels and 29 lighters based on commitments made in earlier fiscal years (See Table 9).

At the year's end, Title XI applications approved and contracts in force covered a total of 434 vessels and 1,721 lighters for a total outstanding balance of principal and interest of $1,709,371,878 (See Chart II).

At the same time, pending applications for loan and/or mortgage insurance encompassed construction or reconstruction of seven freighters, 17 tankers, 76 tugs, barges or miscellaneous types, and 415 lighters and barges to be carried onboard ship, at a total estimated cost to the applicants of $1,360,516,189 of which $1,031,267,271 is the estimated amount to be covered by Title XI insurance (See Chart II).

During the year, the Title XI mortgages on two vessels were terminated by their owners: the SS MARYLAND TRADER by American Trading & Production Corp. and the SS ATLANTIC by American Export Lines, Inc.

The Federal Ship Mortgage Insurance Fund received $7,804,070 in net income during the year, making the retained income of the Fund $38,146,704.

Many Title XI mortgage insurance applications were received from the oil exploration industry which had not previously participated in this program. The ship types covered by these applications were mobile offshore drilling rigs, oceangoing tug-supply vessels, workover units and pipe burying barges. By year's end 15 vessels of these types had been approved for mortgage insurance.

TABLE 8. MORTGAGE INSURANCE APPLICATIONS APPROVED IN FY 72

No. of Ships	Name or Type	Company	Date	Amount
3	PRESIDENT POLK *	American President Lines	8/18/71	$ 9,546,000
	PRESIDENT MONROE *			
	PRESIDENT HARRISON *			
1	Tug SATOCA	Sabine Towing & Trans. Co.	9/2/72	1,500,000
1	PUERTO RICAN (Tanker)	Bankers Trust Co. (PPG)	9/3/71	20,650,000
5	DELTA ARGENTINA	Delta Steamship Lines (1107 Morts.)	9/30/71	17,000,000
	DELTA BRASIL	"	"	
	DELTA MEXICO	"	"	
	DELTA PARAGUAY	"	"	
	DELTA URUGUAY	"	"	
5	LIGHTNING	American Export Lines	11/9/71	4,585,000
	STAGHOUND	"	"	4,600,000
	EXPORT FREEDOM	"	"	6,550,000
	EXPORT LEADER	"	"	7,050,000
	EXPORT PATRIOT	"	"	7,550,000
1	CYCLONE	Storm Drilling Co.	11/17/71	7,200,000
1	Bulk carrier (Gr. Lakes)	Franklin Steamship Co.	12/1/71	12,730,000
1	WESTERN PACESETTER I	Western Company of North America	12/9/71	14,655,000
1	Bulk carrier (Gr. Lakes)	Edison Steamship Co.	12/17/71	12,565,000
2	Chemical Tanker	Astro Marine, Inc.	1/4/72	1,925,000

TABLE 8. MORTGAGE INSURANCE APPLICATIONS APPROVED IN FY 72 (continued)

No. of Ships	Name or Type	Company	Date	Amount
5	BRINTON LYKES	Lykes Bros. Steamship Co.	1/25/72	2,380,000
	SHELDON LYKES	"	"	2,385,000
	SHIRLEY LYKES	"	"	2,395,000
	MARJORIE LYKES	"	"	2,415,000
	LOUISE LYKES	"	"	3,425,000
2	Tug & Barge	Inter-Cities Nav.	1/26/72	4,544,000
1	OREGON MAIL *	American Mail Line	2/1/72	4,350,000
1	COLORADO (Jumbo. Tanker)	Sabine Towing & Trans. Co.	2/10/72	5,400,000
1	SANTA FE MARINER 2	Caspary-Wendell, Inc.	3/9/72	6,675,000
5	Towboat & Barges	National Marine Services, Inc.	3/14/72	1,400,000
25	Open hopper barges	Wisconsin Barge Lines	3/14/72	2,260,000
70	River Barges	M/G Transport, Inc.	3/15/72	5,355,000
2	Tug/Supply Ships	Gulf Overseas Marine Corp.	3/15/72	700,000
		"	6/16/72	731,000
2	LASH Ships	Central Gulf Lines, Inc.	3/20/72	23,969,000
2	GENEVIEVE LYKES	Lykes Bros. Steamship Co.	3/30/72	3,715,000
	LETICIA LYKES	"	"	3,425,000
4	Drilling Barges	Sedco, Inc.	4/17/72	74,408,250
1	C7 Containership	Pacific Far East Line	5/26/72	11,220,000
2	Oceangoing Tugs	Nolty J. Theriot, Inc.	6/13/72	3,280,000
1	Tug/Supply Ship	Nordic Austin, Inc.	6/27/72	1,242,500
1	Tug/Barge Unit	Seabulk Tankers, Ltd.	6/28/72	10,568,000
1	WESTERN PACESETTER II	Western Company of North America	6/30/72	15,202,000
1	Tanker	Polk Tanker Corp.	6/30/72	30,142,000
1	Tanker	Tyler Tanker Corp.	6/30/72	30,142,000
4	Tankers	Sea Service Tankers, Inc.	6/30/72	36,824,000
3	RO/RO Ships	States Steamship Co.	6/30/72	53,082,000
3	Tankers	Aeron Shipping Co.	6/30/72	39,051,000
3	Tankers	MFC-Boston Tankers	6/30/72	99,786,000
158 + 4	*4 Second Mortgages*			*$608,577,750*
162				
300	LASH Barges	Pacific Far East Line	7/16/71	9,000,000
440	LASH Barges	Central Gulf SS	3/30/72	13,728,000
165	LASH Barges	Medbarge, Inc.	6/29/72	5,208,000
66	LASH Barges	Pacific Far East Line	5/16/72	2,425,000
200	LASH Barges (Fiberglass)	Pacific Far East Line	6/14/72	8,400,000
1,171				38,761,000
1,333				**$647,338,750**

* Second mortgages

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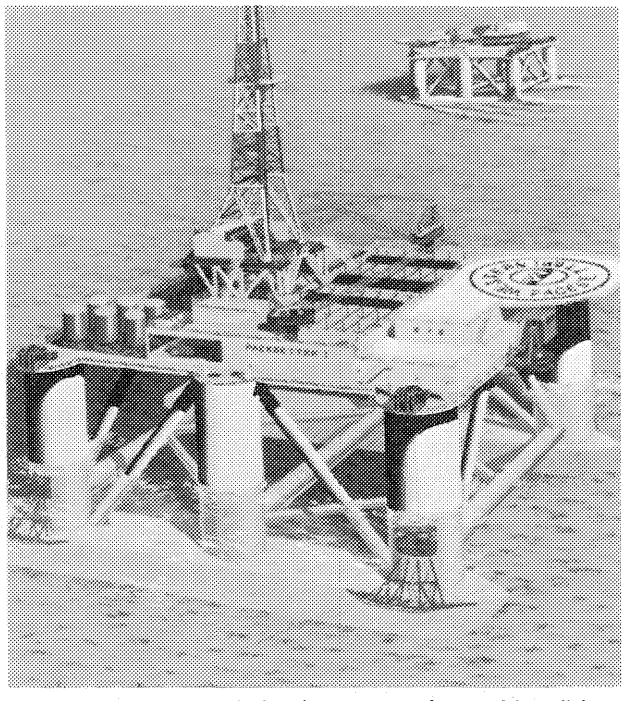
The FALCON DUCHESS is one of the tankers recently built with the aid of Title XI mortgage and loan insurance.

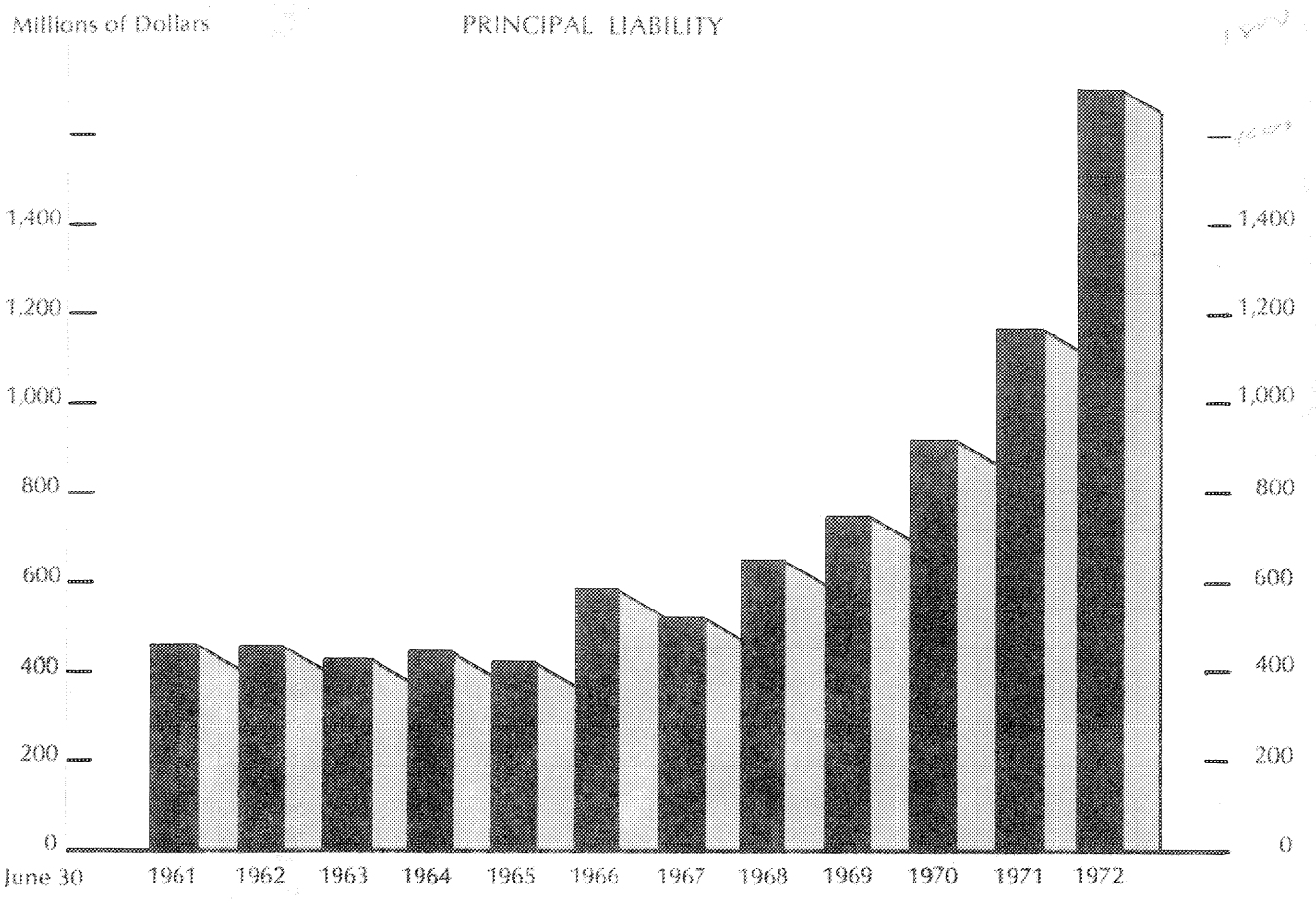


Artist's conception of the first semi-submersible offshore drilling vessel to be approved for federal ship mortgage insurance participation.

TABLE 9. MORTGAGES EXECUTED—COMMITTED IN PREVIOUS FISCAL YEARS

Name of Ship	Owner	Amount	Date
FALCON DUCHESS	Falcon Tankers, Inc.	$ 9,338,000	8/ 4/71
FALCON COUNTESS	Falcon Tankers, Inc.	9,338,000	1/13/72
FALCON PRINCESS	Falcon Tankers, Inc.	9,338,000	5/ 4/72
MARTHA R. INGRAM	Ingram Ocean Systems, Inc.	3,076,000	7/ 1/71
THOMAS E. CUFFE	Pacific Far East Line	8,500,000	7/16/71
GOLDEN BEAR	Pacific Far East Line	8,500,000	9/20/71
PACIFIC BEAR	Pacific Far East Line	8,500,000	11/30/71
JAPAN BEAR	Pacific Far East Line	8,500,000	3/ 3/72
CHINA BEAR	Pacific Far East Line	8,500,000	5/26/72
ERIC K. HOLZER	650 Leasing Company	18,000,000	1/13/72
SOHIO RESOLUTE	653 Leasing Company	17,800,000	9/30/71
ELEANOR GORDON	Mid-South Towing Co.	1,739,000	3/30/72
Barges—71	Mid-South Towing Co.	4,691,000	6/27/72
PRESIDENT VAN BUREN	American President Lines	3,080,000	2/23/72
PRESIDENT GRANT	American President Lines	3,080,000	4/18/72
CAROLE G. INGRAM	Ingram Ocean Systems, Inc.	3,544,000	3/22/72
Barge IOS 3302	Ingram Ocean Systems, Inc.	6,333,000	3/22/72
MYRA ECKSTEIN	Wisconsin Barge Line	1,336,000	1/ 7/72
LASH Barges (29)	Bank of America NT&SA	779,000	2/25/72
Totals	**88 ships** **29 LASH Lighters**	**$133,972,000**	

CHART II. FEDERAL SHIP MORTGAGE AND LOAN INSURANCE PROGRAM (TITLE XI)



DATE	61	62	63	64	65	66	67	68	69	70	71	72
Total Applications Approved & Contracts in Force (Thousands of $)	464,119	458,847	431,169	454,467	421,584	485,184	526,096	651,552	751,555	919,418	1,166,803	1,709,372
Principal	461,723	455,809	427,895	451,015	418,638	481,777	558,094	654,548	754,679	911,591	1,154,156	1,692,452
Interest	2,896	3,038	3,274	3,452	2,946	3,407	4,002	6,004	5,876	7,827	12,647	16,920
Vessels	64	67	70	82	79	98	113	129	144	171	279	434
Lighters									360	360	520	1,721

Current Status 6/30/72 Vessel Types	In Force		Pending	
Freighters	161	773,168,972	7	84,130,000
Cargo/Pass.	8	33,245,765	—	—
Tankers	53	591,545,220	17	556,758,750
Misc.	212	240,050,105	76	376,790,521
Total ships	434	1,638,010,062	100	1,017,679,271
Lighters	1,721	54,442,000	415	13,588,000

— VESSELS COVERED SINCE INCEPTION —	
Freighters	164
Pass./Cargo	15
Tankers	65
Misc.	223
	467
Lighters	1,721

At 80,000 tons, this tanker was the largest vessel delivered by an American shipyard during fiscal year 1972. Financing of the construction was aided by Title XI mortgage and loan insurance.

• TITLE XII INSURANCE

During the fiscal year, the Maritime Administration continued to administer war risk and certain marine and liability insurance programs authorized by Title XII of the Merchant Marine Act, 1936, as amended.

As of June 30, 1972, outstanding war risk insurance binders, covering shipowners from the time commercial war risk insurance terminates until 30 days after the outbreak of war involving the major powers, included 1,103 for war risk hull insurance; 1,041 for war risk protection and indemnity insurance; and 811 for war risk insurance of crew lives and personal effects. From the inception of the binder program in 1952 to June 30, 1972, binder fees totaled $1,072,988 and expenses totaled $831,608, of which $397,739 was paid as fees and expenses to the underwriting agent appointed by Maritime to process the binders.

War risk builder's risk insurance for the prelaunching construction period was written on 159 ships from the inception of the program in 1953 through June 30, 1972. Premiums totaled $3,301,036. From October 1962 through June 30, 1972, 52 policies were issued for war risk builder's risk insurance for post-launching construction period, each with a service fee of $75, and each subject to attachment and premium assessment upon the automatic termination of commercial insurance resulting from outbreak of hostilities.

A standby war risk cargo insurance program was continued, which becomes effective when the Assistant Secretary of Commerce for Maritime Affairs finds that insurance adequate for the needs of U. S. waterborne commerce cannot be obtained on reasonable terms and conditions from private insurers. Commercial underwriting agents are employed to write this insurance, and as of June 30, 1972, 38 were under contract.

At the request of the Navy, war risk insurance was provided without premium charge but on a reimbursable basis for losses incurred, as authorized under Section 1205, of the 1936 Act. During the fiscal year, insurance coverage in effect was as follows:

1. Second seamen's war risk insurance was provided for the crews of 13 government-owned tankers operated for the account of the Military Sealift Command (MSC).
2. Second seamen's war risk insurance was provided on one privately owned U. S.-flag vessel and its crew while under bareboat charter to MSC.
3. Second seamen's war risk insurance was provided for the crews of 120 privately owned U.S.-flag tankers and dry cargo vessels chartered to MSC. The coverage provided is limited to the "Viet Nam Combat Zone," referred to by commercial underwriters as an additional premium trading area.

Net premium savings to the Department of the Navy under the first two programs from their inception in 1954 and 1964, respectively, to June 30, 1972, was estimated at $1,265,744 after deducting claims payment of $110,740. Net premium savings to the Navy under the third program, from its inception in 1968, to June 30, 1972, was estimated at $4,698,799 after deducting claims payments of $56,401.

Under section 1208(a) of the 1936 Act, money in the war risk insurance revolving fund may be invested in securities of the United States or in securities on which the United States guarantees principal and interest. Since 1962, when the initial investment was made, interest earned totaled $1,716,557.

• OTHER INSURANCE ACTIVITIES

Maritime continued to self-insure government-owned ships and with the lay-up on November 16, 1970, of its last ship operated by general agents, the purchase of marine protection and indemnity insurance was discontinued. Settlement of outstanding claims will be concluded by the agency with commercial underwriters. By assuming the war risk hull and second seamen's war risk insurance, it is estimated that MarAd has saved $6,600,000 for the Military Sealift Command during the Viet Nam buildup from July 1965, through the end of fiscal year 1972.

Marine and war risk insurance claims assumed by the government and not recoverable from commercial insurance are shown in Table 10.

On September 22, 1972, the requirement for mortgagee insurance, which provides coverage when marine policies are invalidated, was cancelled. Previously, unsubsidized shipowners with vessel mortgages insured under Title XI were required to carry this type of insurance. During the 10-year life of this policy, operators paid approximately $2.5 million in premiums without a loss reported.

The Maritime Administration determines whether the insurance placed in commercial markets by mortgagors of ships on which the government holds or insures mortgages, by charterers of government-owned ships, and by subsidized vessel operators, complies with contract requirements. Table 11 shows the insurance amounts approved during fiscal year 1972.

TABLE 10. MARINE AND WAR RISK INSURANCE CLAIMS FISCAL YEAR 1972

Kind of Insurance	Claims Reported	Number of claims settled [1]	Amount Settled
Marine protection and indemnity against the Government [2]	376	638	$485,000
Marine Hull:			
Against the Government	0	1	6,936

[1] Settlements include claims reported in prior years.
[2] Approximate.

TABLE 11. MARINE AND WAR RISK INSURANCE APPROVED FISCAL YEAR 1972

Kind of Insurance	Total Amount	Percentage	
		American	Foreign
Marine Hull	$2,572,770,000	63	37
Marine Protection and Indemnity	2,427,990,000	39	61
War Risk Hull	2,521,820,000	13	87
War Risk Protection and Indemnity	2,521,820,000	13	87

• COMMERCIAL CARGO PROMOTION

Increasing the participation of U. S.-flag ships in the carriage of America's foreign commerce was the prime objective of the Office of Market Development in fiscal year 1972.

The agency's marketing representatives located in seven major cities (See Chart III) visited major exporters and importers throughout the country to explain the need for their patronage of U. S.-flag vessels and the benefits to the U. S. economy and defense posture that would result. The response was generally one of concerned interest and support. This contact with shippers in some instances provided the opportunity for the agency to discover problems interfering with shipper support of American-flag carriers and to seek appropriate solutions.

The Maritime Administration continued to provide U. S.-flag operators with statistical data, developed in conjunction with the Department of Commerce's Bureau of the Census, showing cargo movements over their trade routes by commodity, tonnage, and value and noting trends in U. S. and foreign-flag participation. During fiscal year 1972 special studies were initiated to produce detailed cargo data on port-to-port movements of specific commodities, enabling the carriers to direct special marketing efforts efficiently and effectively. Using this marketing tool, innovative promotion programs were directed at shippers within certain cargo groupings, as well as shippers within desired trade groupings.

To aid in generating more cargo for American ships, close liaison with U. S.-flag carrier organizations was maintained to assure maximum exchange of data and timely, cooperative planning of marketing strategy. During the year, the agency's marketing representatives provided in-house presentations to carrier sales and marketing groups to broaden both their understanding of and contributions to the program.

Promotional publications were developed, including a quarterly newsletter addressed to exporters and importers and designed to heighten their awareness of the nation's maritime program, while informing them of the advancing technological capabilities of U. S.-flag ships.

Special emphasis was placed on familiarizing exporters with the Domestic International Sales Corporation (DISC) regulations, which extend tax-deferral benefits on freight charges paid to U. S.-flag carriers.

In support of the agency's market development program, the Secretary of Commerce sent letters to 1,800 major importers urging their support of American-flag shipping and requesting comments and suggestions for stimulating the growth of the American Merchant Marine. The responses focused on current importer practices regarding choice of ocean carrier and control over routing, as well as attitudes towards U. S.-flag shipping lines. The analysis of this information permitted agency efforts to be directed towards broader contact with our nation's importers, and increased carrier attention to their distribution problems.

At the end of the fiscal year the Office of Market Development also initiated a program to extend its market development activities overseas. Beginning in fiscal year 1973, Maritime Administration Foreign Maritime Representatives, located in major shipping centers throughout the world, will contact overseas subsidiaries and affiliates of major U. S. corporations to encourage their use of U. S.-flag ships.

• CARGO PREFERENCE ACTIVITIES

Under MarAd's strengthened role in the administration of the cargo preference program as provided in the Merchant Marine Act of 1970, a Cargo Preference Control Center was established to monitor the activities of all government shipper agencies and to determine that the Cargo Preference Act is being adhered to both as to tonnage and revenue moving on U. S.-flag vessels.

During the year, a plan was developed for a computer-aided system for processing the ocean bills of lading which shipper agencies are now required to furnish to the Maritime Administration. A contract for the implementation of this plan has been

CHART III.

REGION AND AREA MARKET DEVELOPMENT OFFICES
MARITIME ADMINISTRATION

awarded, and a flow of machine data to the Cargo Preference Control Center will commence in the first half of fiscal year 1973 as a basis for the monitoring function.

During fiscal year 1972 the agency issued two regulations dealing with the administration of cargo preference. One rule, effective on November 1, 1971, requires that the 50-percent share of full shiploads of preference cargoes under P. L. 664 reserved for U. S.-flag vessels be fixed prior to any fixtures of foreign-flag vessels. The other new regulation effective on March 1, 1972, established an informal grievance procedure to expeditiously resolve problems between carriers and shipper agencies relating to the administration of cargo preference. Additional rules on cargo preference administration will be proposed and issued as necessary to remedy genuine inequities to U. S.-flag operators in the carriage of preference cargoes.

During the year there were no new discriminatory actions taken by foreign governments against U. S.-flag shipping which resulted in withholding of waivers. A major accomplishment was the agreement between the Maritime Administration and the Superintendency of the Merchant Marine of Brazil to give equal access to the ships of both nations in the carriage of all government-controlled cargoes. This should bring a stability and prosperity to this trade route which has been greatly needed.

A recapitulation of U. S.-flag participation in preference—cargoes carried in calendar year 1971 appears in Table 12.

• PUBLIC RESOLUTION 17

The Maritime Administration has the responsibility for administering Public Resolution 17 which controls all cargoes generated under Export-Import Bank loans. These cargoes are reserved for U. S.-flag vessels unless waived by the Maritime Administration. A review, the first since 1956, of policies and procedures to carry out this authority was completed during the fiscal year. This review found that the policies of the Maritime Administration were designed to give the maximum benefit to U. S.-flag ships and at the same time encourage American exports. The rapid and continuing growth of the Export-Import Bank's role in financing this country's exports is expected to benefit the American merchant fleet proportionately.

A tabulation of the total freight revenues earned on tonnage carried by U. S.-flag vessels in calendar year 1971 resulting from government-sponsored cargoes (other than military cargoes) in shown in Table 12.

TABLE 12. U. S. FLAG CARRIAGE OF GOVERNMENT SPONSORED CARGOES IN CALENDAR YEAR 1971

Program	Total Tonnage or Freight Revenue	U. S. Flag	Percent U. S.
Public Law 480	6,709,000 tons	3,390,000 tons	50.5%
A.I.D.	4,766,000 tons	2,357,000 tons	49.5%
Export-Import Bank	$64,881,257	$46,500,390	71.7%
Inter-American Development Bank	8,243 tons	3,834 tons	46.5%

• GUIDELINE RATES

The agency continued to monitor the U. S.-flag tramp shipping program of shipper agencies and to calculate and furnish these agencies upon request with determinations of fair and reasonable charter rates for U. S.-flag vessels offered for the carriage of preference cargoes.

• NATIONAL MARITIME COUNCIL

Established in June 1971, the National Maritime Council conducted a broad, aggressive program which brought the unified strength of maritime management and labor to bear on generating more cargoes for American ships. The Council consists of the leaders of maritime labor unions, U. S.-flag steamship companies and shipbuilders.

On the basis of cargo-flow data provided by the Office of Market Development, the Council identifies market areas of common interest to American carriers, in liner, bulk, and neobulk services. The Council seeks means of improving U. S.-flag participation in these markets.

In its program to gain the confidence and support of importers and exporters, thus assuring their use of U. S.-flag vessels, the Council has brought representatives of labor, industry and government together with the management of export and import organizations at a series of dinners and seminars throughout the country. In addition to acquainting shippers with the advantages of using American ships and displaying the industry's new unity of purpose, these meetings have stimulated requests for MarAd marketing presentations by exporters and importers.

The influence of the Council's industry unity concept was reflected by the no-strike pledge taken by the seagoing labor unions prior to negotiations on renewal of contracts which terminated on June 15, 1972.

Maritime Manpower

• TRAINING

During the fiscal year, 1,250 seamen participated in the Maritime Administration's radar, gyrocompass and loran training programs. Additionally, a total of 968 men completed the fire-fighting and damage-control courses conducted jointly by MarAd and the Military Sealift Command.

The industry's training facilities sponsored by labor and management continued to de-emphasize training directed exclusively at preparing men for original officers' licenses because of the general over-supply of men in the active work force. A total of 207 men obtained their original deck or engineering officer's license, while 738 licensed ships' officers completed training for upgrading of licenses through industry educational facilities or self-study.

A total of 168 third mates and 189 third assistant engineers were graduated from the six state maritime academies located at Vallejo, Calif.; Castine, Me.; Buzzard's Bay, Mass.; Traverse City, Mich.; Fort Schuyler, N. Y.; and Galveston, Tex. All who qualified received commissions as ensigns in the U. S. Naval Reserve.

The six state schools maintained an average of 1,637 cadets enrolled during the year, most of whom received a government allowance of $600 toward the cost of uniforms, textbooks and subsistence. Each of the state maritime schools received an annual federal assistance payment of $75,000 for its maintenance and support.

• LABOR DATA

Seafaring employment declined approximately 19.9 percent as compared with the 1971 fiscal year normal monthly average of 33,790 (See Table 13). Affecting the reduced seafaring employment were the two longshore contract disputes which caused a total of 3,002 and 3,588 ship-days of idleness on the Pacific and the Atlantic/Gulf Coasts, respectively. Additionally, the active oceangoing U. S.-flag merchant fleet experienced a net decline of 60 ships during the fiscal year. The total work force in selected commercial shipyards increased by 7.1 percent. Average longshore employment declined by 11.5 percent because of a 135-day work stoppage at Pacific Coast ports and a similar stoppage of 57 days at Atlantic and Gulf Coast ports.

• LABOR-MANAGEMENT RELATIONS

Fiscal year 1972 began with the expiration

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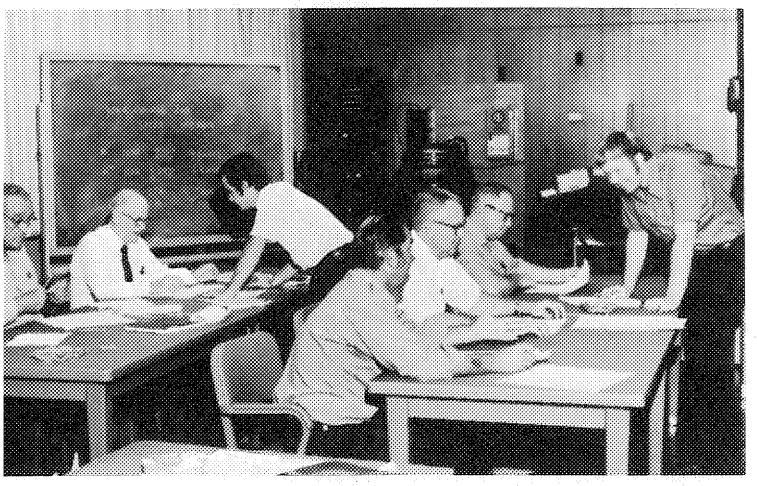


TABLE 13. MARITIME MANPOWER DAILY AVERAGE EMPLOYMENT

Type	Normal Daily Average 1971	1972
SEAFARING:		
Shipboard Jobs	33,790	27,075
SHIPYARDS:[1]		
Production Workers	59,485	63,561
Management and Clerical Staffs	14,726	15,954
TOTAL Shipyard Work Force	74,211	79,515
LONGSHOREMEN	65,530	57,971

[1] Commercial yards able to construct ships 475 by 68 feet.

of the five-year longshore contract on the West Coast that ushered in a 135-day strike affecting all California, Oregon, and Washington ports. The restraints provided by the Labor-Management Relations (Taft-Hartley) Act were invoked by the President after the strike continued for 100 days without signs of settlement. The 80-day "cooling-off" period was voluntarily extended by the parties for an additional 20 days after which the strike resumed for another 35 days. A 57-day strike began on October 1 when longshore contracts expired at all Atlantic and Gulf ports. This strike action was also ended by a Taft-Hartley injunction. A tentative labor-management accord was reached before the 80-day injunction period expired.

Expiration of shipyard contracts led to work stoppages at Todd Shipyard Corp. facilities around the country idling one yard at New Orleans, La., for five days, and the San Pedro, Calif., facility for 41 days before agreements were reached. The eruption of a wildcat strike at the Litton Ship Systems shipbuilding complex, at Pascagoula, Miss., continued for 39 days before the parties agreed to nullify their existing contract and to negotiate a new agreement revising craft jurisdiction and seniority provisions.

Seafaring labor-management agreements were marred by only one jurisdictional dispute as two unions seeking representation rights over deck officers idled a fledgling Puerto Rican container service for a period of 45 days. All major seafaring labor contracts expired in mid-June, shortly before the new fiscal year. Several labor-management groups successfully completed tentative agreements well before prevailing contracts expired. Other industry groups continued productive negotiations, ushering in the new fiscal year without a seamen's strike.

Seafaring labor-management, negotiations were given added impetus through the availability of the Maritime Contract Impact System (MCIS) developed by MarAd's Office of Maritime Manpower. The system provided immediate evaluation of proposed contract improvements or modifications, thus assisting management and labor negotiators in their deliberations.

• MERCHANT MARINE AWARDS

The Merchant Marine Medals Act of 1956 authorizes the Secretary of Commerce to grant medals and service ribbons, under certain conditions, to seamen for meritorious actions or participation in national defense efforts. During fiscal year 1972, the Vietnam Service Ribbon was authorized for 210 seamen.

The Maritime Administration acts as the Secretariat of the American Merchant Marine Seamanship Trophy Committee. Comprised of Maritime Administration, U. S. Coast Guard, and industry, labor and management officials, the Committee determines the recipient of this award. Captain Carl H. Holmes, former Master of the States Steamship Co. freighter SS MONTANA, was awarded the 1972 Seamanship Trophy on June 8, 1972, for distinguished seamanship displayed during the rescue of 19 survivors from the stricken Danish freighter HEERING KIRSE on December 9, 1971.

U.S. Merchant Marine Academy

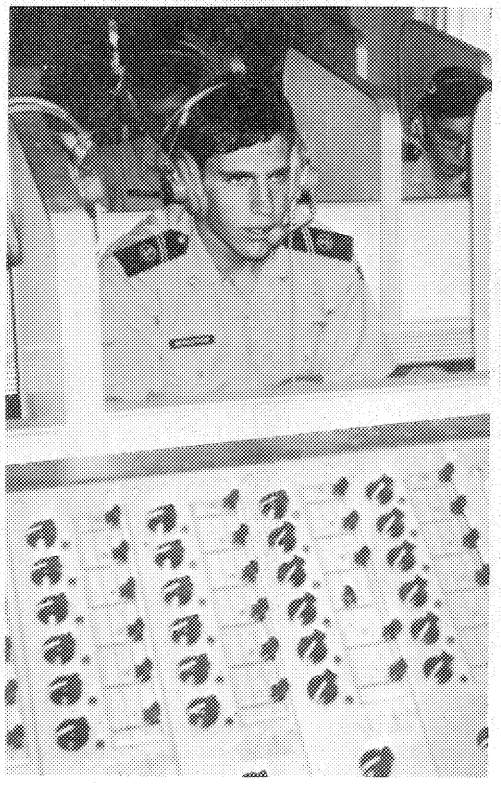
The United States Merchant Marine Cadet Corps was established on March 15, 1938, following passage of the Merchant Marine Act of 1936. Training was first given aboard merchant ships and later at temporary shore establishments pending the acquisition of permanent facilities. The Walter P. Chrysler estate at Kings Point, N. Y., was selected as the permanent site for the Academy in March 1942, and construction was begun the following May. The task was completed and the United States Merchant Marine Academy was dedicated on September 30, 1943.

The Academy offers courses not only in marine sciences, but also in the areas of oceanography, computer science, nuclear engineering, naval architecture, mathematics, chemistry, social sciences, the humanities, business administration and transportation. In addition to classroom training, midshipmen also spend a year at sea on American-flag vessels.

A total of 105 third mates, 91 third assistant engineers and 10 dual-licensed deck/engine third officers were graduated from the U. S. Merchant Marine Academy in 1972. The 10 graduates with dual training constituted the fourth class to complete this curriculum. In addition to their licenses all graduates received a Bachelor of Science degree and, if qualified, a commission as ensign in the U. S. Naval Reserve. During the year the Academy maintained an average enrollment of 911 students.

The Academy has continued a positive action plan for recruitment of minority students. The Classes of 1975 and 1976 included 10 and 17 minority students, respectively.

The Academy modernization program continued during fiscal year 1972 with the completion of the renovation and upgrading of the cadet dining room, cadet canteen, Land Hall and the cadet barracks. Progress was also made on the continuing program to upgrade the waterfront at the Academy.



Secretary of Commerce Peter G. Peterson and Soviet Minister of the Merchant Marine Timofey B. Gouzhenko congratulate each other after signing the historic U.S.-U.S.S.R. maritime agreement which was negotiated during fiscal year 1972.

INTERNATIONAL ACTIVITIES

In its efforts to revitalize the American Merchant Marine, the Maritime Administration recognizes the importance of exerting a strong influence in all international activities which have a bearing on the well-being of the U. S. fleet. In this connection, the Office of International Activities serves as the coordinating body in identifying all international activities of interest to the agency and industry. To accomplish this the Office keeps abreast of relevant developments and problem areas, formulates agency positions on international shipping questions, and insures effective presentation of these positions in appropriate forums.

Fiscal year 1972 witnessed the beginning of U. S.-U. S. S. R. negotiations on a wide range of topics, including shipping. The Assistant Secretary of Commerce for Maritime Affairs participated in these talks and headed the United States delegation in the discussion of shipping matters.

During fiscal year 1972 the Maritime Administration participated in the following international conferences:

The Deputy Assistant Secretary for Maritime Affairs chaired the 24th plenary meeting of the NATO Planning Board for Ocean Shipping (PBOS) in Washington, D. C., May 9-11, 1972. During the year, the Maritime Administration represented the United States on PBOS working groups convened to deal with plans for organization and operation of the NATO wartime shipping agency; the control and coordination of containership operations and containers under wartime conditions, and plans for the establishment and administration of a NATO ship warrants system.

The 57th Session of the International Labor Organization (ILO) held in Geneva, Switzerland, June 12-23, 1972, was attended by a Maritime Administration representative. One of the most important items on the agenda was the social repercussions of new methods of cargo handling. A Maritime Administration representative also attended the ILO Council meeting in Geneva, June 7-29, 1972.

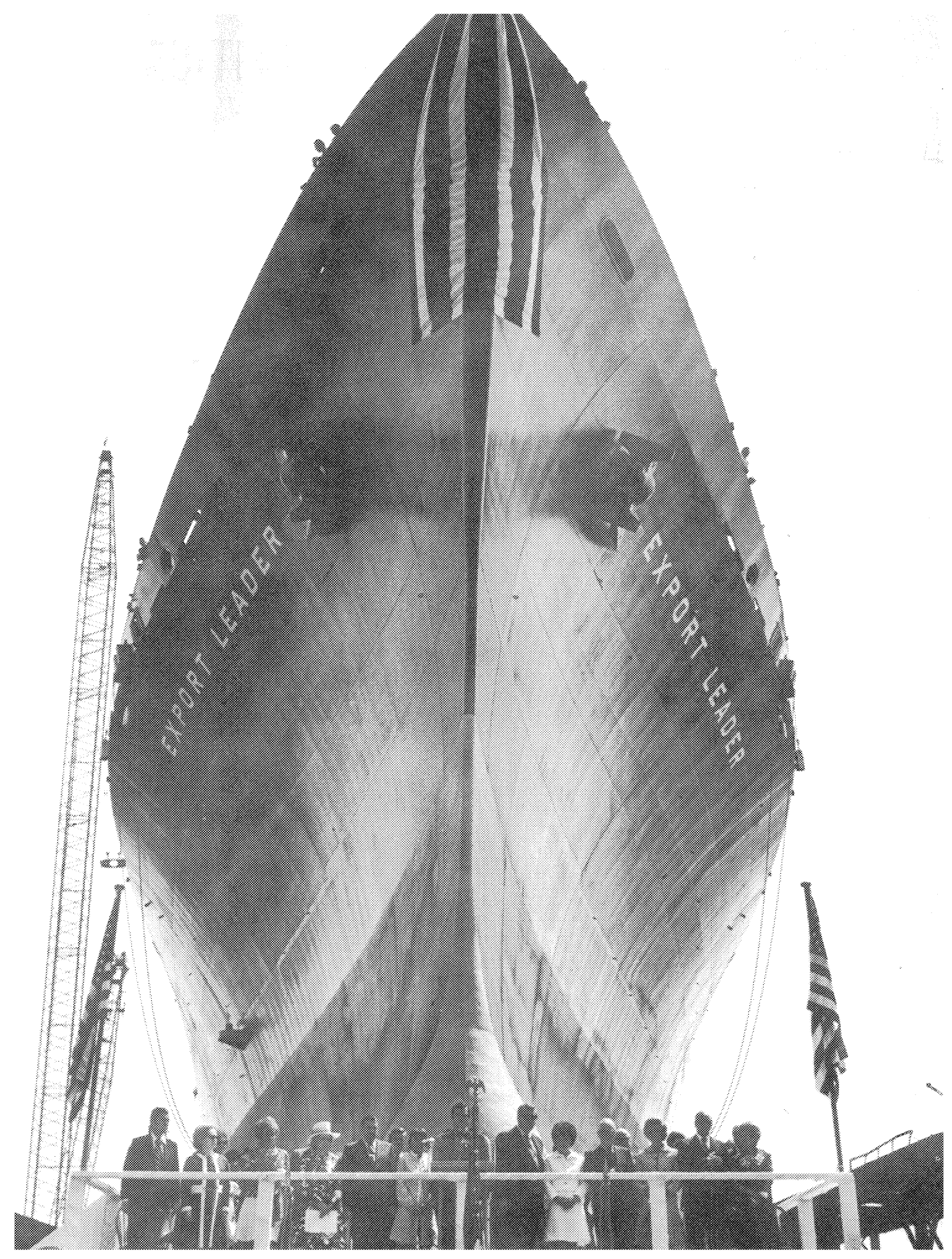
The Maritime Administration participated in the Intergovernmental Maritime Consultative Organization (IMCO) Conference on Establishment of an International Compensation Fund for Oil Pollution Damage which was held in Brussels, December 2-17, 1971.

A representative of the agency attended the Third Session of the United Nations Conference on Trade and Development (UNCTAD) held in Santiago, Chile, April 22-May 5, 1972. Topics of importance to the U. S. merchant marine considered at this session included a code of conduct for liner conferences, freight rates, port development, insurance, the development of national-flag merchant fleets and intermodal transport of goods across national boundaries.

The Maritime Administration took interest and participated in many IMCO meetings throughout the year. Some of the topics discussed were: the carriage of dangerous goods, marine pollution, safety, ship design and equipment, marine satellite communications, containers and cargoes, standards of training and watchkeeping, and various legal topics.

MarAd representatives also attended the Intergovernmental Maritime Consultative Organization/Organization for Economic Cooperation and Development (OECD) meeting of Legal Experts on the Draft Convention on International Combined Transport of Goods (TCM Convention) and the IMCO/OECD Conference on Maritime Carriage of Nuclear Substances.

The agency also participated regularly in the OECD Maritime Transport Committee meetings.


FLIGHT LEADER
EXPORT LEADER

MARITIME SUBSIDY BOARD

The Maritime Subsidy Board, by delegation from the Secretary of Commerce, exercises the authority vested in him to award, amend and terminate subsidy contracts for the operation and construction of vessels. The Board's functions are implemented through fact-finding investigations, compilation of domestic and foreign trade statistics and cost data, and public hearings. Decisions, opinions, orders, rulings and reports of the Maritime Subsidy Board are final unless the Secretary of Commerce on his own motion or pursuant to a petition filed by an interested party undertakes review of its action. Final actions by the Secretary may be appealed to the Federal Courts.

The Assistant Secretary for Maritime Affairs, as *ex officio* Maritime Administrator, is Chairman of the three-member Maritime Subsidy Board, which includes the Deputy Assistant Secretary and the General Counsel of the Maritime Administration. The Secretary of the Maritime Administration acts as an Alternate Member, in the absence of any one of the three permanent members.

In fiscal year 1972, the Board convened 40 formal meetings in which it considered and acted on some 378 items, including the issuance of 23 formal opinions, rulings and orders. It also published 66 notices in the *Federal Register* pertaining to subsidy applications subject to required statutory hearings and the development and adoption of rules and regulations proposed by the Board toward further implementation of the Merchant Marine Act of 1970.

In accord with Section 502(b) of the Act, as amended in 1970, notices of intent to compute foreign costs were published regarding construction of vessels such as liquefied natural gas (LNG) carriers, lighter-aboard-ship (LASH) vessels, roll on/roll off (RO/RO) ships, ore/bulk/oil (OBO) carriers and tankers ranging from 30,000 to 265,000 deadweight tons.

Of the 23 formal opinions and orders served during fiscal year 1972, the most significant involved the fact-finding hearing on the issuance of rules governing the award and administration of subsidy contracts and the carriage of preference cargoes, identified as Docket No. S-244.

In an Opinion, served June 12, 1972, the Board determined that an annual subsidized service must include a substantial carriage of cargoes subject to foreign-flag competition to receive full subsidy. The Board decided that military preference cargo and open-rated civilian preference cargo carried at premium rates were not cargoes subject to foreign-flag competition. It also decided to eliminate the rate premiums for subsidized carriage of open-rated civilian preference cargo.

Based on the foregoing conclusions, the Board enunciated three principles to govern the award and payment of operating-differential subsidy (ODS): First, no ODS contract will be awarded where operations do not earn at least 50 percent of gross freight revenues from commercial, conference-rated civilian preference or open-rated civilian preference cargoes carried at "world rates"; second, ODS will be paid in full for operation only if at least 50 percent of the gross freight revenues are earned from the carriage of the above three categories of cargoes; third, where gross revenues for the carriage of such cargoes is less than 50 percent, ODS will be reduced in proportion to the decreased gross freight revenues earned from them.

Pursuant to authority under Section 204(b) of the Merchant Marine Act the Board published in the *Federal Register* for comment and further consideration, proposed rules and regulations designed to implement the principles set forth above.

HEARING EXAMINERS

It is the function of the Hearing Examiner and his staff to conduct public hearings that are necessitated by the various merchant marine and shipping statutes. Cases are assigned by the Assistant Secretary of Commerce for Maritime Affairs or the Maritime Subsidy Board. The Hearing Examiner prepares initial and recommended decisions after public hearings and maintains the official dockets of formal proceedings.

During fiscal year 1972, 33 formal proceedings were referred by the Subsidy Board to the Hearing Examiners. Of these, 16 involved contested applications for operating differential subsidy (ODS) requiring hearings under Section 605(c) of the Act; 13 involved appeals from final decisions of contracting officers on disputes between shipowners, shipyards, and MarAd; and two involved applications by subsidized carriers under Section 805(a) for permission to continue operations in domestic trades, which were opposed by domestic nonsubsidized carriers. In addition, there was one formal investigation of an alleged violation of Section 810 which prohibits agreements between subsidized carriers designed to drive nonsubsidized common carriers out of a trade.

An Examiner represented the Secretary of Commerce in one equal employment opportunity complaint brought by the General Counsel against a shipyard.

Of the MarAd proceedings, 20 were either withdrawn, settled or administratively processed, three resulted in initial or recommend decisions, and 10 were pending at the close of the fiscal year.

The proceedings initially decided by the Examiners included the following:

1. *Sapphire Steamship Lines, v. AGAFBO,* Docket No. S–243, *et al.* In this case the Board instituted a formal investigation into an alleged violation by subsidized members of the Atlantic and Gulf American Flag Berth Operators (AGAFBO) of Section 810 of the Act in agreeing to file and actually filing reduced rates on shipments of military household goods. The Chief Hearing Examiner found that Section 810 had been violated and recommended the imposition of substantial subsidy refunds from several lines.
2. *Grace Line Inc. v. Bethlehem Steel Corporation*—Cross Appeals—Late Vessel Delivery, Docket No. CA–44. This case involved cross appeals by the owner and shipyard from a decision of the Chief, Office of Ship Construction. The Examiner found that Bethlehem was responsible for 28 days of unexcused delay in delivery on the first of the three vessels, 97 days on the second vessel and 106 days on the third vessel increasing the recovery by Grace of liquidated damages to $683,000 and by MarAd $46,200.
3. *PACECO, Division of Fruehauf, v. Vivian Ann Fishing, Inc., et al.,* Cross-Appeals—Delay Claim Dispute, Docket No. CA-65. This proceeding involved a claim by PACECO for $246,750 in liquidated damages for unexcused delay in delivery of five fishing vessels in the total amount of 987 days. In his recommended decision the Chief Examiner concluded that a recovery of $26,625 for 106½ days of unexcused delay was reasonable.

These cases were under review by the Maritime Subsidy Board at the close of the fiscal year.

ADMINISTRATION

During the fiscal year, a major reorganization consolidated all administrative, budget and financial management activities of the Maritime Administration under one Assistant Administrator. Also, five new offices were established to give new emphasis to several programs (See Chart IV).

Major advances in the area of equal employment were made during the year. The number of minority employees in positions classified at GS–12 or higher was 6.2 percent and women in grades GS-12 and above rose to 4.8 percent.

Significant savings were achieved during the year by several actions designed to insure the economy, efficiency and effectiveness of the agency. The two major cost reductions were the deactivation of the NS SAVANNAH and reduced ship operating-differential subsidy payment concurrent with crew reductions.

Savings of approximately $3.4 million were achieved by the agency's decision to completely deactivate the NS SAVANNAH. Removed from commercial service in fiscal year 1971, the vessel was defueled and the operating agreement with American Export Lines, Inc. (formerly American Export Isbrandtsen Line, Inc.) was terminated in August 1971. At the present time the NS SAVANNAH is berthed in Savannah, Ga., as part of the Eisenhower Peace Center. The ship will be turned over to the City of Savannah when legislation, now pending before Congress, permitting such a transfer, is enacted and when the city obtains the appropriate Atomic Energy Commission license.

Since January 1, 1969, the Maritime Subsidy Board has ruled affirmatively on 25 staff recommendations affecting significant reductions in the number of seamen eligible for subsidy payment purposes on 86 ships, 25 of which are now under construction. Of the 86 ships which will have the reduced manning scales, the effective date for reduction of 52 of these was June 16, 1972. The remainder were either already in effect, or will be upon completion of construction. These actions will enable long term savings of approximately $110.6 million to the government over the economic life of the ships. The estimated average annual subsidy savings over the average economic life of the ships, at present wage rates, is $6,332,000.

Management

• INTERNAL MANAGEMENT

Actions under the Managers' Improvement Program to reduce costs and increase effectiveness resulted in savings of $10,864,000.

Principal actions were: (1) elimination of low priority activities and positions through organization and staffing surveys, which made it possible to provide manning for higher priority activities with no increase in ceiling; (2) curtailment of the number of manhours spent on precontract reviews of plans and specifications for new ship construction contracts; (3) the deactivation of the Nuclear Ship SAVANNAH; (4) the reduction of crew size allowed for construction subsidy purposes on certain new

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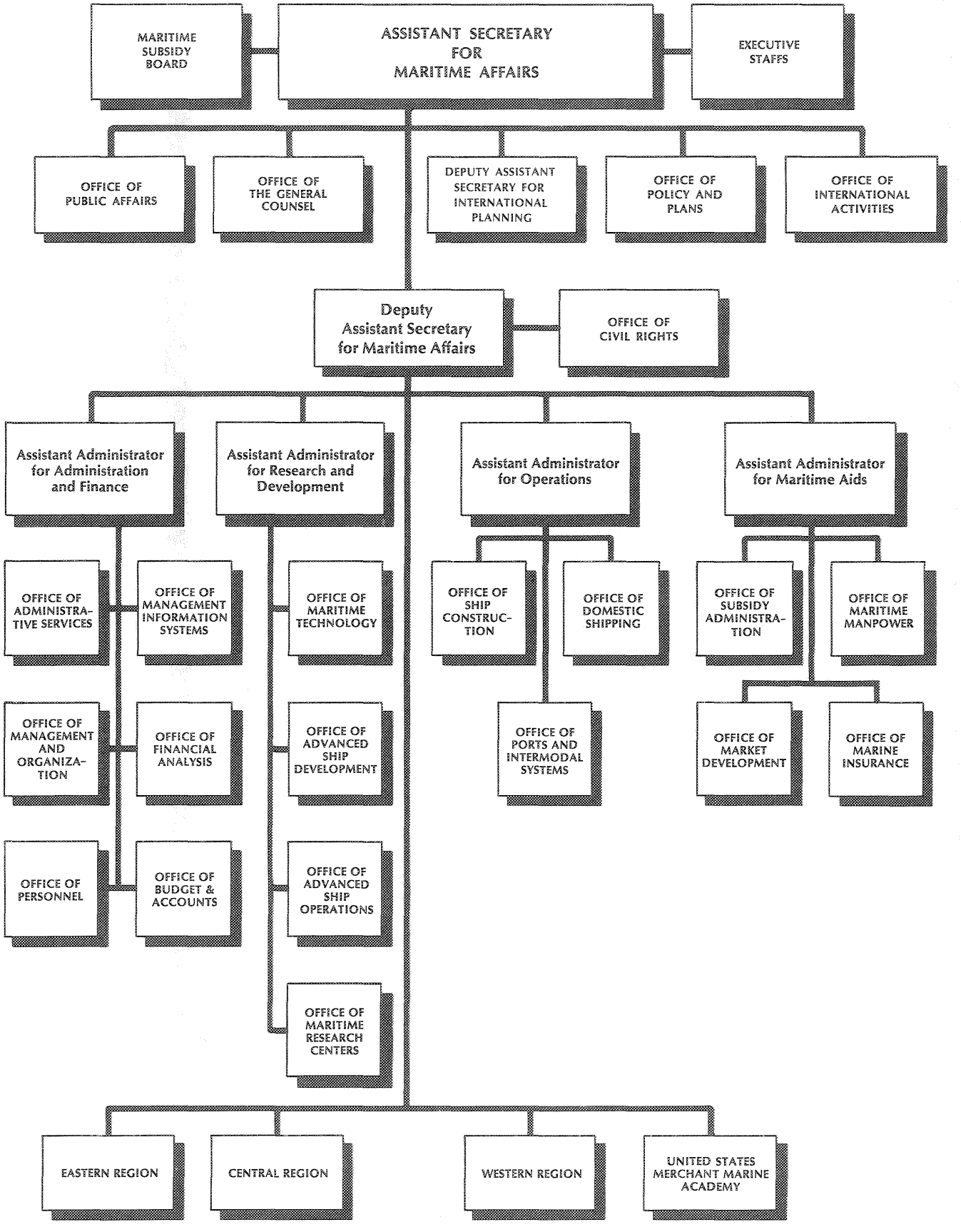
CHART IV. U.S. DEPARTMENT OF COMMERCE
Maritime Administration



ships which will require less crew accommodations with subsequent savings in construction-differential subsidy; and (5) reductions in the number of seamen allowed for operating subsidy purposes.

The major headquarters reorganization effected during the fiscal year, brought together all administrative, budget, and financial management functions under a newly established Assistant Administrator for Administration and Finance. In addition five new offices were established: an Office of Budget and Accounts to provide for closer coordination of the budget and accounting functions; an Office of Domestic Shipping to give new emphasis to the promotion of domestic waterborne commerce; an Office of Marine Insurance to expand MarAd's efforts to aid the domestic marine insurance market; an Office of Financial Analysis to provide for timely analysis of the financial condition of the shipping industry or its segments; and an Office of Maritime Research Centers to direct, control and coordinate the activities of the Maritime Research Centers established at Kings Point, N.Y., and Galveston, Tex.

• AUDITS

In response to findings in a General Accounting Office survey relative to savings available by consolidating certain reserve fleet activities, joint MarAd-Navy meetings were conducted to explore the survey findings in depth and determine optimum alternatives. The General Accounting Office also made a review of selected administrative controls and related financial practices, and issued a report recommending that the Value Engineering Program be reinstated and improved for the administration of ship construction contracts. The Maritime Administration concurred in all of the recommendations contained in these two reports, and appropriate implementing actions were taken.

During the fiscal year there were two internal audits by the Department of Commerce, Office of Audits. These were: (1) Report on Survey of Reimbursable Activities, Maritime Administration, and; (2) Report on Foreign Trade Shipping Statistics, Maritime Administration and Bureau of the Census. Internal action pursuant to the findings contained in these surveys is progressing. Also, a joint Maritime Administration-Bureau of the Census Task Force is conducting a feasibility study to determine an approach to the survey recommendation on Foreign Trade Shipping Statistics, which will best meet the reporting requirements of both agencies.

Personnel

• EMPLOYMENT

On June 30, 1972, Andrew E. Gibson, Assistant Secretary of Commerce for Maritime Affairs was confirmed by the Senate as Assistant Secretary of Commerce for Domestic and International Business, subsequently effective July 7, 1972. Also on June 30, 1972, Robert J. Blackwell, Deputy Assistant Secretary for Maritime Affairs received Senate confirmation of his appointment as Assistant Secretary for Maritime Affairs. Effective July 7, 1972, he became Assistant Secretary of Commerce for Maritime Affairs and *ex officio* Maritime Administrator. Mr. Blackwell also serves as Chairman of the Maritime Subsidy Board.

During the year, total employment in the agency decreased from 1,810 to 1,631, although various new programs were initiated. Resources for the latter were produced by curtailment or elimination of other programs.

• EQUAL EMPLOYMENT OPPORTUNITY

Approximately 24.1 percent of the Maritime Administration's work force consisted of minority group employees. Although the average grade of the agency employees was reduced during the year, the percentage of minority employees in grades GS–12 and above remained high—6.2 percent. Additionally, under the female upward mobility program, the percentage of female supervisors rose to 8 percent; likewise, the percentage of females in grades GS–12 and above rose to 4.8 percent. One black female was promoted to a grade GS–14 posi-

tion, a "first" within the Maritime Administration.

• TRAINING

A total of 1,391 employees, including 213 at the U. S. Merchant Marine Academy, received training, through government and non-government sources, in professional, technical, supervisory and management matters. Management at all levels participated in training programs. An Equal Employment Opportunity Symposium was conducted at Kings Point, N. Y., for 31 top managers from the U. S. Merchant Marine Academy and the Eastern Region Office. Supervisory personnel at all three Reserve Fleets participated in the 40-hour course, "Supervision and Group Performance."

The various upward mobility programs received special emphasis during fiscal year 1972. The Public Service Career Program was launched by enrolling 20 onboard employees in the upgrade phase of the program. This program provides training for low level employees to enhance their opportunities for promotion to more challenging positions. To aid new clerical workers to achieve their full performance levels in the shortest possible time, a "MarAd Clerical Skills" course was developed, and 32 new employees were enrolled in the 30-hour program. In the secretarial training area, training was given in "Better English for Secretaries" and "Shorthand Refresher." Ten secretaries completed each course. With the goal of developing future executive talent, five middle managers were approved for training in the agency's long-term graduate study program. Emphasis was placed on specialized study in areas that are most critical to the long-range program objectives of the Maritime Administration.

• AWARDS

Seventeen employees received medal awards, including two Department of Commerce Gold Medals, the highest recognition given by the Department; five Department Silver Medals, the second highest award given by the Department; and ten Bronze Medals, the Maritime Administration's top award.

In fiscal year 1972, 125 employees received Outstanding Performance Ratings and 102 received Special Achievement Awards. Forty-four employees received Quality Step Increases. Forty-eight beneficial suggestions were submitted and 11 were adopted by management officials.

• POSITION CLASSIFICATION

In addition to regular position classification and maintenance review activities, a rigorous position and pay management program was undertaken in an effort to accomplish required average grade reductions without detriment to essential programs receiving emphasis under the Merchant Marine Act of 1970.

Installations and Logistics

• MATERIAL CONTROL

Rental of mobilization reserve machine tools and equipment to commercial concerns working on defense contracts or in support of merchant marine programs produced a revenue of $135,714.

Excess personal property having an acquisition value of $3,634,962 was disposed of during the year. Property valued at $1,558,703 was donated or transferred to other government agencies and property valued at $2,042,076 was sold for $94,002.

In addition, property with an acquisition value of $24,183 was destroyed or abandoned.

Marine equipment from the National Defense Reserve Fleet valued at $67,393 was loaned to steamship operators and government agencies during the year. At the end of the year, equipment valued at $244,686 was on loan. Warehouse inventories were reduced by $810,000 during the fiscal year, and equipment in stock at the end of the year was valued at $4,290,000.

• REAL PROPERTY

At the close of the fiscal year, Maritime's

real property included the reserve fleet sites at Mobile, Ala., James River, Va., Beaumont, Tex., Suisun Bay, Calif., Astoria, Ore., and Olympia, Wash.; warehouses at Kearny, N. J., and San Francisco, Calif.; the U. S. Merchant Marine Academy at Kings Point, N. Y.; the Wilmington, N. C., Port Terminal Facility; and the Wilmington, N. C., Federal Government Facility.

The agency relinquished reversionary rights to the World War I shipyard at Wilmington, N. C. (Taylor-Colquit Property), thus quit-claiming the property to the City of Wilmington, N. C., on March 13, 1972.

At the Wilmington, N. C., facility, 153 acres of real property are now on lease or have been sold (under lease/purchase agreement) to the North Carolina State Ports Authority. MarAd occupies 11 acres of the government facility. The Hoboken Terminal is under long-term lease to the Port of New York Authority.

The National Defense Reserve Fleet anchorages at Astoria, Ore., and Olympia, Wash., have been declared excess to the needs of the Maritime Administration and are being disposed of by the General Services Administration.

Rents from the lease of real property to private interests during the year yielded $8,300.

Finance

• ACCOUNTING

The accounts of the Maritime Administration were maintained on an accrual basis and in conformity with the principles, standards and related requirements prescribed by the Comptroller General.

Net cost of combined operations of the Maritime Administration for the year totaled $278.6 million. The cost included $238.6 million for operating—and construction—differential subsidies, $2.9 million for depreciation on reserve fleet vessels and other assets, $12.3 million for research and development, and $21.3 million for administrative expenses. The equity of the government at June 30, 1972, totaled $1,659 million, an increase of $215 million from June 30, 1971. The increase included the net cost of combined operations of $278.6 million and the return of $19.1 million in collections and unobligated balances to the Treasury, offset by $525.0 million appropriated by Congress and $12.4 million in property and vessel transfers. (See Exhibits 1–4 for detailed year end financial statements of the Maritime Administration.)

A new, highly automated accounting system, the design of which was approved by the Comptroller General on January 15, 1971, became operational for all Maritime accounting entities during fiscal year 1972. A major feature of the new system is an integrated cost accounting/cost-based budgeting system that provides internal management with reports comparing actual costs of operation with planned costs.

• CONTRACT AUDITING

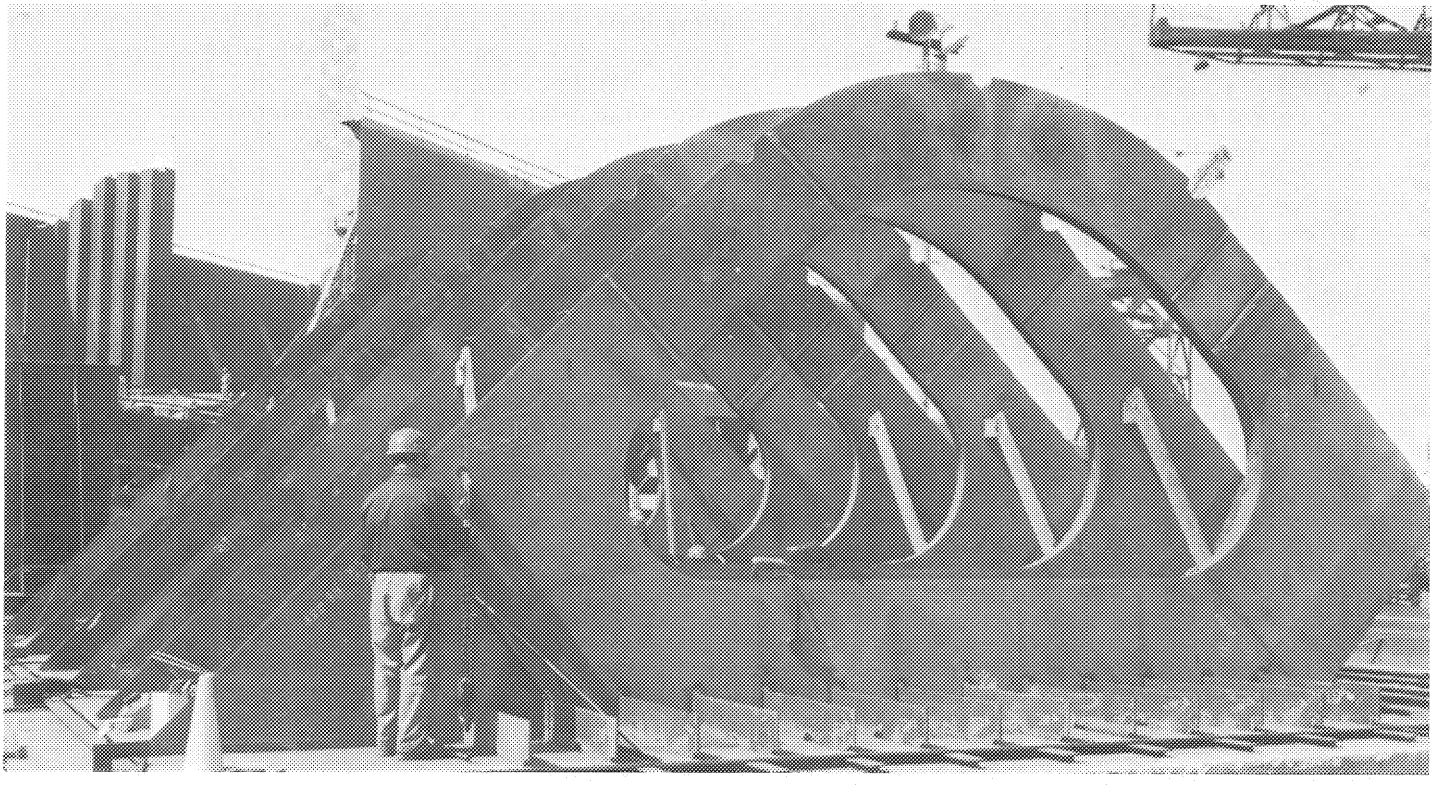
Prior to the enactment of the Merchant Marine Act of 1970 subsidized operators were not paid their final 5 percent of operating-differential subsidy until their annual accounting had been reviewed and approved by the Maritime Administration. Audits to permit final payment were completed for 11 operators, generally covering the period from 1962 through 1968. Most of the audits of the 12 subsidized operators' expenses eligible for subsidy were completed through calendar year 1968. Wage expenses of four of the operators were audited through calendar year 1970.

In accordance with the Merchant Marine Act of 1970, wages on a 100 percent basis were paid to two operators who have signed contracts to come under the provisions of the 1970 Act.

Audits were made to determine the actual operating costs of the NS SAVANNAH under both its charter agreement and its general agency agreement. Other audits included those of general agency agreements, contracts for ship construction and repair and related contracts.

Audits completed during the fiscal year resulted in reduced billings of about $10 million to the government.

In securing equal employment opportunities, American shipyards have been opening jobs previously closed to certain groups, such as blacks and women.



The Maritime Administration is charged with assuring equal employment opportunity in the shipping, shipbuilding and ship repair industries located in coastal states.

During fiscal year 1972, the agency reviewed and monitored, at least semi-annually, all of the major shipbuilding and ship repair companies for which it has responsibility for equal employment opportunity compliance. These companies represent approximately 60 percent of the employment within the industry. Traditional practices in this industry requiring affirmative change included restrictive seniority and transfer systems, recruitment, placement, promotion and training. Significant achievements were made in the development of remedies to correct the present effects of past discrimination; approximately 3,000 blacks in the shipbuilding and ship repair industry were given the opportunity to transfer from their traditionally black classifications to traditionally white classifications without the loss of seniority or earnings.

While total employment in the major yards has increased only 1.6 percent since 1969, the black employment rate rose 28.2 percent, with black representation rising from 17 percent of the total workforce in 1969 to 21.3 percent in 1972. In absolute numbers, total employment rose by 1,433 while black employment increased by 4,138.

The further opening of skilled craft and white collar-salaried jobs to blacks received major emphasis in MarAd's efforts. Despite a decrease of 5 percent in skilled jobs in the major yards since 1969, black participation rose from 15.7 percent in 1969 to 19.7 percent in 1972. Black representation in white collar-salaried jobs increased from 3.3 percent in 1969 to 6.1 percent in 1972.

Employment of women in the major yards has grown by 7 percent since 1969 and now totals 3,750. Significant increases were registered in such non-traditional job areas as professional-technical (14 percent); skilled crafts (34 percent); semi-skilled (503 percent).

The period from 1969 to 1972 has been one of general decline for employment in the shipping industry. The permanent work force of the major carriers has declined by 35 percent. During this period, however, minority representation rose from 9.5 percent to 10.6 percent.

During fiscal year 1972 shipyards received more than $2.5 million to provide training to 1,600 disadvantaged persons. An additional $500,000 was allotted for shipyards to provide on-the-job training for 500 trainees under the Manpower Development Training Act. Funding requests are pending for more than 3,000 training billets.

POLICY AND PLANS

The Office of Policy and Plans provides capabilities for long-term and mid-term planning, economic and operations analysis, program evaluation and special studies in support of legislation and day-to-day operations of the Maritime Administration.

• PROGRAM PLANNING

Program planning involves analyzing MarAd programs in terms of proper utilization of resources, justifying MarAd requests to higher echelons, preparing reports on program progress for MarAd and the Department, evaluating the agency's programs, and preparing its long range plans. During fiscal year 1972, the Program Memorandum, the primary program and budget document for the agency, was developed. The first series of evaluation reports on the new maritime program were prepared. Program analysis was improved within the agency by revising MarAd's program structure and developing output and workload measures related directly to the program objectives. Analyses were prepared on U. S. oceanborne bulk carriage requirements examining the relative economics of various size liquid and dry bulk carriers, the need for deep draft port facilities, national security bulk shipping requirements, environmental impact of very large crude carriers and the shipping capability needed to meet forecasted bulk movements over the next decade.

• ECONOMIC AND ANALYTIC STUDIES

Two major projects were undertaken during the fiscal year to assist the Maritime Administration in policy development and program implementation.

(1) *Sealift Procurement and National Security (SPANS)*

The results of the Sealift Procurement Analysis and Review (SPAR) Study, completed during fiscal year 1971, suggested further examination of the system used by the Department of Defense (DOD) to procure commercial sealift services. Consequently, the SPANS study was initiated under the joint sponsorship of the Maritime Administration, the Department of Defense, the Federal Maritime Commission, and the Office of Management and Budget and with the advice and assistance of the maritime industry. This study became the most detailed analysis ever undertaken of the adequacy of the U. S. merchant fleet in time of national emergency. The ships required for this type of mission are dry cargo freighters which operate in peacetime in support of U. S. economic goals, and which are necessary in emergencies to support national defense requirements.

The study describes the rate experience under recent DOD procurement systems. It provides estimates of future DOD and non-DOD sealift requirements, as well as U. S. merchant fleet capability, and indicates the relationship between estimated future defense shipping needs and the expected capability of the U. S.-flag fleet. With these inputs, the study elaborates upon alternative procurement systems that might be used to provide for the national security from the resources of the privately owned fleet. In addition, to insure that the DOD shipping rates and the health of the industry will receive continuing attention, it recommends that the evolving procurement system be regularly monitored by the Industry Advisory Committee on Maritime Policy.

(2) *Computerized Techniques for Management Analysis*

Various tools to assist maritime management in corporate planning activities were formulated. Economic analyses of alternative ship types, using computerized ship-cost models, were performed for the Military Sealift Command and shipowners. A "Merchant Marine Forecast Model" has tied together the "Forecast of U. S. Waterborne Foreign Trade," the "Fleet Forecast," and various logical assumptions to describe the future American merchant fleet sufficient to carry commercial and military cargoes in U. S. foreign trade. Special attention has been given to the size and characteristics of the U. S. tanker fleet under varying volumes of oil imports.

• EMERGENCY READINESS

Substantial progress was made in agency preparedness for continuity of operations under emergency conditions. The basic plan for the conduct of emergency operations by the Maritime Administration was updated, documented and distributed to key officials. Agency response measures were reviewed and realigned for consistency with national and international preparedness policy and guidelines. Emergency organization and staffing plans were updated and administrative procedures were revised. MarAd's program for strengthening the operational readiness of its relocation facilities continued.

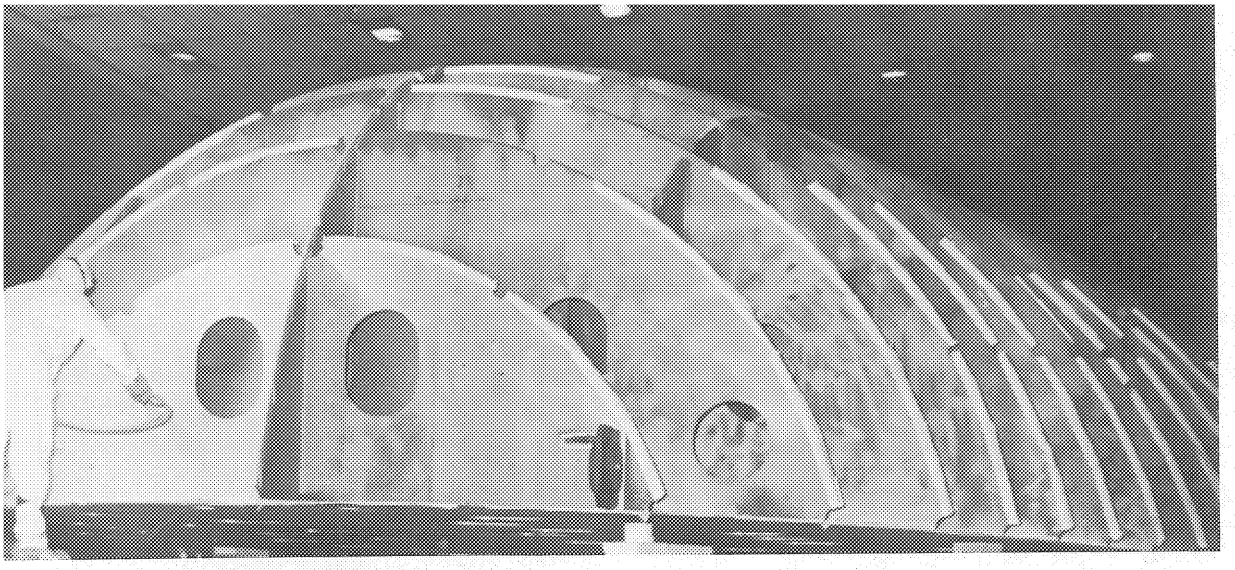
U.S. ports continued to receive assistance in developing and upgrading their emergency plans and procedures, including those relating to natural disaster situations. Special studies were completed on the probability of nuclear attack effects on U.S. ports to serve as guidelines in planning to meet emergency port and sealift requirements.

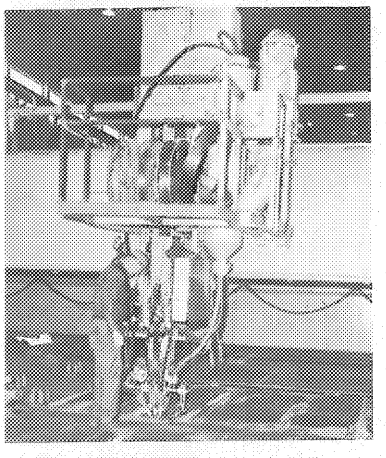
The agency participated in frequent tests and exercises throughout the year to assess the effectiveness of emergency plans at the international, national, and regional levels. Activities included the testing of alerting systems, operational procedures, staff unit performance, communications and select emergency operating facilities. The Headquarters and Eastern Region emergency relocation sites were activated and thoroughly tested for support capability under simulated emergency conditions. Improved equipment for manual and computerized damage assessment and resource evaluation at the Headquarters emergency facility were tested successfully. Extensive staff training was conducted for specialized emergency teams to improve proficiency and test responsiveness. A program was implemented to evaluate and update the computerized data banks on MarAd's emergency resources.

The agency's Disaster Assistance Program was upgraded to provide predesignated response teams at the Headquarters and regional levels. Guidelines on assistance measures available from the Maritime Administration in natural disaster situations were documented together with procedures for carrying them out. Response teams were trained in their responsibilities. Participation continued in interagency disaster assistance planning programs at all levels.

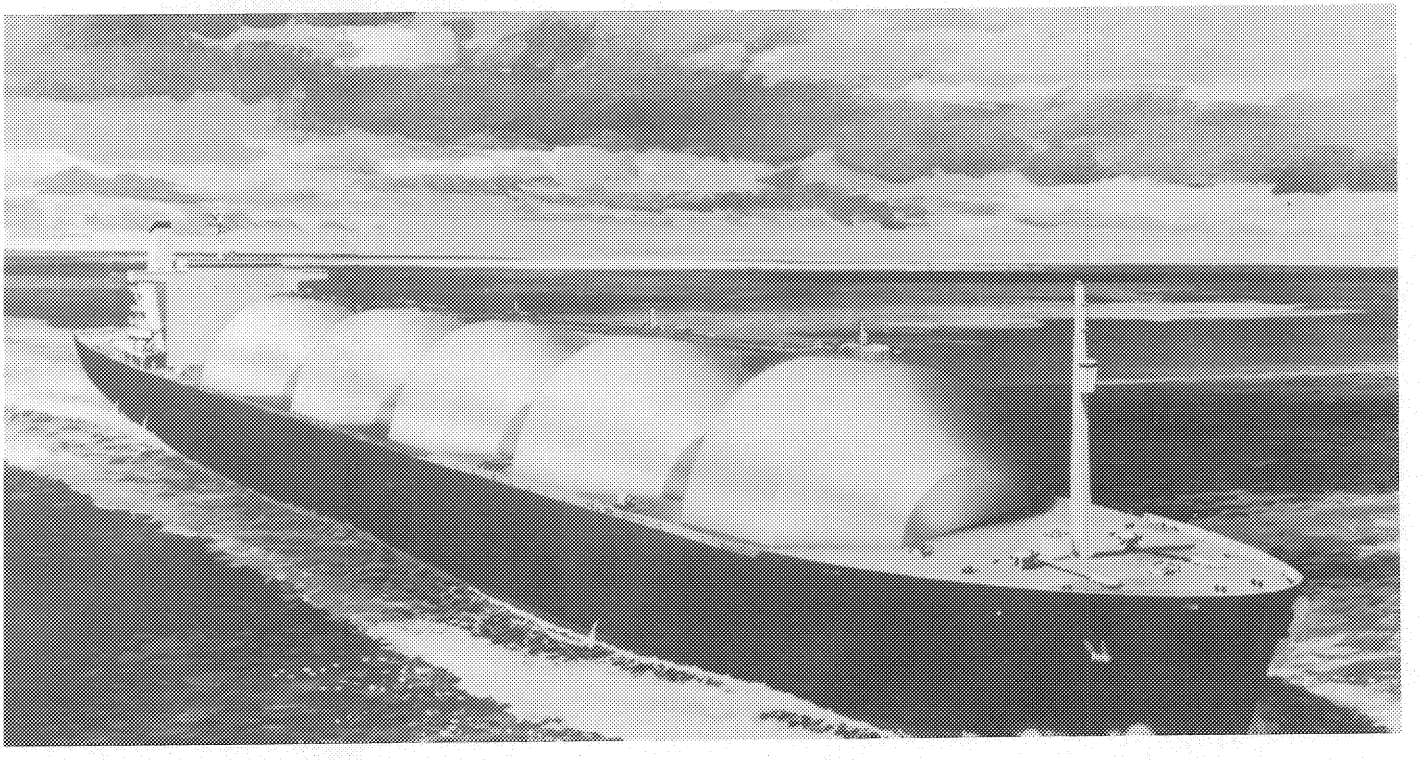
The National Defense Executive Reserve continued as an integral element of the agency's emergency plans for meeting national and local executive staff requirements and for select NATO shipping positions. The overall complement was retained at 200 positions which would be activated to support uninterruptible functions during the early stages of an emergency situation. The executive reserve organization is composed of officials recruited from the private port and shipping industries, who are trained to assume federal assignments with the Maritime Administration under mobilization conditions.

MarAd representatives cooperated with the Department of the Navy and NATO naval commands in an extensive review and updating of military plans and related documents pertaining to the protection and control of merchant shipping in time of war and periods of rising international tension.





MarAd is fostering research into and development of improved shipbuilding techniques in such areas as: (above) improved surface preparations and coatings, (left) new and advanced welding techniques, as well as (below) the development of advanced liquefied natural gas transportation systems.



RESEARCH & DEVELOPMENT

To revitalize the U. S. merchant marine and to restore it to a competitive position, it is necessary to achieve productivity gains in ship construction and operations through technological advancement.

The Maritime Administration's Research and Development (R&D) efforts have been enlarged and redirected to support the Merchant Marine Act of 1970. The objectives, priorities, and criteria of the current R&D program reflect the new national maritime policy, as well as the broad needs of the industry.

The new emphasis on maritime R&D is reflected in the growth in the agency's R&D appropriations. In fiscal year 1969, $6.7 million was authorized for R&D; in fiscal year 1972, $23.8 million was allocated.

Sixteen key programs have been developed, based on national priorities and objectives as expressed by maritime legislation. Approximately 80 contracts ranging from systems analysis and requirements studies to development of major hardware and ship systems, are underway in three principal areas; advanced ship development, advanced ship operations and maritime technology. (See Appendix XIII for a list of R&D contracts awarded during fiscal year 1972.)

The programs were undertaken after a thorough evaluation using an internally developed system of technical and benefit/cost analyses. The method provides a means for structuring the R&D program by determining relative priorities among projects and selecting those with the highest return and compatibility with national goals within funding limitations. An immediate result of this technique was to eliminate low pay-off programs, the most significant of which were the operation of the NS SAVANNAH and the joint MarAd-Navy Surface Effects Ship (SES) Program. The SAVANNAH was deactivated in January 1972, and MarAd participation in SES funding ended in fiscal year 1971 as the commercial applications of SES appeared to be too distant. Most of the R&D projects now in force will result in practical applications in the near-term (three-to-five year) future.

The agency's close coordination with industry in carrying out its R&D efforts is aimed at encouraging the industry to enlarge its participation in R&D and improving its competitive position through technological innovations. That this has been achieved is evidenced by the growing amount of industry cost-sharing in MarAd R&D projects. A total of $13 million is being directly cost-shared on present programs. An additional $7 million in indirect cost-sharing has been committed in terms of free use of industry ships, facilities and per-

sonnel for testing MarAd equipment in operational environments.

Major programs are presently underway in shipbuilding technology improvements, advanced propulsion systems, automated ships, shipboard pollution abatement systems, and ocean tug-barge systems, among other areas.

Gains from several of these projects are already available for the industry's use. As part of MarAd's research effort in ship design improvement, over 200 cost items have been identified which could reduce construction costs by as much as $2.5 million per ship, or up to 10 percent of a ship's cost.

An experimental program using the freighter SS MICHIGAN to test propeller performance has resulted in changes to American Bureau of Shipping regulations which, in turn, will lead to safer operations and minimization of propeller failure. Results of hydrodynamic tests of advanced skewed and contrarotating propellers are already being applied by industry with considerable improvement in ship performance.

Other studies, too, are beginning to show results.

A primary goal of the Maritime Administration's R&D program is to reduce ship construction and operating subsidies by increasing vessel productivity and lowering life-cycle costs. In addition, the successful accomplishment of the R&D program will make significant contributions to solving or alleviating important national concerns, e.g., the growing energy shortage, pollution control, ship safety, the national balance of payments and employment. It is also being geared toward assisting the domestic segment of the merchant fleet and projects will be funded in the near future.

• SATELLITE-AIDED/AUTOMATED SHIP OPERATIONS AND CONTROL

A major contract was awarded in late fiscal year 1972 to develop a satellite-aided ship operations control system. The General Electric Company's Daytona Beach, Fla., Space Division will develop and test the new system under a multi-year, $7.8 million cost-sharing research contract, with the Maritime Administration contributing $4.6 million and General Electric the remainder.

The company is to develop and test an integrated vessel control system using a shipboard computer, linked through orbiting satellites to a shore-based computer. The proposed system is intended to control selected ship's machinery and propulsion equipment, as well as navigation and administrative activities.

Following an analytical study of the costs and benefits of using such a system, General Electric will install a prototype system aboard the Gas Turbine Ship ADMIRAL WILLIAM M. CALLAGHAN.

This project is an important addition to Maritime's on-going program to adapt aerospace technology to marine operations. Building on U. S. advancements in the computer and space sciences, MarAd is attempting to improve the efficiency and lower the cost of operating U. S.-flag vessels through improved efficiency and vessel safety.

This program complements a contract awarded to Computer Sciences Corp., Los Angeles, Calif., earlier in the year, for the development of a computerized shipping operations information system, which is designed to allow vital cargo control information to be communicated between vessels and central computer facilities ashore, which the vessel's owners can reach via remote computer terminals.

Such a system will permit operators to generate timely information on cargo movements, including space availability information and booking confirmations for shippers; scheduling data necessary to integrate intermodal services; data on allocation of resources, including ships, manpower, funds, and equipment; and information needed for periodic reports to the government.

Through this system, American vessel operators will be able to offer their customers more efficient service, as well as increasing the productivity of their internal operations.

• OFFSHORE DEEPWATER TERMINALS

Studies have identified the trade economics of very large bulk vessels and the inadequacy of current ports to handle such shipping. U. S. ports are limited by channel depth constraints which have prevented the berthing of such vessels in U. S. waters. At the same time, it is also generally recognized that the United States today is confronted with a rapidly increasing demand for energy resources which has outstripped the domestic supply. A major energy gap wil be experienced by the United States in the years ahead, the first stage of which is

evident from the current natural gas shortage. It is predicted that a crude-oil shortage will occur in the mid 1970's and extend into into the late 1980's, requiring substantially larger petroleum imports over the next 10 years. Based upon existing oil and gas reserves, indications are that U. S. imports will come primarily from the Middle East and North Atlantic. Because of the long distances involved, these energy resources can be transported most efficiently in very large ships.

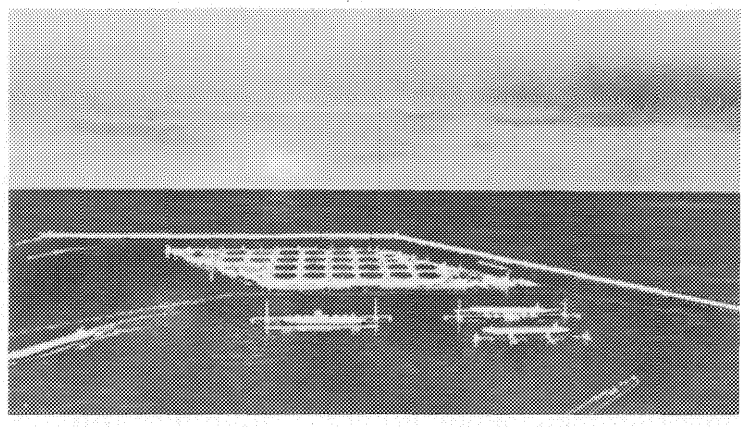
Recognizing the vital nature of these considerations for the nation, MarAd has considered a variety of alternatives for meeting the need for deepwater terminals. The most attractive approach seems to be fixed, large-scale offshore transshipment facilities. Accordingly, the agency has undertaken a two-step program to investigate this alternative: First, evaluating the technical and operational feasibility of such offshore terminals, paying major attention to ecological and environmental protection; and second, determining the economic merits of such facilities.

After establishing future U. S. requirements for imported oil and other commodities, a detailed investigation was made of the entire U. S. coastline and continental shelf to identify suitable potential sites for deepwater terminals from a geophysical and navigational viewpoint, and an evaluation was made of the environmental considerations governing offshore deepwater terminals.

Of the several sites studied in depth, a location about eight miles off Delaware Bay was proposed for first-priority consideration because of its proximity to the concentration of user industries and consumers along the U. S. North Atlantic coast.

The offshore terminal conceived in the study would consist of a breakwater of approximately 14,000 feet in length surrounding a man-made island initially of 100 acres, but capable of extension to 200 acres. This facility could accommodate oil imports at the rate of 100 million tons a year in the initial phase.

Inside the breakwater would be the facilities for loading and unloading tank ships of various sizes. The berths for handling very large crude carriers would be located between the breakwater and the island, connected to the island by underwater pipelines. The island would provide the required pumping facilities and the necessary crude oil storage tanks and additional berths for smaller feeder vessels.



Deepwater oil terminals similar to this design are being considered for processing an anticipated increase in the importation of crude oil.

The studies indicate, that such an offshore terminal can compete economically with foreign transshipment facilities located in Canada or the Bahamas despite the greater capital cost involved in its construction. The reason for this economic parity lies in the closer proximity of the proposed U. S. terminal to American refineries. The greater cost of the offshore terminal relative to foreign on-shore locations would be offset by the lower costs of feeder services. Moreover, any feeder vessels utilized for service from deepwater ports would be American built and operated, thus aiding the U. S. maritime industry and the national economy.

• NATIONAL MARITIME RESEARCH CENTERS

The first research center in the United States to be devoted specifically to improving commercial shipping operations was established on June 9, 1971, at Kings Point, N. Y.

During fiscal year 1972, a second National Maritime Research Center was established at Galveston, Tex., to help fulfill the maritime industry's need for facilities at which new developments may be field-tested and evaluated. The Galveston Center was dedicated on February 23, 1972. This latest center makes use of government facilities previously used for berthing and supporting the NS SAVANNAH and, as such, retains its capability as an advanced nuclear support facility for commercial shipping.

Primarily, the Galveston center is concentrating its efforts in several areas to im-

prove the productivity of U. S. shipping operations. These efforts have a very direct and favorable impact on the Gulf Coast areas, encompassing such projects as conducting full-scale tests and evaluations of tug-barge linkage systems—rigid and articulated—to determine their utility in the ocean environment and developing techniques to improve protective hull coatings, and alternative methods for accomplishing expeditious underwater repairs of vessels in port. In the extremely important field of pollution abatement, the Galveston center will administer the Maritime Administration's programs to develop oily-water separators and sewage treatment systems to eliminate polluted discharges from ships.

The center will also carry out a testing program to evaluate structures, pipeline systems, and other components necessary for the construction of deepwater terminal facilities in the United States. This program will also aid in improving the design of other offshore structures, such as the drilling platforms that are so prevalent on the Gulf Coast.

• COMPUTER-AIDED OPERATIONS RESEARCH FACILITY

The Computer-Aided Operations Research Facility is one of the most promising and far-reaching of the projects undertaken in MarAd's new R&D program.

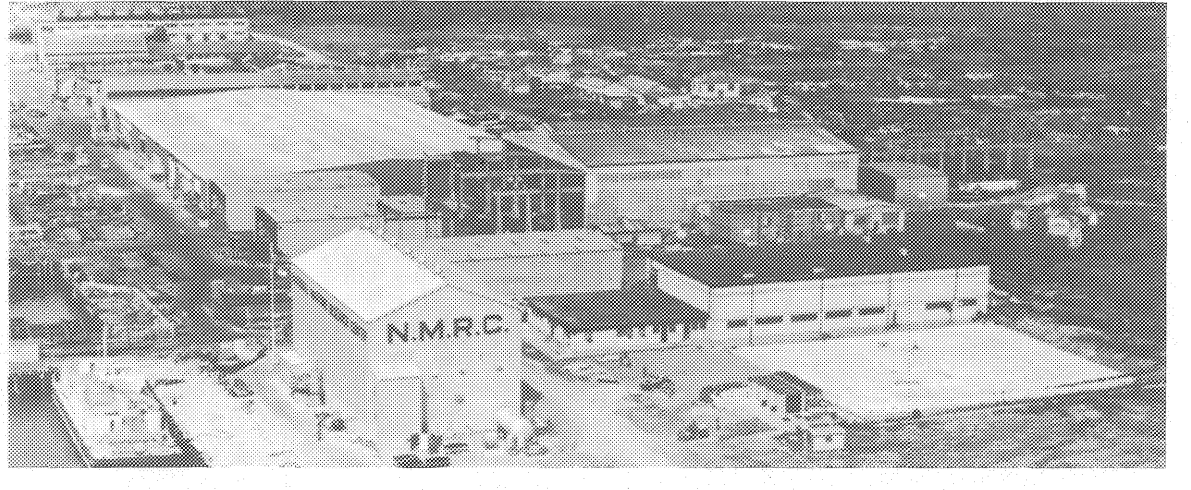
Physically, it will consist of a newly constructed facility at the National Maritime Research Center at Kings Point, N. Y., and will be integrated with existing programs there. The master contract for the facility's design and construction is held by Sperry Systems Management Division of Sperry Rand Corp. of Great Neck, N. Y.

The facility will consist of the world's most advanced ship operations simulator, equipped with an extensive computer bank. It will have the capability of researching and solving problems in ship handling, maneuverability, collision avoidance, and other aspects that take into account the equipment, the environment, the ship structure, and hydrodynamics as well as human factors. Officers and other personnel who operate the simulator will increase their ship handling capabilities under various conditions. With its large computer capacity, this facility also will serve as a valuable research tool in the improvement of ship design. For example, equations of motion of new hull forms can be generated and solved by simulation or the operation of new equipment can be simulated and tested during the course of its development, prior to at-sea trials.

• LIQUEFIED NATURAL GAS (LNG)

This R&D program has three major elements. The first two of these are short term in nature, the third long term. First is catch-up. Since foreign systems are now incorporated in all active and building ships, joint ventures will be sought to improve on these systems to better suit them to U. S. shipbuilding techniques, methods and advantages. Second, also a short term effort, is to attempt to minimize the risks inherent in the presently planned U. S. LNG shipbuilding effort. The methodology is that immediately upon award of an LNG ship contract, MarAd would approach the ship-

The National Maritime Research Center at Galveston, Texas, provides testing facilities for technological innovations prior to installation or testing aboard ship.



builder, and ask him if he would be interested in working with MarAd jointly to identify the high risk and high cost areas subject to reduction through a joint cost-shared R&D program. This has the potential to minimize many of the risks associated with this initial building program. The third area, which is long range, is intended to capitalize on this nation's know-how in cryogenics based on space and missile program experience. The U. S. aerospace industry has extensive technological capability which is not now being applied to marine systems. Several very promising ideas and suggestions were received in this regard. The plan here then is to carefully screen the possibilities and proceed with developmental work for the most promising schemes. This development would probably involve prototype design and test as well as working closely with the regulatory bodies. The outcome would be the next generation containment system, heavily oriented toward significant cost reductions over present systems.

• COMPETITIVE NUCLEAR PROPULSION SYSTEMS

This program has as its objective the development of standardized nuclear propulsion systems, adaptable to a wide variety of ship designs, which will afford superior economic performance relative to competing fossil fuel propulsion systems. Previous nuclear activities indicated considerable promise for economic superiority of nuclear over fossil-fueled steam turbine propulsion systems in the range of power levels above 100,000 shaft horsepower. Activities during fiscal year 1972 were directed toward completion of preliminary engineering and initiation of the first-of-a-kind test and supporting research and development required to bring the nuclear propulsion system to the point where U. S. ship operators and shipyards could enter into a commercial ship construction contract to build competitive nuclear ships. Emphasis was placed on the use of design concepts and components already developed and proven in the nuclear electric power generating industry, thus eliminating the need for developing a land-based prototype reactor prior to introduction of nuclear propulsion in a commercial application.

In 1971, a number of critical areas where further test and evaluation were required to substantiate the design of the nuclear propulsion system were identified. In fiscal year 1972 four new projects, all of which are cost-shared by the contractor, were initiated.

1. Pressure suppression tests were undertaken to provide experimental data to substantiate the pressure suppression characteristic of the Consolidated Nuclear Steam Generator (CNSG) containment system, under various simulated accident conditions.

2. Critical heat flux tests were initiated to provide transient and steady-state heat flux data which will be used to substantiate the CNSG reactor thermal performance and further optimize fuel-rod design.

3. Evaluation of the pump diffuser provides experimental data on scale models of two proposed diffuser designs which will permit optimization of the design from the standpoint of flow distribution and heat transfer.

4. Pump bearing tests are being carried out to corroborate the performance of the canned rotor pump proposed for CNSG when operating in a horizontal position.

Other R&D projects in support of the nuclear propulsion system are being formulated and will be implemented in fiscal year 1973 and subsequent years.

The final engineering which is required before a ship operator can enter into a contract for construction of a nuclear powered ship was initiated with the award of a contract to Babcock & Wilcox Company for approximately $1.7 million to cover 18 months of preliminary design engineering. The contracts call for the development of plans and specifications for the nuclear propulsion system, the Preliminary Safety Analysis Report (PSAR) necessary for the pre-construction permit review by the U. S. Atomic Energy Commission, and general design criteria for nuclear-powered ships.

A major accomplishment of the fiscal year was the development of general design criteria for nuclear merchant ships. This document, represents an effort to obtain agreement among the Atomic Energy Commission, U. S. Coast Guard and American Bureau of Shipping prior to the initiation of ship construction. A second draft, incorporating the initial comment of these agencies, was resubmitted for further review and resolution of comments received on the first submittal.

GENERAL COUNSEL

The Office of General Counsel provides services on all matters of a legal nature arising before the Assistant Secretary for Maritime Affairs, the Maritime Subsidy Board, and the agency's various offices and divisions. The great majority of matters handled by the General Counsel's Office relate to the Maritime Administration's construction-differential subsidy (CDS), operating-differential subsidy (ODS), capital construction fund (CCF), Title XI Mortgage and Loan Insurance, domestic and international shipping matters and the Maritime Administration's legislative and litigation activities.

The office is organized into six divisions: Construction Contracts, Operating Subsidy Contracts, Mortgage and Marine Insurance, Domestic and International Shipping, Legislation and Litigation. The immediate office of the General Counsel supervises and reviews the activities performed by the Divisions and handles other matters outside the specific purview of the divisions.

• DIVISION OF CONSTRUCTION CONTRACTS

Fiscal year 1972 was the first full year following the passage of the Merchant Marine Act of 1970 in which all CDS awards utilized the new contract arrangement consisting of three two-party contracts. The shipyard, purchaser and the Maritime Subsidy Board are each a party to two of three contracts. This arrangement, which implements the CDS provisions of the 1970 Act, features a construction contract reflecting the day-to-day performance and administrative relationship between the shipyard and the purchaser, and the payment of subsidy by the Board directly to the shipyard.

To further implement the 1970 Act, comprehensive CDS regulations were proposed to the public by publication in the *Federal Register* with opportunity for comment. After a full consideration of these comments final regulations will be published. The most noteworthy rules proposed were addressed to the determination of CDS rates by type of vessel and the limitations on domestic and on foreign-to-foreign service by bulk carriers.

The increase in funds appropriated for maritime research and development programs brought a change in direction to applied technology projects such as computer and satellite-aided ship operations and the development and improvement of shipbuilding methods and procedures. These projects required the resolution of complex data and patent rights issues, among other matters, and the imaginative structuring of contracts to enable the Government to encourage private initiative.

The Division also provided a continuous flow of legal services required for the agency's daily operations, such as informal advice, legal memoranda and contract documents, including amendments to cover the many settlements that were reached. This activity culminated in the award of

CDS contracts in June covering five projects for the construction of 16 ships with a total Government outlay which will exceed $285 million. Earlier in the year subsidized contracts for the construction of five ships and the conversion of five ships were awarded.

• DIVISION OF OPERATING SUBSIDY CONTRACTS

During fiscal year 1972, the Division of Operating Subsidy Contracts was primarily engaged in legal work involving the administration of operating-differential subsidy (ODS) contracts under the 1936 Act, as amended; implementation of the new ODS program created by the Merchant Marine Act of 1970; implementation of the Capital Construction Fund program also authorized by the 1970 Act; and various on-going programs involving litigation, cargo preference laws and war risk insurance.

Ten subsidized operators received approval to conform their ODS contracts to provisions authorized by the Merchant Marine Act of 1970. By year's end two operators had fully executed the necessary contract addenda. The Division was actively engaged during the year in the researching and writing of numerous rules and regulations. Particularly noteworthy were the adopted final regulations covering revision of the subsistence portion of the Manual of General Procedures for Determining Operating-Differential Subsidy Rates and regulations which established the experimental system of operating subsidy for Great Lakes bulk operations. Intensive work with the Treasury Department and Internal Revenue Service culminated in publication of proposed joint tax regulations governing the Capital Construction Fund program. During fiscal year 1972, 91 funds were established which represent over $800 million dollars of proposed ship construction.

Although no new lawsuits were brought against the Secretary of Commerce during the year which involved areas of concern to the division, significant time and effort was expended during the year on administrative hearings. Most notable of these was Docket S–243 which involved an alleged violation of Section 810 of the 1936 Act, as amended. At issue was whether certain subsidized operators had conspired to drive an unsubsidized operator out of business and, therefore, should be required to repay subsidy received during the period in which the alleged violations occurred. At year's end, the Hearing Examiner's recommended decision had been made and was awaiting presentation to the Maritime Subsidy Board. Two separate but related matters were pending in a United States District Court. Attorneys from this division represented the public in the administrative proceedings and assisted the Department of Justice in the judicial proceedings.

Also during fiscal year 1972, attorneys from the division were involved in the merger of Gulf & South American Steamship Company, incorporated into the Lykes-Youngstown Corporation. The merger necessitated detailed addenda to ODS contracts and the administration of the disposition of certain vessels.

Significant steps were also made in the area of cargo preference. During the year, various regulations and intergovernmental relationships were established. Because the Merchant Marine Act of 1970 made the Maritime Administration the focal point for the Government's programs to increase cargoes for American-flag vessels, the division was deeply involved in establishing the necessary legal and procedural framework to implement the programs.

• DIVISION OF MORTGAGE AND MARINE INSURANCE

With the increased obligational authority to insure ship construction loans and vessel

At 53,000 tons, the U.S.-flag STEWART J. CORT, an ore carrier, is the largest vessel to ever sail the Great Lakes. Delivered during fiscal 1972, the ship was built by Litton Systems' Erie Marine Division.

mortgages under Title XI of the 1936 Act, as amended, which was authorized by the Merchant Marine Act of 1970, this division provided a greater volume of legal services than in its entire history.

Title XI Loan and Mortgage insurance commitments and contracts totalling $647,-338,750 were approved during fiscal year 1972. This is an increase of over 130% over fiscal year 1971, in which similar contracts were approved in the amount of $280,762,-120. Two hundred forty six official actions relating to Title XI loan and mortgage insurance matters were processed. These legal services were rendered in a program which committed private shipowners to build 158 large vessels and 1,171 LASH type barges.

In addition this division actively participated in the introduction of new concepts of financing, such as the sale-leaseback arrangement used in the aircraft industry, into the Title XI program to widen the base for investment. Also modifications were made to existing methods of financing to permit shipowners to attract capital investment at the lowest possible rates of interest. The division was also involved in preparing proposed amendments to the Title XI Act to make obligations insured thereunder more attractive, to eliminate nonproductive portions of the Act, and to simplify its procedures.

• DIVISION OF LITIGATION

The Division of Litigation participated in negotiations leading to agreement among U. S.-flag vessel operators concerning application of the cargo preference laws to insure maximum use of American ships in the transportation of government impelled cargoes thereby amicably resolving existing litigation in the area.

Attorneys from the division also appeared in the federal courts, including the Circuit Court of Appeals, in conjunction with counsel for the National Labor Relations Board to render assistance to the industry in settling labor disputes.

In addition, the division has provided support in litigation and advisory assistance in fostering domestic shipyard compliance with applicable civil rights regulations to insure uninterrupted progress in the construction of new vessels under the President's maritime program.

Finally, the number of pending cases has been significantly reduced thereby enabling various shipping companies to eliminate financial reserves carried for pending litigation and to satisfy a large number of previously unliquidated and outstanding obligations. (See Table 14).

• DIVISION OF LEGISLATION

The Division of Legislation acts as legislative attorney to the agency. In drafting and presenting legislative proposals of the agency and in supporting or opposing selective legislation at the agency level and in Congress, the division enabled the agency to play a significant role in shaping the legal environment in which the American merchant marine operates. Some of the more significant legislative achievements during the fiscal year were the introduction in Congress of major legislation to simplify and modernize the Title XI ship mortgage insurance program and the amendment of existing law to allow the sale of certain laid-up American passenger ships, with the proceeds being devoted to the construction of new vessels.

The division's efforts were also aimed at helping to modify various safety and environmental protection bills to harmonize them with legitimate commercial considerations. Testimony and reports were presented to Congress indicating the essential need of the country for deepwater port facilities. Legislative research and planning were conducted by the division in an effort to insure that the statutory framework of the merchant marine program will continue to meet the needs of the industry in a changing business environment.

• DIVISION OF DOMESTIC AND INTERNATIONAL SHIPPING

The Division of Domestic and International Shipping was established late in fiscal year 1972 to serve as a focal point within the General Counsel's Office for providing legal services to the agency's Office of Domestic Shipping and Office of International Affairs. The work of the General Counsel's Office in relation to environmental affairs was also consolidated and made a responsibility of this division.

The division participated in a variety of international activities, particularly, the U. S.-U.S.S.R. shipping negotiations, the Shipping Committee of the United Nations Conference on Trade and Development, the Intergovernmental Maritime Consultative Organization, and the Department of Commerce Law of the Sea Committee.

TABLE 14. SUITS AND NON-LITIGATED CLAIMS

	CASE LOAD ACTIVITY				AMOUNTS PENDING		AMOUNTS CLOSED			
	Pending 7/1/71	Opened	Closed	Pending 6/30/72	Claimed vs. U.S.	Claimed by U.S.	Claimed vs. U.S.	Recovered by Claimants	Claimed by U.S.	Recovered by U.S.
ADMIRALTY LITIGATION										
1. *Seamen's and Shore-worker's Claim*	416	32	269	179	$17,886,086.45	$ —0—	$ 9,336,950.72	$1,366,834.73	$ —0—	$ —0—
2. *Ship Collision & Property Loss Claims*										
a. Collision and Shore Damage	6	0	4	2	70,311.76	8,553.46	722,638.84	45,000.00	25,000.00	10,000.00
b. Exoneration or Limitation of Liability	3	0	2	1	—0—	—0—	—0—	—0—	—0—	—0—
c. Cargo Loss and Fire Damage	1	0	0	1	*	—0—	—0—	—0—	—0—	—0—
CIVIL LITIGATION										
1. *Contract Claims*										
a. Construction-differential subsidy	6	1	4	3	4,135,526.00	—0—	471,455.67	22,500.00	—0—	—0—
b. Operating-differential subsidy	10	5	2	13	*	*	—0—	—0—	—0—	—0—
c. Ship repair or construction	3	1	2	2	8,000,099.00	1,567,194.94	68,000.00	*	—0—	—0—
2. *Secured Lien Transactions*										
a. Foreclosures and Bankruptcy	8	0	7	1	22,006.00	566,084.02	806,540.00	—0—	52,192.00	10,190.00
b. Title XI	2	0	2	0	*	*	—0—	—0—	—0—	—0—
3. *Miscellaneous Litigated Actions*										
a. Uncollected Judgments	1	0	0	1	5,794.88	—0—	—0—	—0—	—0—	—0—
b. Grievances	4	0	0	4	*	—0—	—0—	—0—	—0—	—0—
TOTAL LITIGATED CASES	**460**	**39**	**292**	**207**	**$30,119,824.09**	**$2,141,832.42**	**$11,405,585.17**	**$1,434,334.73**	**$77,192.00**	**$20,190.00**
4. *Tort Claims*										
a. Litigated	0	0	0	0						
b. Unlitigated	0	2	2	0						

*Monetary value undetermined

FIELD ORGANIZATION

The field organization of the Maritime Administration consists of three regions. The Eastern Region is headquartered in New York, N. Y., the Central Region in New Orleans, La., and the Western Region in San Francisco, Calif. The geographic areas of responsibility of the three regions are shown on Chart V. Each region is headed by a Director who is responsible to the Assistant Secretary of Commerce for Maritime Affairs and is the counterpart of the Deputy Assistant Secretary (*ex officio* Deputy Maritime Administrator) within his respective region.

The programs and activities under the jurisdiction of each region include the custody and preservation of ships in the National Defense Reserve Fleet; operation, repair and maintenance of ships; vessel inspection; training of marine personnel in radar and loran; accounting, external auditing and financial analysis; market development; installations and logistics; development of ports and intermodal transportation systems; contract compliance activities, and activities to assure equal employment opportunities in the water transportation industries.

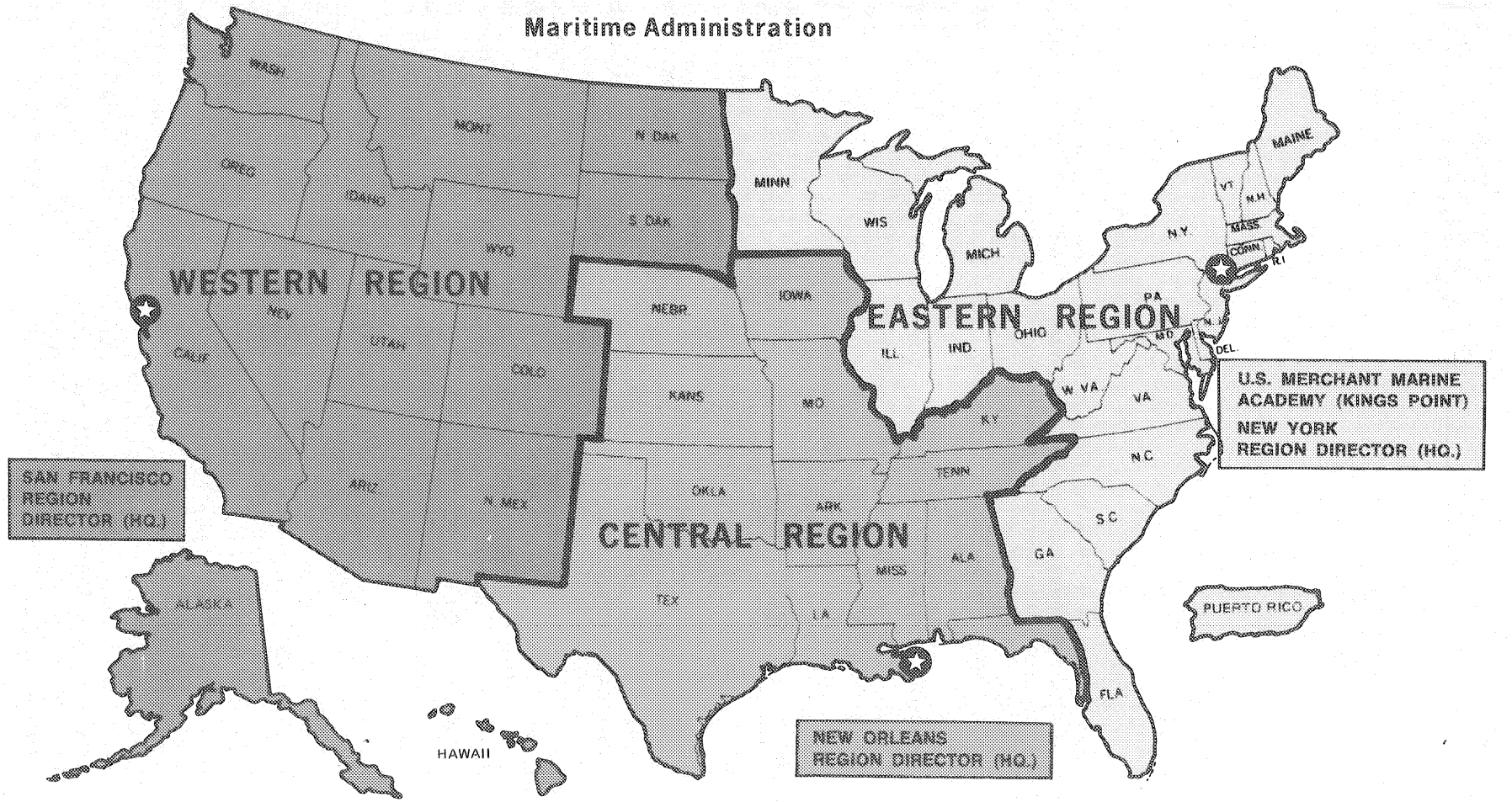
Training courses in radar, loran and gyrocompass are conducted by MarAd's regional offices to assist seamen in upgrading their skills and in meeting U.S. Coast Guard requirements.

Chart V.

FIELD ORGANIZATION

U. S. DEPARTMENT OF COMMERCE

Maritime Administration



EASTERN REGION

During fiscal year 1972 the Eastern Region was actively engaged in implementing various aspects of the Merchant Marine Act of 1970 and in promoting the American merchant marine on the Eastern Seaboard.

• ENERGY FORUM

Because of the national interest in a developing energy shortage and the particularly critical interest of the northeastern United States, the Eastern Region sponsored an in-depth forum on *Mammoth Tankers, Deepwater Ports and the Environment* to support the agency's overall efforts in this area.

Held in New York on May 18, 1972, the forum explored the maritime ramifications of the growing energy shortage, with speakers covering the need for energy, the economics of petroleum transportation, design considerations of large new tankers, their deepwater terminal requirements and their environmental impact. It was designed to disseminate knowledge, assemble the best thinking in the subject area, and provoke a thoughtful response from those committed to the preservation of our natural environment.

• CARGO DIVERSION TO CANADIAN PORTS

To understand the nature of the diversion of U. S. foreign trade cargoes through Canadian Atlantic coast ports, in-depth studies are being conducted by the Eastern Region on a continuing basis. In fiscal year 1972, extended visits were made to four Canadian ports and several inland rail centers to study their operations. As an outgrowth of the information gathered on these visits, discussions with U. S. ship operators and port authorities in the Eastern Region were initiated to explore solutions to the shunting of cargoes through Canadian ports.

• INTERMODAL SYSTEMS

Recognizing the need to evaluate the problems encountered in container movements from inland points, an analysis was made tracing the actual movement of several containers from a manufacturer's plant in Grand Rapids, Mich., to Hamburg, Germany. On-the-spot inspections were carried out by Eastern Region personnel at the various intermodal interchanges between Grand Rapids and New York to discover possible blockages to the efficient operation of the intermodal system.

• MARKET DEVELOPMENT

To expand activities aimed at generating greater shipper patronage of U. S. vessels, direct contact was made with policy-level executives of major shipper organizations, which resulted in numerous commitments from exporters and importers to support the U. S. merchant marine. Cargo leads and marketing information were transmitted to U. S. ship operators and assistance was rendered in the areas of problem accounts and shipper complaints on a day-to-day basis. During the year, in conjunction with the Office of Market Development in Washington, the Eastern Region successfully undertook several commodity studies on specific high-volume, high-revenue cargoes. Exporters and importers of these commodities were informed of the excellent services offered by U. S.-flag carriers and the importance of supporting the merchant fleet.

Mindful of the economic growth of the southeastern states and the southern Atlan-

tic coastal ports, representatives of the Eastern Region made an extensive survey trip to this area. The predictions of the importance of this area to the nation's foreign commerce and its potential for American-flag carriers were confirmed, and a market development specialist has been assigned to cover this section.

• NATIONAL MARITIME COUNCIL

The Eastern Region has been involved in activities and functions of the Eastern Region Action Group of the National Maritime Council since its inception in fiscal year 1971. Major activities included a "Unity Dinner" in New York, N. Y., in February 1972 which was attended by over 400 major shippers. A shipper-carrier forum and "Unity Dinner" was held at Rochester, N. Y., which drew shippers from that area. Task force calls by presidents of maritime unions, steamship companies, and government officials were made on executives of major shipper companies to promote the greater use of U. S.-flag ships.

• TRAINING

When the U. S. Coast Guard announced its licensing requirements for radar operators, which for the first time included inland waterways pilots, as well as officers of seagoing vessels, the Eastern Region opened a new Radar Recertification Facility staffed with experienced instructors to help merchant marine officers meet these new requirements.

The school's new equipment features a $150,000 digital radar simulator with the capability of simulating hazardous conditions between two independently controlled ships in any location in the world. With this new equipment, the school is able to insure that ship's officers are oriented to the proper use of radar to help avoid collisions and to assist in the normal maneuvering and operations of ships at sea and in port. Up to 50 deck officers a week can be recertified at this new facility.

During the fiscal year, 566 seamen completed radar, gyrocompass and loran training programs conducted in the Eastern Region. A total of 880 men completed the Eastern Region's fire-fighting and damage-control courses, which are offered in conjunction with the Military Sealift Command.

• RESERVE FLEET

Assistant Secretary of Commerce for Maritime Affairs Robert J. Blackwell dedicated a plaque at a point overlooking the former Hudson River fleet anchorage located at Jones Point, N. Y., on September 17, 1971. The Hudson River reserve fleet was phased out after 25 years of service to the nation in peace and war.

• FINANCE

The Eastern Region developed and presented through an industry association an unusual seminar in fiscal year 1972 entitled *Financing the Ship Construction Breakthrough* with emphasis on ship lease financing. Conducted to focus attention on the various incentives provided by the Merchant Marine Act of 1970, this seminar attracted over 150 representatives of the financial and maritime communities.

The computation of all operating-differential subsidy rates for all operations through calendar year 1968 during fiscal year 1971 permitted concluding audits of the accounts of these operations for the four-year period 1965-1968 during fiscal year 1972. On the basis of these audits, all final payments due operators through calendar year 1968 were completed and long-standing balances liquidated. During the fiscal year, general agency accountings with 22 ship operators were concluded and final compensation paid. Substantial adjustments were effected in reconciliation of various union pension and welfare payments resulting in recoveries of approximately $80,000. Audits of lump-sum repair contractors for services performed in connection with the deactivation of General Agency Agreement Ships resulted in recapture of approximately $370,000.

• CIVIL RIGHTS

An eight-session briefing course was conducted for Eastern Region office chiefs. A Federal Women's Coordinator was designated to pinpoint problems encountered by women employees and to promote advancement opportunities for women by insuring that suitable training courses are provided. Working in conjunction with other federal agencies, the Eastern Region assigned an employee to the "Pool of Spanish Speaking Resources." In an effective promotion of the Federal Contract Compliance Program, compliance reviews were increased by 175 percent over the previous fiscal year and over three times the number of initial agreements were made.

CENTRAL REGION

The major thrust of the Central Region's activities during fiscal year 1972 was aimed at the reorganization of the Region to better respond in the rapidly expanding areas of market development, domestic shipping, and shipbuilding.

• MARKET DEVELOPMENT

During fiscal year 1972 staffing of the market development office in New Orleans, La., was completed, and a market development office in Houston, Tex., was opened. This added staffing made available nearly three-quarters of a century of ocean transportation marketing expertise to vessel operators and shippers in the Central Region.

An expanded program of direct calls on shippers and consignees was initiated, and visits were made to principal companies engaged in foreign commerce in all states of the Central Region. Numerous leads resulting from these calls and other sources were disseminated to American-flag carriers for use in their marketing programs. These activities have been well received and prompted requests for further action by American-flag carriers.

• NATIONAL MARITIME COUNCIL

The first meeting of the Central Region Action Group of the National Maritime Council was held in October 1971. Committees were appointed and plans formulated which resulted in a highly successful New Orleans "Unity Dinner" in March 1972, attended by 350 members of the foreign trade and shipping community. The Region Market Development Office was active in the work of the Council and its Central Region Action Group.

The joint endeavors of the Central Region Action Group and the region's market development staff resulted in public service billboards being displayed in the region and culminated in arrangements for local and national billboards being made available for "Ship American" campaign messages with two motel chains. Additional billboards were secured for display in the fall of 1972 in connection with scheduled activities in the market and distribution centers located in the Central Region.

• PORTS AND INTERMODAL SYSTEMS

The past year witnessed a steadily expanding service presented by the Central Region Ports and Intermodal Systems Office to Gulf Coast ports, reflecting newly developing MarAd projects related to ports and their problems.

In October, 1971, a two-day conference for port officials was held to study hurricane effects on port facilities and structures. Thirteen ports participated, together with industry association representatives and a broad attendance from the U. S. Army Corps of Engineers. From the papers presented and from subsequent discussions, roofing losses were determined to be the single factor leading to the greatest damage in port facilities. As a result, MarAd is presently studying a joint project with the National Bureau of Standards to measure actual wind forces and pressures on port structures. It is hoped that from this will evolve improved design criteria which will aid in eliminating much of the damage from hurricane-force winds in the future.

This conference plus continuing efforts to motivate pre-planning for such disasters has resulted in hurricane plans for seven ports either being completed or presently under review.

Because of a need for vessel-size projections beyond those then available, a technical round table discussion was initiated in March with the support of MarAd's Office of Ports and Intermodal Systems, and attended by the U. S. Army Corps of Engineers and the maritime industry. Discussions centered on broad-beamed vessels now on the drawing boards, and their effect on lock and channel sizes. Information developed at this first-of-a-kind meeting has been considered generally helpful in establishing of revised lock sizes for certain operations.

An intensive study of Bureau of Customs procedures applicable to the evolving bargeship system was completed. It focused upon a conventional method of delivering cargo in bond which was adaptable to LASH barges. Applied to barges, this method has been unofficially called the New Orleans or Gulf Plan.

A paper prepared by the Central Region Ports and Intermodal Systems Office was the subject of the first conference of industry executives, government and non-government agencies of the new bargeship industry. The paper presented the thesis that the mothership in a bargeship system was more logically analogous to an ocean-going tug in that it provided propulsion for barges on the ocean. The purpose of this comparison was to provide a logical alternative, or to neutralize, the widely held concept that the barges used in the LASH and SEABEE systems were floating containers.

Meetings with five LASH/SEABEE systems operators were held on a continuing basis and a major shipbarge conference, involving all seven such operators, inland towing companies, and concerned federal agencies is tentatively scheduled for mid-fiscal year 1973.

In executing MarAd's program to remove constraints to LASH/SEABEE barge movements, the Central Region assisted industry and government when it alerted the industry to proposed Bureau of Customs procedural changes to the "Gulf Plan" and simultaneously advised Customs of the inherent difficulties involved in its proposed changes. The first major step in reconciliating the needs of the industry and the Bureau of Customs was taken at a meeting in Washington that involved all interested parties. Another step was accomplished with the Gulf barge-ship operators' recommendation that the United States ratify the Customs Convention for the International Transit of Goods. The United States signed in June 1972, thereby becoming one of the original signatory nations. Following this, the situation was reassessed and a paper published that dealt with the industry's position with regard to the Customs' problem.

• FINANCE

During the fiscal year all final audits for general agency agreements, including all books of account of the general agents, were completed. Similarly all of the lump-sum repair contracts awarded for the repair of general agency vessels were audited and closed.

A conference on Title XI mortgage insurance, lease financing and capital construction funds was held during the year. Attended by 250 representatives of tug and barge owners and operators, banks, shipbuilding concerns and steamship operators, the conference yielded immediate results by matching certain tug owners who had construction plans with banks and other lending institutions interested in providing financing.

In addition, two of the subsidized operators in the Central Region had the provisions of the 1970 Merchant Marine Act incorporated in their existing contracts, resulting in accelerated payments of operating-differential subsidy.

• TRAINING

With the establishment of the new licensing requirements by the U. S. Coast Guard for deck officers to have a radar observer's endorsement, the training facility was relocated to larger quarters and expanded to meet the increase in applicants for this specialized training. During the fiscal year, 564 students completed training courses.

A skilled shipyard labor shortage developed throughout the Central Region as a result of the expansion in construction for the oceangoing, offshore oil and minerals, and inland waterway industries. In order to alleviate this shortage, a shipyard training group was organized comprising representatives of all yards in the Central Region and MarAd personnel. The objective of this group is to provide a skilled labor input to the yards by means of jointly funded, coordinated training programs.

• CIVIL RIGHTS

During fiscal year 1972, 80 compliance reviews, 47 compliance checks and 13 formal complaint investigations were conducted to insure equal employment opportunity within the Central Region. Overall minority group representation in the Central Region's seven major shipyards increased by more than 1,100 over the year. Over the past two years, one shipyard in this region has provided, through the urgings of the Maritime Administration, "affected class" relief for 240 men, which is designed to eliminate the present effects of past discrimination. Collectively these 240 men now earn $500,000 more per year than they had prior to MarAd's intervention.

WESTERN REGION

In fiscal year 1972 the Western Region realized positive results of previous efforts to implement the Merchant Marine Act of 1970 in the 15 states comprising the region.

U. S.-flag steamship companies headquartered in the region have provided new and converted ships, new terminals, and increased container and LASH barge capabilities. The Western Region has given its support, resulting in better service to the shipper and consignee.

• MARKET DEVELOPMENT

The Western Region has pursued a vigorous program to obtain a larger share of cargo for American-flag vessels. Tangible progress has been achieved in obtaining shipper support for U. S. vessels in the 15 western states. Concrete evidence has been developed that American ships are carrying more cargoes through the visits by the staff of the region's Office of Market Development to executives of shipper organizations.

The Western Region conceived the United States Maritime Industry Foundation, based on the concept of unified efforts by labor, management, and government to promote the American Merchant Marine. This pioneering concept developed into the National Maritime Council.

The Office of Market Development has worked closely with state governments, particularly the agricultural and marketing departments, to stimulate more export trade for the Western Region.

One of the mandates of the Office of Market Development was to develop the marketing expertise of steamship company sales organizations. Informational presentations were made to the steamship lines on the Pacific Coast to explain the capabilities available through the Office of Market Development, i.e., statistics, preference cargo information, shipper calls, etc.

• NATIONAL MARITIME COUNCIL

Highly successful Task Force programs featuring presentations by management, labor, and government representatives were held in Denver, Colo.; Boise, Idaho; Phoenix, Ariz.; and Salt Lake City, Utah. The year's activities culminated in the second annual "Unity Dinner" held on June 7, 1972, in Los Angeles, Calif. This function was attended by 650 shippers and members of the maritime industry. The region's market development officer coordinated these activities for the Western Region Action Group of the National Maritime Council.

• CIVIL RIGHTS

The Western Region Civil Rights Office was instrumental in increasing minority employment in the shipbuilding, water transportation and related industries during fiscal year 1972. This reflects both new hiring and promotions.

Hiring of female employees increased, particularly in the shipbuilding industry, with females being placed in skilled-craft categories.

Affirmative Action Programs for the major shipping industry companies have been developed and are being monitored. Minority — specifically Black — representation in this industry has increased.

In-house equal-employement opportunities have been emphasized. A Black was appointed as MarAd Area Representative, Pacific Southwest.

The Region Civil Rights Officer is assisting the California Maritime Academy in locating qualified minority applicants.

• FINANCE

At the end of fiscal year 1972, four subsidized operators in the Western Region had accepted agreements to incorporate provisions of the Merchant Marine Act of 1970 in their existing subsidy contracts. One of the immediate benefits to them was the accelerated payment of operating subsidies under the wage index system. This was accomplished without delay by modifying existing billing procedures at the Region level.

All regional activities relating to subsidy-contract administration were aligned

and assigned to the Region Finance Office to increase service to the industry by providing a central point of contact for all matters relating to subsidy.

The accounting and reporting of financial data from the Western Region was fully automated late in fiscal year 1972 by conversion from the prior manual system to the newly implemented Maritime Administration Financial Information System (MAFIS).

Audits of subsidy claims completed during fiscal year 1972 made possible the billing of additional subsidy at 95 percent, which totaled $13,560,500, after expenses of $6,770,000 had been excluded as ineligible for subsidy participation.

• PORTS AND INTERMODAL SYSTEMS

The new national maritime goals and objectives greatly enlarged the Region's role in promoting port development and intermodal transportation concepts during 1972. Qualified personnel were recruited from industry in order that the Region would have the capability and credibility in carrying out the port development and intermodal transport programs. The major thrust of these programs involved establishing and maintaining liaison with steamship companies, railroads, motor carriers, ports, industry associations, and federal and local government agencies.

Representing MarAd, the Western Region participated with other federal agencies in the San Francisco Bay Area In-Depth Study. The Region has the lead role in the vessels and port facilities element of the study and acts in an advisory capacity to the commodity flow and transportation study groups. This is a five year inter-agency project funded and coordinated by the U. S. Army Corps of Engineers. It is the first of a series of major studies to be undertaken to define the future transportation needs of particular regions. The Western Region represents the agency on the Advisory Commitee for this project.

The Region initiated a position paper which was instrumental in the position taken by MarAd in opposing the Transcontinental Freight Bureau's proposed charges for the rail transportation of empty marine containers. The Region, ocean container operators and the rail industry are working together to solve the problem of empty container movements from an operational approach, which should be beneficial to all carriers. The Region is suggesting to the water and rail modes the use of ocean containers in domestic traffic and the possible pooling or sharing of ocean carrier owned containers.

• TRAINING

Due to increased registration as a result of new U. S. Coast Guard requirements the facilities of the radar school in San Francisco have been expanded to accommodate 100 percent more students, and an additional instructor has been added to the staff. A closed circuit TV system was developed to aid in radar and collision avoidance training. During fiscal year 1972, 255 students were enrolled in the training program.

In addition to having the only commercial training in the Western Region for gyrocompass, loran training has been established for the first time in the Region.

• EMERGENCY PLANNING

Through liaison with Commandant, Twelfth Naval District, the region participated in the pre-planning and active phases of the Navy's ocean clearing exercise "Bearing Guard."

Representatives of the Western Region attended the Anti-Submarine Warfare School at San Diego, Calif., participating in the presentation of current material on the U. S. merchant marine and MarAd programs, particularly in training courses for Naval Control of Shipping Organized Reserve (NCSORG) Officers.

• SEAFARING LABOR RELATIONS

In connection with "Project 72," a remote computer terminal was installed in the Western Region. During May 1972, the three computer programs in this project were explained and demonstrated to representatives of the Pacific Maritime Association (PMA) and seafaring unions. PMA and the unions made use of this system in finalizing their agreements without a work stoppage.

• RESERVE FLEET

The phase-out of the Olympia, Wash., National Defense Reserve Fleet was accomplished on June 30, 1972, six months ahead of the projected closing date, which was achieved through accelerated ships sales. This will result in savings of $25,000 in fiscal year 1973. Navy retention ships were transferred from the Olympia reserve fleet to the Suisun Bay, Calif. reserve fleet.

APPENDIX I. MERCHANT FLEETS OF THE WORLD

Oceangoing Steam and Motor Ships of 1,000 Gross Tons and Over as of December 31, 1971

(Excludes ships operating exclusively on the Great Lakes and inland waterways and special types such as channel ships, icebreakers, cable ships, etc., and merchant ships owned by any military force.)

Tonnage in Thousands

Country of Registry	Type of Vessel: Total Number	Total Gross Tons	Total Deadweight Tons	Combination Passenger and Cargo Number	Combination Passenger and Cargo Gross Tons	Combination Passenger and Cargo Deadweight Tons	Combination Passenger and Cargo Refrigerated Number	Combination Passenger and Cargo Refrigerated Gross Tons	Combination Passenger and Cargo Refrigerated Deadweight Tons
Total—All Countries	**20,544**	**238,302**	**361,739**	**847**	**6,867**	**3,970**	**35**	**516**	**314**
United States[1]	*1,372*	*14,348*	*19,634*	*162*	*1,485*	*1,036*	*4*	*45*	*37*
Privately-owned	711	9,456	13,887	14	218	127	4	45	37
Government-owned	*661*	*4,892*	*5,747*	*148*	*1,267*	*909*	•	•	•
Reserve Fleet	635	4,694	5,519	146	1,233	890	•	•	•
Other[2]	26	198	228	2	34	19	•	•	•
The British Commonwealth of Nations									
United Kingdom	1,713	25,754	40,673	49	748	375	11	212	127
Australia	98	885	1,251	4	14	9	•	•	•
British Colonies	106	1,521	2,323	5	101	31	•	•	•
Canada	60	233	273	15	41	17	•	•	•
Cyprus	273	1,571	2,253	8	63	60	•	•	•
Ghana	16	118	154	•	•	•	•	•	•
India	249	2,552	3,918	12	71	69	•	•	•
Jamaica	2	12	9	•	•	•	•	•	•
Kenya	5	13	20	•	•	•	•	•	•
Malaysia	10	56	65	4	6	4	•	•	•
Malta	2	7	12	•	•	•	•	•	•
New Zealand	44	132	168	•	•	•	2	8	6
Nigeria	13	83	123	•	•	•	•	•	•
Pakistan	68	553	746	7	69	61	•	•	•
Singapore	122	628	840	13	72	71	•	•	•
Tanzania	2	14	22	•	•	•	•	•	•
Tonga	1	2	3	•	•	•	•	•	•
Trinidad-Tobago	4	9	7	2	6	3	•	•	•
Uganda	1	6	9	•	•	•	•	•	•
Zambia	1	6	9	•	•	•	•	•	•
*Albania	10	50	69	•	•	•	•	•	•
Algeria	10	94	108	•	•	•	•	•	•
Argentina	148	1,132	1,552	10	64	47	2	25	19
Austria	4	13	17	•	•	•	•	•	•
Belgium	79	1,105	1,657	1	11	9	•	•	•
Brazil	215	1,536	2,188	6	33	16	•	•	•
*Bulgaria	109	673	958	4	22	8	•	•	•
Burma	10	58	73	2	5	3	•	•	•
Chile	48	390	577	3	8	5	•	•	•
China (Taiwan)	154	1,312	1,963	3	14	14	1	18	12
*China (Communist)	237	1,229	1,659	20	67	41	2	17	10
Colombia	35	202	259	•	•	•	•	•	•
Congolese Republic	4	36	46	1	11	9	•	•	•
*Cuba	55	338	456	•	•	•	•	•	•
*Czechoslovakia	11	92	130	•	•	•	•	•	•
Denmark	286	3,211	5,217	8	23	17	1	3	1
Dominican Republic	3	6	9	•	•	•	•	•	•
Ecuador	7	39	46	•	•	•	•	•	•
Ethiopia	7	43	64	•	•	•	•	•	•
Finland	208	1,368	2,080	3	11	3	1	2	1

[1] Excludes 75 non-merchant type ships which are currently in the National Defense Reserve Fleet.

[2] Comprised of vessels under general agency agreement, bareboat charter, and in the custody of the Departments of Defense, State and Interior.

*Source Material limited.

Type of Vessel											
Freighters			*Freighters Refrigerated*			*Bulk Carriers*			*Tankers (Including Whaling Tankers)*		
Number	Gross Tons	Dead-weight Tons	Number	Gross Tons	Dead-weight Tons	Number	Gross Tons	Dead-weight Tons	Number	Gross Tons	Dead-weight Tons
11,095	**64,038**	**88,385**	**918**	**4,767**	**4,992**	**3,218**	**55,089**	**90,962**	**4,431**	**99,105**	**173,196**
857	*7,543*	*9,656*	*24*	*118*	*131*	*34*	*434*	*724*	*291*	*4,723*	*8,050*
401	4,295	5,344	1	4	5	33	427	713	258	4,467	7,661
456	*3,248*	*4,312*	*23*	*114*	*126*	*1*	*7*	*11*	*33*	*256*	*389*
438	3,114	4,139	21	102	113	1	7	11	29	238	366
18	134	173	2	12	13	-	-	-	4	18	23
773	5,318	7,010	123	1,144	1,352	306	4,821	7,744	451	13,511	24,065
40	210	242	-	-	-	39	462	696	15	199	304
51	295	425	2	2	2	27	397	625	21	726	1,240
21	72	88	2	2	2	6	34	47	16	84	119
230	1,213	1,753	1	4	4	18	125	181	16	166	255
16	118	154	-	-	-	-	-	-	-	-	-
180	1,278	1,821	1	9	13	43	895	1,508	13	299	507
-	-	-	2	12	9	-	-	-	-	-	-
3	10	16	-	-	-	1	2	2	1	1	2
4	44	53	-	-	-	-	-	-	2	6	8
2	7	12	-	-	-	-	-	-	-	-	-
33	103	137	4	11	13	5	10	12	-	-	-
13	83	123	-	-	-	-	-	-	-	-	-
59	461	655	-	-	-	2	23	30	-	-	-
90	423	579	2	13	13	4	36	50	13	84	127
2	14	22	-	-	-	-	-	-	-	-	-
1	2	3	-	-	-	-	-	-	-	-	-
1	1	2	-	-	-	-	-	-	1	2	2
1	6	9	-	-	-	-	-	-	-	-	-
1	6	9	-	-	-	-	-	-	-	-	-
7	41	57	-	-	-	3	9	12	-	-	-
6	25	32	-	-	-	1	1	2	3	68	74
60	366	508	13	48	47	10	127	199	53	502	732
4	13	17	-	-	-	-	-	-	-	-	-
39	349	461	7	37	36	17	384	633	15	324	518
130	624	843	7	34	34	26	293	471	46	552	824
58	250	364	2	12	10	28	222	320	17	167	256
8	53	70	-	-	-	-	-	-	-	-	-
31	198	277	1	2	2	7	81	133	6	101	160
100	594	830	16	66	69	20	313	509	14	307	529
168	912	1,278	1	1	2	19	64	83	27	168	245
33	190	241	-	-	-	1	2	2	1	10	16
3	25	37	-	-	-	-	-	-	-	-	-
41	269	372	7	27	23	1	1	1	6	41	60
9	51	67	-	-	-	2	41	63	-	-	-
166	987	1,349	24	97	122	27	468	769	60	1,633	2,959
2	5	7	1	1	2	-	-	-	-	-	-
4	25	31	2	13	13	-	-	-	1	1	2
4	19	26	-	-	-	1	1	2	2	23	36
134	498	702	6	17	20	17	126	193	47	714	1,161

APPENDIX I. MERCHANT FLEETS (Continued)

Country of Registry	Type of Vessel: Total Number	Total Gross Tons	Total Deadweight Tons	Combination Passenger and Cargo Number	Combination Passenger and Cargo Gross Tons	Combination Passenger and Cargo Deadweight Tons	Combination Passenger and Cargo Refrigerated Number	Combination Passenger and Cargo Refrigerated Gross Tons	Combination Passenger and Cargo Refrigerated Deadweight Tons
France	450	7,029	10,999	13	193	88	1	10	2
Germany (West)	958	8,207	12,545	7	121	33	•	•	•
*Germany (East)	135	996	1,317	5	51	33	•	•	•
Greece	1,386	13,492	21,340	57	441	240	•	•	•
Guatemala	2	4	6	•	•	•	•	•	•
Guinea	1	11	15	•	•	•	•	•	•
Honduras	12	58	55	•	•	•	•	•	•
*Hungary	16	31	42	•	•	•	•	•	•
Iceland	24	50	69	1	4	2	•	•	•
Indonesia	137	449	537	29	117	82	•	•	•
Iran	12	133	185	•	•	•	•	•	•
Iraq	4	32	44	•	•	•	•	•	•
Ireland	13	126	186	•	•	•	•	•	•
Israel	79	637	892	•	•	•	•	•	•
Italy	630	7,260	10,696	59	715	252	1	14	8
Ivory Coast	10	68	97	•	•	•	•	•	•
Japan	2,153	27,710	44,900	27	97	72	•	•	•
Korea (South)	107	862	1,396	1	10	11	•	•	•
*Korea (North)[3]	8	30	33	1	5	2	•	•	•
Kuwait	30	611	1,037	•	•	•	•	•	•
Lebanon	39	117	171	1	5	4	•	•	•
Liberia	2,011	39,760	71,156	26	269	186	2	41	30
Malagasy	12	53	81	•	•	•	•	•	•
Maldives	19	52	67	•	•	•	•	•	•
Mexico	39	337	508	•	•	•	•	•	•
Monaco	5	35	51	•	•	•	•	•	•
Morocco	12	36	49	•	•	•	•	•	•
Nauru	3	24	26	2	19	20	•	•	•
Netherlands	464	4,713	6,918	12	189	102	•	•	•
Nicaragua	5	11	17	•	•	•	•	•	•
Norway	1,199	21,705	36,196	27	198	55	4	58	28
Panama	727	6,268	9,838	26	238	141	•	•	•
Peru	32	233	330	1	9	12	•	•	•
Philippines	163	844	1,212	20	44	41	•	•	•
Poland	242	1,620	2,250	2	16	7	•	•	•
Portugal	109	830	1,070	21	216	135	•	•	•
*Rumania	48	344	504	1	7	2	•	•	•
Saudi Arabia	11	46	64	2	6	4	•	•	•
Senegal	2	4	6	•	•	•	•	•	•
Somalia	99	621	918	4	21	23	•	•	•
South Africa	54	401	491	•	•	•	2	60	32
Spain	408	3,091	4,735	38	226	149	•	•	•
Sudan	8	34	41	1	2	2	•	•	•
Sweden	359	4,866	7,594	4	62	13	•	•	•
Switzerland	26	209	298	•	•	•	•	•	•
Thailand	20	68	103	•	•	•	•	•	•
Trucial States	2	7	11	•	•	•	•	•	•
Tunisia	10	25	34	•	•	•	•	•	•
Turkey	91	606	808	16	78	34	•	•	•
United Arab Republic	40	181	233	7	43	40	•	•	•
Uruguay	18	171	259	1	8	10	•	•	•
*U.S.S.R.[3]	2,059	11,888	14,957	80	441	197	1	3	1
Venezuela	41	363	531	•	•	•	•	•	•
Vietnam (South)	6	15	24	•	•	•	•	•	•
Yugoslavia	192	1,498	2,157	13	71	70	•	•	•

[3] Includes the following U.S. Government-owned ships transferred to U.S.S.R. under lend-lease agreements, 43 of which are still under that registry; and 2 under North Korean registry.

U.S.S.R. (Lend-lease)	45	313	461	•	•	•	•	•	•

*Source Material limited.

Type of Vessel											
Freighters			*Freighters Refrigerated*			*Bulk Carriers*			*Tankers (Including Whaling Tankers)*		
Number	Gross Tons	Dead-weight Tons	Number	Gross Tons	Dead-weight Tons	Number	Gross Tons	Dead-weight Tons	Number	Gross Tons	Dead-weight Tons
197	1,305	1,698	41	208	187	64	1,004	1,576	134	4,309	7,448
731	3,866	5,396	64	322	388	87	1,972	3,271	69	1,926	3,457
100	574	748	7	28	18	14	167	231	9	176	287
848	5,059	7,447	20	80	83	228	3,027	5,005	233	4,885	8,565
2	4	6	•	•	•	•	•	•	•	•	•
•	•	•	•	•	•	1	11	15	•	•	•
•	•	•	12	58	55	•	•	•	•	•	•
16	31	42	•	•	•	•	•	•	•	•	•
13	24	38	7	17	21	2	3	4	1	2	4
84	242	324	•	•	•	7	16	23	17	74	108
9	91	121	•	•	•	•	•	•	3	42	64
4	32	44	•	•	•	•	•	•	•	•	•
7	43	58	•	•	•	5	82	126	1	1	2
56	280	377	12	91	99	11	266	416	•	•	•
212	1,011	1,459	20	92	75	131	2,315	3,783	207	3,113	5,119
9	64	94	1	4	3	•	•	•	•	•	•
1,193	6,428	9,314	64	207	257	481	9,891	15,958	388	11,087	19,299
66	276	407	2	3	4	16	177	286	22	396	688
5	21	26	2	4	5	•	•	•	•	•	•
23	186	249	1	1	1	•	•	•	6	424	787
32	101	149	3	5	9	3	6	9	•	•	•
517	3,463	5,184	27	113	115	662	12,898	23,123	777	22,976	42,518
9	33	49	•	•	•	•	•	•	3	20	32
16	47	62	2	3	2	1	2	3	•	•	•
12	50	74	2	16	16	3	39	61	22	232	357
1	2	2	•	•	•	•	•	•	4	33	49
9	30	42	3	6	7	•	•	•	•	•	•
•	•	•	1	5	6	•	•	•	•	•	•
299	1,910	2,546	28	93	96	32	506	778	93	2,015	3,396
5	11	17	•	•	•	•	•	•	•	•	•
405	2,302	3,213	26	110	117	364	8,338	13,625	373	10,699	19,158
423	1,771	2,604	15	37	39	80	757	1,206	183	3,465	5,848
21	143	204	2	10	6	2	16	23	6	55	85
103	524	725	6	20	21	9	97	158	25	159	267
175	1,061	1,441	10	27	30	51	464	694	4	52	78
60	286	414	2	5	5	5	60	93	21	263	423
32	106	150	•	•	•	11	162	242	4	69	110
6	19	28	2	4	4	•	•	•	1	17	28
1	2	3	•	•	•	•	•	•	1	2	3
84	438	632	•	•	•	1	16	26	10	146	237
42	252	331	6	43	61	3	33	49	1	13	18
205	664	965	23	52	61	36	516	852	106	1,633	2,708
6	28	34	1	4	5	•	•	•	•	•	•
167	1,087	1,383	29	205	211	82	1,759	2,852	77	1,753	3,135
21	156	223	2	3	3	3	50	72	•	•	•
11	48	74	•	•	•	1	1	2	8	19	27
2	7	11	•	•	•	•	•	•	•	•	•
8	15	19	•	•	•	•	•	•	2	10	15
60	341	486	•	•	•	2	23	32	13	164	256
24	73	92	•	•	•	•	•	•	9	65	101
9	48	66	1	3	3	•	•	•	7	112	180
1,204	5,816	7,557	223	1,209	1,049	132	639	852	419	3,780	5,301
21	85	121	•	•	•	4	14	20	16	264	390
6	15	24	•	•	•	•	•	•	•	•	•
139	866	1,194	3	9	11	19	310	485	18	242	397
44	306	450	•	•	•	•	•	•	1	7	11

APPENDIX II. EMPLOYMENT OF U. S. FLAG OCEANGOING MERCHANT FLEETS DECEMBER 31, 1971 (Tonnage in Thousands)

Status and Area of Employment	VESSEL TYPE											
	Total			Combination Pass./Cargo			Freighters			Tanker		
	Number	Gross Tons	Dead-weight Tons	Number	Gross Tons	Dead-weight Tons	Number	Gross Tons	Dead-weight Tons	Number	Gross Tons	Dead-weight Tons
GRAND TOTAL	**1,372**	**14,348**	**19,636**	**166**	**1,529**	**1,075**	**915**	**8,096**	**10,511**	**291**	**4,723**	**8,050**
Active Vessels	633	8,418	12,429	11	132	99	390	4,298	5,473	232	3,988	6,857
Foreign Trade	271	3,352	4,395	10	117	93	245	2,866	3,628	16	369	674
Nearby Foreign	10	221	389	—	—	—	2	19	25	8	202	364
Great Lakes-Seaway Foreign	—	—	—	—	—	—	—	—	—	—	—	—
Overseas Foreign	261	3,131	4,006	10	117	93	243	2,847	3,603	8	167	310
Foreign to Foreign	5	152	263	—	—	—	—	—	—	5	152	263
Domestic Trade	236	3,550	5,733	1	15	6	57	629	753	178	2,906	4,974
Coastwise	139	2,257	3,869	—	—	—	6	52	85	133	2,205	3,784
Intercoastal	20	267	416	—	—	—	12	138	189	8	127	227
Noncontiguous	77	1,024	1,448	1	15	6	39	438	479	37	571	963
Other U.S. Agency Operations	121	1,364	2,038	—	—	—	88	803	1,092	33	561	946
MSC Charter	100	1,219	1,843	—	—	—	70	673	916	30	546	926
Other (Custody) etc.	21	145	196	—	—	—	18	130	176	3	15	20
Inactive Vessels	739	5,933	7,206	155	1,398	975	525	3,799	5,038	59	736	1,193
Temporarily Inactive	51	661	934	2	33	20	34	332	415	15	296	499
Merchant Types	51	661	934	2	33	20	34	332	415	15	296	499
Military Types	—	—	—	—	—	—	—	—	—	—	—	—
Laid-up (Privately-Owned)	53	576	753	7	132	65	31	243	360	15	201	328
National Defense Reserve Fleet [1]	635	4,695	5,518	146	1,233	890	460	3,224	4,263	29	238	366
Merchant Types	357	2,555	3,660	—	—	—	349	2,474	3,532	8	81	129
Military Types	278	2,140	1,858	146	1,233	890	111	750	731	21	157	237

[1] Includes 361 ships to be sold for scrap. Excludes 63 ships sold, but remaining in custody of the reserve fleet pending delivery and 119 non-merchant type ships (21 of which are to be sold for scrap) which are currently in the National Defense Reserve Fleet.

NOTE: 1. Tonnage figures may not be additive since the detailed figures have been rounded to the nearest thousand.
2. Nearby Foreign includes Canada, Central America, West Indies, North Coast of South America, and Mexico.
3. Excludes vessels operating exclusively on the Great Lakes, inland waterways and those owned by the United States Army and Navy and special types such as cable ships, tugs, etc.

APPENDIX III. SHIPS UNDER CONSTRUCTION– AND RECONSTRUCTION–DIFFERENTIAL SUBSIDY, JUNE 30, 1972

Owner	Shipbuilder	Type of Ship	No. of Ships	Total Deadweight Tonnage	Estimated Completion Date	Total Estimated Cost [1]	Estimated Govt. Cost of Construction-Differential Subsidy	Estimated Govt. Cost of National Defense Features
Prudential-Grace Lines, Inc.	Avondale Shipyards, Inc.	LASH-C9-S-81b	2	58,560	9-30-72	$ 42,652,000	$ 22,462,376	$ 26,000
Pacific Far East Line, Inc.	Avondale Shipyards, Inc.	LASH-C9-S-81b	1	29,820	11-21-72	21,326,000	11,217,016	13,000
Farrell Lines, Inc.	Litton Systems, Inc.	Cargo-C6-S-85b	4	80,400	8-15-73	83,855,240	44,011,872	54,072
American President Lines, Inc.	Litton Systems, Inc.	Cargo-C6-S-85	4	80,400	9-21-73	83,898,471	41,161,747	54,072
Lykes Bros. Steamship Co., Inc.	General Dynamics Corp.	Sea Barge-C8-S-82a	2	54,100	12- 1-72	65,258,666	35,721,208	287,012
Pacific Far East Line, Inc.	Bethlehem Steel Corp.	Containership-C7-S-88a	2	49,800	9-28-73	50,565,000	23,521,000	50,000
American Export Lines, Inc.	Bath Iron Works Corp.	Containership-C5-S-73b	3	49,029	5-30-73	50,979,999	21,249,999	—
Delta Steamship Lines, Inc.	Avondale Shipyards, Inc.	LASH-C9-S-81d	3	117,300	10-30-73	85,395,000	37,718,070	60,000
Waterman Steamship Corp.	Avondale Shipyards, Inc.	LASH-C9-S-81d	3	117,300	6-15-74	83,589,000	36,919,818	60,000
Central Gulf Lines, Inc.	Avondale Shipyards, Inc.	LASH-C9-S-81d	3	117,300	1-31-75	82,200,000	35,649,984	60,000
Aries Marine Shipping Co.	Nat'l Steel & Shipbuilding Co.	OBO-OB8-S-90a	2	161,000	3-29-74	60,092,000	27,000,000	92,000
Margate Shipping Co.	Nat'l Steel & Shipbuilding Co.	Tanker-T6-S-93a	3	114,900	1- 3-75	54,665,100	23,435,043	165,000
Aeron Marine Shipping Co.	Nat'l Steel & Shipbuilding Co.	Tanker-T8-S-100a	3	258,000	1-30-76	83,566,461	35,814,000	166,461
MFC-Boston Tankers, Inc. II	Bethlehem Steel Corp.	Tanker-T10-S-101b	1	265,000	4-30-75	71,234,000	30,566,703	133,000
MFC-Boston Tankers, Inc. IV	Bethlehem Steel Corp.	Tanker-T10-S-101b	1	265,000	9-30-75	71,234,000	30,566,703	133,000
MFC-Boston Tankers, Inc. VI	Bethlehem Steel Corp.	Tanker-T10-S-101b	1	265,000	3-31-76	71,234,000	30,566,703	133,000
Sea Service Tankers, Inc.	Todd Shipyards Corp.	Tanker-T6-M-98a	4	140,000	4- 1-76	79,460,000	34,120,000	—
States Steamship Co.	Bath Iron Works Corp.	RO/RO-C7-S-95a	3	56,730	3-11-76	114,129,477	48,744,000	729,477
Langfitt Shipping Corp.	Seatrain Shipbuilding Corp.	Tanker-T10-S-92a	1	225,000	2-28-73	46,043,200	19,766,000	43,200
Tyler Tanker Corp.	Seatrain Shipbuilding Corp.	Tanker-T10-S-92a	1	225,000	2-28-74	62,929,700	27,017,500	57,000
Polk Tanker Corp.	Seatrain Shipbuilding Corp.	Tanker-T10-S-92a	1	225,000	12-31-74	62,929,700	27,017,500	57,000
Lykes Bros. Steamship Co., Inc.	Todd Shipyards Corp.	Breakbulk/Containership C5-S-37e	1*	14,349	8-11-72	3,404,458	1,547,458	—
Lykes Bros. Steamship Co., Inc.	Todd Shipyards Corp.	Breakbulk/Containership C5-S-37f	4*	58,760	2-18-73	13,958,276	5,998,276	—
American President Lines, Ltd.	Todd Shipyards Corp.	Containership-C6-S-69c	3*	52,992	10- 6-72	19,489,665	8,095,125	9,540
American President Lines, Ltd.	Todd Shipyards Corp.	Containership-C6-S-1qc	3*	63,414	3- 1-73	20,240,919	8,399,982	—
American Mail Line Ltd.	Todd Shipyards Corp.	Containership-C6-S-1xa	1*	21,696	9-15-72	9,463,323	3,920,680	15,900
TOTAL SHIPS UNDER CDS CONSTRUCTION AND RECONSTRUCTION CONTRACTS ON JUNE 30, 1972			**60**	**3,165,850**	—	**$1,493,793,655**	**$672,208,763**	**$2,398,734**

[1] Total contract cost including CDS and National Defense Features, but excluding engineering and change orders.
* Reconstruction.

APPENDIX IV. SHIP DELIVERIES FOR CALENDAR YEAR 1971 OCEANGOING STEAM AND MOTOR SHIPS OF 1,000 GROSS TONS AND OVER BY SHIP TYPE

(Excludes ships operating exclusively on the Great Lakes and inland waterways and special types such as tugs, ferries, cable ships, etc.)

(Tonnage in Thousands)

For Registry in	BUILT IN											
	Total		Japan		Sweden		Germany (West)		United Kingdom		France	
	No.	Dwt.	No.	Dwt.	No.	Dwt.	No.	Dwt.	No.	Dwt.	No.	Dwt.
SUMMARY—ALL TYPES												
Total	**1,092**	**39,817**	**403**	**19,318**	**37**	**3,317**	**115**	**3,043**	**65**	**2,087**	**24**	**1,829**
United States	15	668	—	—	—	—	1	25	—	—	—	—
United Kingdom	111	5,027	6	814	10	1,106	10	303	42	1,484	1	29
Denmark	12	661	—	—	—	—	2	12	—	—	—	—
France	29	2,329	—	—	1	255	1	3	1	11	17	1,720
Germany (West)	118	1,769	1	18	1	3	74	1,275	3	45	—	—
Italy	11	1,175	—	—	—	—	—	—	—	—	—	—
Japan	185	7,166	185	7,166	—	—	—	—	—	—	—	—
Liberia	133	9,325	116	7,664	3	83	4	971	1	18	1	20
Norway	84	4,108	9	1,401	10	1,093	11	81	3	31	—	—
Sweden	19	1,084	1	216	10	747	1	3	—	—	—	—
U.S.S.R.*	94	605	—	—	1	10	—	—	—	—	3	37
All Others	281	5,900	85	2,039	1	20	11	370	15	498	2	23
FREIGHTERS												
Total [2]	**575**	**5,325**	**154**	**1,452**	**7**	**80**	**83**	**841**	**36**	**456**	**10**	**143**
United States	7	195	—	—	—	—	1	25	—	—	—	—
United Kingdom	54	495	1	6	2	23	8	151	21	232	—	—
Denmark	7	59	—	—	—	—	1	7	—	—	—	—
France	11	143	—	—	—	—	1	3	—	—	6	86
Germany (West)	94	789	—	—	—	—	58	490	3	45	—	—
Italy	2	17	—	—	—	—	—	—	—	—	—	—
Japan	88	689	88	689	—	—	—	—	—	—	—	—
Liberia	26	309	23	268	—	—	—	—	1	18	1	20
Norway	29	181	2	29	—	—	4	45	—	—	—	—
Sweden	6	51	—	—	3	27	—	—	—	—	—	—
U.S.S.R.*	75	479	—	—	1	10	—	—	—	—	3	37
All Others	176	1,918	40	460	1	20	10	120	11	161	—	—

* Source Material Limited.

[1] The U.S.S.R., with 50 ships of 480,000 dwt. tons, ranked 14th as a shipbuilder on a deadweight tonnage basis. In addition to the countries listed above, she was preceded by Poland, with 37 ships of 513,000 dwt. tons.

[2] Includes 14 combination passenger and cargo ships of 44,000 dwt. tons.

[3] Includes ore-bulk-oil (OBO) carriers and ore/oil carriers.

BUILT IN															
Norway		Spain		Denmark		Italy		Netherlands		Yugoslavia		United States		All Others [1]	
No.	Dwt.	No.	Dwt.	No.	Dwt.	No.	Dwt.	No.	Dwt.	No.	Dwt.	No.	Dwt.	No.	Dwt.
SUMMARY—ALL TYPES															
54	**1,474**	**54**	**1,353**	**17**	**1,313**	**18**	**1,255**	**44**	**957**	**22**	**690**	**14**	**643**	**225**	**2,538**
—	—	—	—	—	—	—	—	—	—	—	—	14	643	—	—
9	177	6	77	2	507	1	27	17	293	4	129	—	—	3	81
2	28	—	—	7	618	—	—	1	3	—	—	—	—	—	—
3	67	—	—	—	—	2	10	1	225	—	—	—	—	3	38
12	81	5	140	1	41	2	39	12	86	—	—	—	—	7	41
—	—	—	—	—	—	11	1,175	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1	3	2	136	—	—	—	—	2	254	2	151	—	—	1	25
25	1,111	—	—	1	41	1	2	—	—	2	52	—	—	22	296
1	3	—	—	—	—	—	—	1	1	—	—	—	—	5	114
—	—	—	—	—	—	1	2	—	—	4	80	—	—	85	476
1	4	41	1,000	6	106	—	—	10	95	10	278	—	—	99	1,467
FREIGHTERS															
27	**156**	**30**	**182**	**9**	**101**	**5**	**58**	**35**	**215**	**7**	**95**	**6**	**170**	**166**	**1,376**
—	—	—	—	—	—	—	—	—	—	—	—	6	170	—	—
2	14	5	30	—	—	—	—	15	39	—	—	—	—	—	—
1	3	—	—	4	46	—	—	1	3	—	—	—	—	—	—
1	16	—	—	—	—	—	—	—	—	—	—	—	—	3	38
11	77	3	16	—	—	2	39	11	83	—	—	—	—	6	39
—	—	—	—	—	—	2	17	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	1	3	—	—	—	—	—	—
10	39	—	—	—	—	1	2	—	—	—	—	—	—	12	66
1	3	—	—	—	—	—	—	—	—	—	—	—	—	2	21
—	—	—	—	—	—	—	—	—	—	1	15	—	—	70	417
1	4	22	136	5	55	—	—	7	87	6	80	—	—	73	795

APPENDIX IV. SHIP DELIVERIES (Continued)

For Registry in	BUILT IN											
	Total		Japan		Sweden		Germany (West)		United Kingdom		France	
	No.	Dwt.	No.	Dwt.	No.	Dwt.	No.	Dwt.	No.	Dwt.	No.	Dwt.
	BULK CARRIERS [3]											
Total	**294**	**13,933**	**180**	**8,371**	**5**	**552**	**8**	**828**	**16**	**739**	**2**	**288**
United States	—	—	—	—	—	—	—	—	—	—	—	—
United Kingdom	29	1,319	1	143	—	—	1	150	13	649	—	—
Denmark	2	29	—	—	—	—	—	—	—	—	—	—
France	4	339	—	—	—	—	—	—	—	—	2	288
Germany (West)	10	764	1	18	—	—	7	678	—	—	—	—
Italy	6	703	—	—	—	—	—	—	—	—	—	—
Japan	70	3,111	70	3,111	—	—	—	—	—	—	—	—
Liberia	71	3,677	67	3,482	—	—	—	—	—	—	—	—
Norway	21	1,550	4	616	3	355	—	—	1	21	—	—
Sweden	6	506	1	216	2	197	—	—	—	—	—	—
U.S.S.R.*	3	13	—	—	—	—	—	—	—	—	—	—
All Others	72	1,922	36	785	—	—	—	—	2	69	—	—
	TANKERS											
Total	**223**	**20,559**	**69**	**9,495**	**25**	**2,685**	**24**	**1,374**	**13**	**892**	**12**	**1,39**
United States	8	473	—	—	—	—	—	—	—	—	—	—
United Kingdom	28	3,214	4	665	8	1,083	1	2	8	603	1	2
Denmark	3	573	—	—	—	—	1	5	—	—	—	—
France	14	1,847	—	—	1	255	—	—	1	11	9	1,34
Germany (West)	14	216	—	—	1	3	9	107	—	—	—	—
Italy	3	455	—	—	—	—	—	—	—	—	—	—
Japan	27	3,366	27	3,366	—	—	—	—	—	—	—	—
Liberia	36	5,339	26	3,914	3	83	4	971	—	—	—	—
Norway	34	2,377	3	756	7	738	7	36	2	10	—	—
Sweden	7	527	—	—	5	523	1	3	—	—	—	—
U.S.S.R.*	16	113	—	—	—	—	—	—	—	—	—	—
All Others	33	2,060	9	794	—	—	1	250	2	268	2	2

* Source Material Limited.
[1] The U.S.S.R., with 50 ships of 480,000 dwt. tons, ranked 14th as a shipbuilder on a deadweight tonnage basis. In addition to the countries listed above, she was preceded by Poland, with 37 ships of 513,000 dwt. tons.
[2] Includes 14 combination passenger and cargo ships of 44,000 dwt. tons.
[3] Includes ore-bulk-oil (OBO) carriers and ore/oil carriers.

BUILT IN															
Norway		Spain		Denmark		Italy		Netherlands		Yugoslavia		United States		All Others [1]	
No.	Dwt.	No.	Dwt.	No.	Dwt.	No.	Dwt.	No.	Dwt.	No.	Dwt.	No.	Dwt.	No.	Dwt.
BULK CARRIERS [3]															
13	**493**	**14**	**447**	**4**	**137**	**6**	**703**	**1**	**29**	**10**	**501**	**—**	**—**	**35**	**845**
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7	163	—	—	—	—	—	—	1	29	4	129	—	—	2	56
1	25	—	—	1	4	—	—	—	—	—	—	—	—	—	—
2	51	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	1	27	1	41	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	6	703	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	1	19	—	—	—	—	—	—	2	151	—	—	1	25
3	254	—	—	1	41	—	—	—	—	2	52	—	—	7	211
—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	93
—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	13
—	—	12	401	1	51	—	—	—	—	2	169	—	—	19	447
TANKERS															
14	**825**	**10**	**724**	**4**	**1,075**	**7**	**494**	**8**	**713**	**5**	**94**	**8**	**473**	**24**	**317**
—	—	—	—	—	—	—	—	—	—	—	—	8	473	—	—
—	—	1	47	2	507	1	27	1	225	—	—	—	—	1	25
—	—	—	—	2	568	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	2	10	1	225	—	—	—	—	—	—
1	4	1	97	—	—	—	—	1	3	—	—	—	—	1	2
—	—	—	—	—	—	3	455	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1	3	1	117	—	—	—	—	1	251	—	—	—	—	—	—
12	818	—	—	—	—	—	—	—	—	—	—	—	—	3	19
—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—
—	—	—	—	—	—	1	2	—	—	3	65	—	—	12	46
—	—	7	463	—	—	—	—	3	8	2	29	—	—	7	225

APPENDIX V. APPROVAL FOR FOREIGN TRANSFERS

Approvals granted pursuant to Section 9 and/or 37 of the Shipping Act, 1916, as amended, of the Transfer to Foreign Ownership and/or Registry of Vessels of 1,000 Gross Tons and Over by Type, Number, Size, and Age for Period 7/1/71 through 6/30/72.

	Pursuant to Section 9 and 37 (U.S. owned and U.S. documented)			Pursuant to Section 37 (Only) (U.S. owned, Not U.S. documented)			Combined Totals		
	No. of Vessels	Gross Tons	Average Age	No. of Vessels	Gross Tons	Average Age	No. of Vessels	Gross Tons	Average Age
U.S. Privately Owned:									
Tankers	19	225,960	26.9	8	36,274	14.3	27	262,234	25.1
Cargo	70	556,770	28.2	4	19,482	8.7	74	576,252	27.4
Cargo/Passenger	4	37,754	23.5	—	—	—	4	37,754	23.5
Miscellaneous	15	46,129	13.3	21	155,564	20.0	36	201,693	16.1
TOTAL	**108**	**866,613**	**25.7**	**33**	**211,320**	**17.0**	**141**	**1,077,933**	**24.5**
Departures from U.S. Port	—	—	—	15	30,340	28.2	15	30,340	28.2
U.S. Government Owned:									
Cargo (For Scrapping)	42	277,889	28.0	1	7,100	28.0	43	284,989	28.0
Tankers (For Scrapping)	5	49,840	28.0	—	—	—	5	49,840	28.0
TOTAL	**47**	**327,729**	**28.0**	**1**	**7,100**	**28.0**	**48**	**334,829**	**28.0**

RECAPITULATION

	Section 9 and 37		Section 37 (Only)		Combined Totals	
	Number	Gross Tons	Number	Gross Tons	Number	Gross Tons
U.S. Privately Owned:						
Transferred Foreign for Operation	33	242,045	20	105,606	53	347,651
Sold for Non-Transportation Use or Scrapping	75	624,568	13	105,714	88	730,282
Total Privately Owned	**108**	**866,613**	**33**	**211,320**	**141**	**1,077,933**
U.S. Government Owned:	47	327,729	1	7,100	48	334,829
TOTAL Transferred	**155**	**1,194,342**	**34**	**218,420**	**189**	**1,412,762**

APPENDIX VI. NATIONAL DEFENSE RESERVE FLEET

Fiscal Year [1]	Total Ships in Fleets	Fiscal Year [1]	Total Ships in Fleets
1945	5	1959	2,060
1946	1,421	1960	2,000
1947	1,204	1961	1,923
1948	1,675	1962	1,862
1949	1,934	1963	1,819
1950	2,277	1964	1,739
1951	1,767	1965	1,594
1952	1,853	1966	1,327
1953	1,932	1967	1,152
1954	2,067	1968	1,062
1955	2,068	1969	1,017
1956	2,061	1970	1,027
1957	1,889	1971	860
1958	2,074	1972	673

[1] As of June 30.

APPENDIX VII. OPERATING—DIFFERENTIAL SUBSIDY CONTRACTS IN FORCE

JUNE 30,1972

Operator	ODS Agreement		Number of Subsidized Ships 6/30/72	Service	Annual Sailings	
	Contract No. (Effective Date)	Contract Termination Date			Minimum	Maximum
A. Liner Trades:						
American Export Lines, Inc.	FMB-87 (1-1-60)	12-31-79	22	U.S. North Atlantic/Mediterranean (T.R. 10) Passenger	24	31
				U.S. North Atlantic/Mediterranean (T.R. 10) Freight	76	102
				Great Lakes/Western Europe (T.R. 32)	6	9
				Great Lakes/Mediterranean (T.R. 34)	9	13
				U.S. North Atlantic/Western Europe (T.R. 5-7-8-9)	6	10
				U.S. Atlantic/India-Pakistan (T.R. 18)	24	29
				U.S. Atlantic/Far East (T.R. 12)	24	30
American Mail Line Ltd.	FMB-76 (1-1-59)	12-31-78	10	U.S. Pacific/Far East (T.R. 29)	40	60
American President Lines, Ltd.	FMB-50 (1-1-57)	12-31-76	24	California/Far East (T.R. 29) Passenger-Freight	23	27
				California/Far East (T.R. 29) Freight	32	54
				Round-the-World (Westbound) (Comb. Min. 42)	24	36
				Atlantic Straits (T.R. 17)	12	28
Delta Steamship Lines, Inc.	FMB-63 (1-1-58)	12-31-77	8	U.S. Gulf/East Coast South America (T.R. 20)	43	Overall maximum not to exceed 79
				U.S. Gulf/West Africa (T.R. 14)	24	
Farrell Lines Inc.	FMB-64 (1-1-58)	12-31-77	13	U.S. Atlantic/West Africa (T.R. 14)	20	Overall maximum not to exceed 89
				U.S. Atlantic/South & East Africa (T.R. 15A) (max. 30)	20	
				U.S. Atlantic & Gulf/Australia (T.R. 16)	16	
Lykes Bros Seamship Co., Inc.	FMB-59 (1-1-58)	12-31-77	44	U.S. Gulf/Mediterranean (T.R. 13)	42	48
				U.S. Gulf/South & East Africa (T.R. 15B)	18	24
				U.S. Gulf/U.K.-Continent (T.R. 21)	21	31
				U.S. Gulf/Far East (T.R. 22)	48	60
				U.S. Gulf/West Coast South America (T.R. 31)	30	36
Moore-McCormack Lines, Inc.	FMB-48 (Rev.) (1-1-58)	12-31-77	16	U.S. Atlantic/East Coast South America (T.R. 1) Combination	19	23
				U.S. Atlantic/East Coast South America (T.R. 1) Freight	50	86
				U.S. Atlantic/South & East Africa (T.R. 15A) Freight	20	30

Operator	ODS Agreement		Number of Subsidized Ships 6/30/72	Service	Annual Sailings	
	Contract No. (Effective Date)	Contract Termination Date			Minimum	Maximum
Pacific Far East Line, Inc.	FMB-81 (1-1-57)	12-31-78	12	U.S. Pacific/Australia (T.R. 27)		
				Combination	12	16
				Freight	8	13
				California/Far East (T.R. 29)		
				Freight	48	63
Prudential-Grace Lines, Inc.	FMB-49 (1-1-58)	12-31-77	22	U.S. North Atlantic/Mediterranean (T.R. 10)	34	43
				U.S. Atlantic/West Coast South America (T.R. 2) Comb. & Freight	96	106
				U.S. Atlantic/Caribbean (T.R. 4)		
				Pass./Comb.	48	53
				Freight	24	30
				U.S. Pacific/S. America, Caribbean, Central America & Mexico (T.R. 23, 24, 25)	25	42
				U.S. Pacific/Mediterranean	12	18
States Steamship Company	FMB-62 (1-1-58)	12-31-77	13	Washington-Oregon/Far East (T.R. 29)	10	16
				Washington-Oregon-California/Far East (T.R. 29)	20	35
				California/Far East (T.R. 29)	22	33
Waterman Steamship Corp.	MA/MSB-115 (6-4-71)	6-3-91	8	U.S. Atlantic-Gulf/India-Persian Gulf & Red Sea (T.R. 18)	20	26
	MA/MSB-138 (5-8-72)	5-7-75	8[1]	U.S. Gulf/Far East (T.R. 22)	18	30
TOTAL LINER TRADES			**200**			
B. Bulk Trades:						
Aeron Marine Shipping Co.	MA/MSB-166 (6-30-72)	[2]	0	Worldwide Bulk Trade	Minimum of 335 days per ship	
American Steamship Co.	MA/MSB-137 (4-21-72)	12-31-73[3]	6	Great Lakes/Canada	Maximum of 260 days	
Aries Marine Shipping Co.	MA/MSB-129 (6-30-71)	[2]	0	Worldwide Bulk Trade	Minimum of 335 days per ship	
Margate Shipping Co.	MA/MSB-134 (1-4-72)	[2]	0	Worldwide Bulk Trade	Minimum of 335 days per ship	
Sea Service Tankers, Inc.	MA/MSB-167 (6-30-72)	[2]	0	Worldwide Bulk Trade	Minimum of 335 days per ship	
TOTAL BULK TRADES			**6**			

[1] Includes 2 ships chartered from P.F.E.L.
[2] 20 years from the date of entry of the first vessel into its subsidized service.
[3] Two Great Lakes navigating seasons

APPENDIX VIII CONSTRUCTION RESERVE FUNDS JUNE 30, 1972

Operator	Cash	Securities	Total
Central Gulf Lines, Inc.	$ 3,870	$ 295,000	$ 298,870
Penn Export Company, Inc.	26,450	250,000	276,450
Penn Navigation Co.	457	523,000	523,457
Tank Barge 8, Inc.	7,525	—0—	7,525
Kathleen Turecamo, Inc.	684	—0—	684
Total June 30, 1972	$ 38,986	$1,068,000	$1,106,986
Total June 30, 1971	1,130,093	946,932	2,077,025
Net Increase (Decrease)	**($1,091,107)**	**$ 121,068**	**($ 970,039)**

APPENDIX IX CAPITAL AND SPECIAL RESERVE FUNDS CASH, APPROVED INTEREST BEARING SECURITIES AND COMMON STOCKS UNDER APPROVED COMMON STOCK TRUSTS ON DEPOSIT IN THE STATUTORY CAPITAL AND SPECIAL RESERVE FUNDS OF SUBSIDIZED OPERATORS AS OF JUNE 30, 1972

Operator	Capital Reserve Fund			Special Reserve Fund			Combined Total	Common Stocks Included In Total (1)
	Cash	Securities	Total	Cash	Securities	Total		
American Export Lines, Inc.	$ 460,819	$ 2,000,000	$ 2,460,819	—0—	—0—	—0—	$ 2,460,819	—0—
American Mail Line Ltd.	6,915	—0—	6,915	26	983,212	983,238	990,153	—0—
American President Lines, Ltd	9,141	682,232	691,373	—0—	—0—	—0—	691,373	—0—
Delta Steamship Co.	—0—	10,444,390	10,444,390	—0—	—0—	—0—	10,444,390	—0—
Farrell Lines Inc.	9,993	—0—	9,993	—0—	—0—	—0—	9,993	—0—
Lykes Bros. Steamship Co., Inc.	387,427	27,148,027	27,535,454	—0—	—0—	—0—	27,535,454	$ 94,928 (C)
Pacific Far East Line, Inc.	26,427	444,000	470,427	5,751	1,300,193	1,305,944	1,776,371	513,277 (S)
Prudential-Grace Lines, Inc.	32,909	671,241	704,150	688	—0—	688	704,838	—0—
States Steamship Co.	9,928	4,938,365	4,948,293	11,835	6,442,699	6,454,534	11,402,827	—0—
United States Lines, Inc.	349	—0—	349	2,451	—0—	2,451	2,800	—0—
June 30, 1972	943,908	46,328,255	47,272,163	20,751	8,726,104	8,746,855	56,019,018	608,205
June 30, 1971	8,536,764	78,925,275	87,462,039	4,283,917	28,880,320	33,164,237	120,626,276	13,824,248
INCREASE (DECREASE)	($7,592,856)	($32,597,020)	($40,189,876)	($4,263,166)	($20,154,216)	($24,417,382)	($64,607,258)	($13,216,043)
(1) COMMON STOCKS TRUSTS MARKET VALUE REPORT BY TRUSTEE:								
June 30, 1972	.....	.....	115,896	.....	.....	575,892	.....	691,788
June 30, 1971	.....	.....	4,393,947	.....	.....	10,744,425	.....	15,138,372
INCREASE (DECREASE)	.....	.....	**($ 4,278,051)**	.....	.....	**($10,168,533)**	.....	**($14,446,584)**

NOTE: Accrued mandatory deposits at June 30, 1972 are not included in the above; at December 31, 1971, the accrued deposits amounted to $51,701,704 comprised of $45,667,404 applicable to the Capital Reserve Fund (depreciation) and $6,034,300 applicable to the Special Reserve Fund (excess profits).

C = Capital Reserve Fund

S = Special Reserve Fund

APPENDIX X OPERATING-DIFFERENTIAL SUBSIDIES EXPENDITURES FOR THE FISCAL YEAR 1972 AND TOTAL SUBSIDIES PAYABLE AND EXPENDITURES FOR THE PERIOD JANUARY 1, 1937 TO JUNE 30, 1972

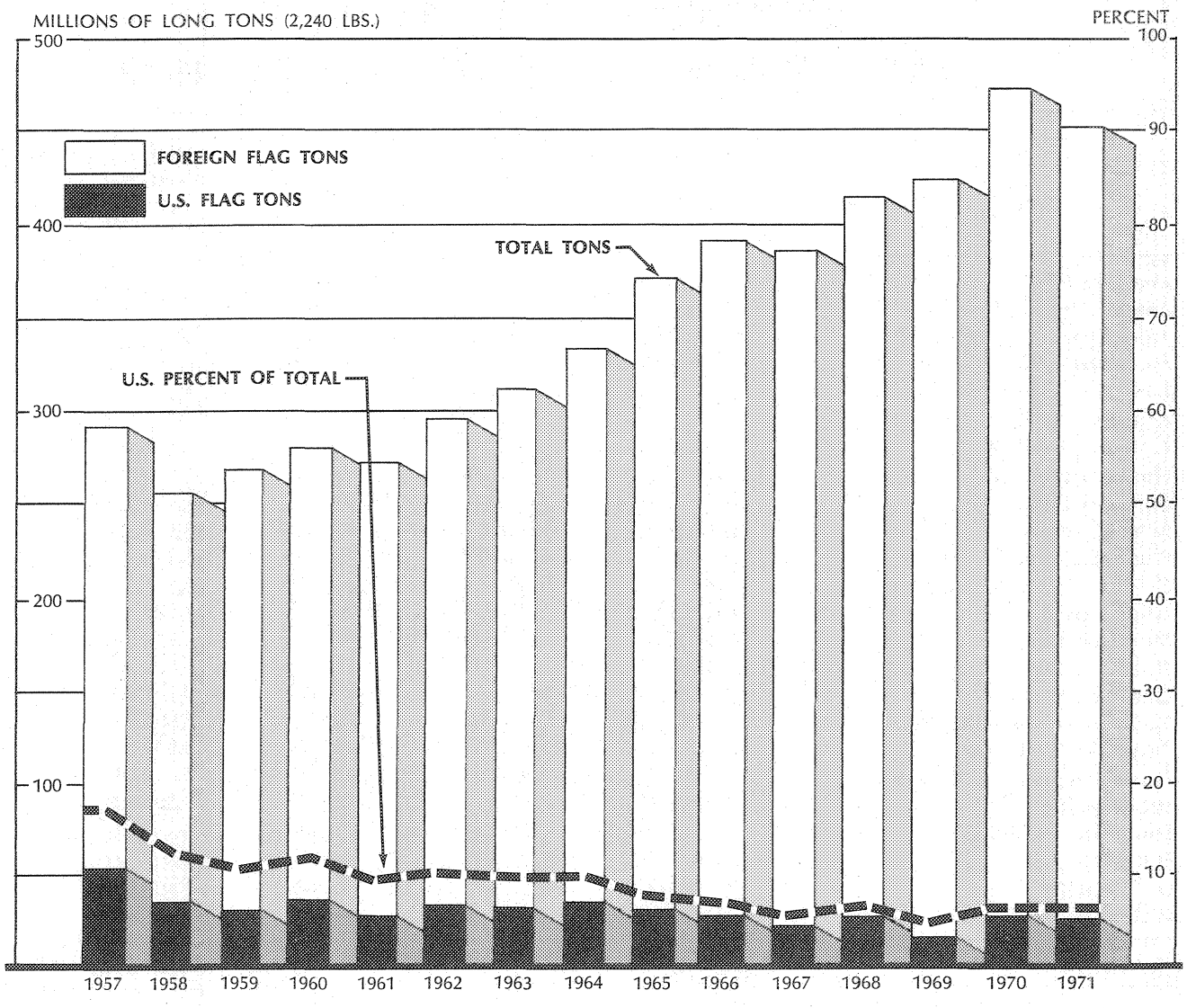
	ACCRUALS			EXPENDITURES		
Calendar Year	Subsidies	Recapture	Net Payable	In Fiscal Year 1972	Cumulative through Fiscal Year 1972	Estimated Balance Payable
1937-46	$ 48,725,478	$ 32,695,537	$ 16,029,941	—	$ 16,029,941	—0—
1947	13,438,553	10,066,979	3,371,574	—	3,371,574	—0—
1948	28,077,303	13,794,768	14,282,535	—	14,282,535	—0—
1949	44,213,377	14,553,310	29,660,067	—	29,660,067	—0—
1950	57,874,056	9,265,433	48,608,623	—	48,608,623	—0—
1951	71,968,636	25,805,608	46,163,028	—	46,163,028	—0—
1952	89,361,880	26,108,608	63,253,272	—	63,253,272	—0—
1953	106,296,046	13,271,864	93,024,182	—	93,024,182	—0—
1954	107,357,156	1,069,909	106,287,247	—	106,287,247	—0—
1955	115,145,469	11,000,930	104,144,539	—	104,144,539	—0—
1956	128,189,900	25,483,596	102,706,304	—	102,706,304	—0—
1957	148,309,951	25,541,138	122,768,813	—	122,768,813	—0—
1958	147,008,266	6,336,805	140,671,461	—	140,671,461	—0—
1959	160,026,827	1,217,639	158,809,188	—	158,809,188	—0—
1960	167,895,154	5,176,231	162,718,923	—	162,718,923	—0—
1961	170,884,261	2,042,748	168,841,513	—	168,841,513	—0—
1962	179,748,676	4,947,848	174,800,828	$ 578,409	174,470,225	$ 330,603
1963	189,130,206	(1,388,903)	190,519,109	335,101	190,519,109	—0—
1964	207,995,171	674,506	207,320,665	3,480,520	207,320,665	—0—
1965	183,959,582	1,014,004	182,945,578	53,697	182,823,684	121,894
1966	202,927,949	3,229,471	199,698,478	1,301,426	199,603,898	94,580
1967	220,581,595	5,162,831	215,418,764	5,070,697	215,319,758	99,006
1968	222,770,873	3,673,790	219,097,083	9,190,776	218,981,725	115,358
1969	218,358,214	2,240,703	216,117,511	12,069,095	200,043,821	16,073,690
1970	214,530,065	(1,546,290)	216,076,355	16,173,233	199,727,608	16,348,747
1971	192,410,979	(2,821,289)	195,232,268	114,391,638	177,672,556	17,559,712
1972	93,252,681	—0—	93,252,681	73,022,229	73,022,229	20,230,452
TOTAL	**$3,730,438,304**	**$238,617,774**	**$3,491,820,530**	**$235,666,821**	**$3,420,846,488**	**$70,974,042**

APPENDIX X (continued) OPERATING-DIFFERENTIAL SUBSIDIES
TOTAL SUBSIDY ACCRUALS, RECAPTURE PAYMENTS, AND BALANCE PAYABLE, BY LINES
PERIOD JANUARY 1, 1937 TO JUNE 30, 1972

Lines	ACCRUALS			Net Subsidies Paid	Estimated Balance Payable
	Subsidies	Recapture	Net Payable		
Amer. Banner Lines[1]	$ 2,626,512	—	$ 2,626,512	$ 2,626,512	—
Amer. Diamond Lines[1]	185,802	$ 28,492	157,310	157,310	—
Amer. Export Isbrandtsen Lines	520,911,085	10,700,586	510,210,499	497,336,497	$12,874,002
Amer. Mail Line	126,773,055	7,908,468	118,864,587	116,995,309	1,869,278
Amer. President Lines	490,623,148	17,676,493	472,946,655	462,240,252	10,706,403
Atlantic & Carib. S/N Co.[1]	63,209	45,496	17,713	17,713	—
Baltimore Mail S/S Co.	416,269	—	416,269	416,269	—
Bloomfield S/S Co.[1]	15,634,432	2,613,688	13,020,744	12,898,850	121,894
Delta S/S Lines	137,145,025	8,185,313	128,959,712	126,438,222	2,521,490
Farrell Lines	171,227,073	1,855,375	169,371,698	163,977,712	5,393,986
Prudential-Grace Lines, Inc.	353,980,516	24,223,564	329,756,952	326,158,808	3,598,144
Gulf & So. Amer. S/S Co.[4]	33,117,410	5,271,674	27,845,736	26,756,315	1,089,421
Lykes Bros. S/S Co.	418,112,858	52,050,599	366,062,259	353,628,154	12,434,105
Moore-McCormack Lines	406,834,963	17,762,445	389,072,518	382,643,920	6,428,598
N. Y. & Cuba Mail S/S Co.[1]	8,090,107	1,207,331	6,882,776	6,882,776	—
Oceanic S/S Co.[3]	107,522,401	1,171,756	106,350,645	105,541,801	808,844
Pacific Argen. Brazil Line[1]	7,963,939	270,701	7,693,238	7,693,238	—
Pacific Far East Line	145,132,397	23,646,517	121,485,880	116,929,268	4,556,612
Prudential Steamsip Company[1]	25,898,952	1,415791	24,483,161	24,312,035	171,126
Sea Shipping Co.[1]	25,819,800	2,429,102	23,390,698	23,390,698	—
South Atlantic S/S Co.[1]	96,374	84,692	11,682	11,682	—
States S/S Co.	144,955,410	5,110,997	139,844,413	135,402,624	4,441,789
U. S. Lines[2]	582,667,154	54,958,694	527,708,460	524,407,097	3,301,363
Waterman S/S Corp.	4,640,413	—	4,640,413	3,983,426	656,987
TOTAL	$3,730,438,304	$238,617,774	$3,491,820,530	$3,420,846,488	$70,974,042

1. No longer subsidized or combined with other subsidized lines.
2. Ceased to be a subsidized line November 6, 1970.
3. Purchased by Pacific Far East Line.
4. Purchased by Lykes Bros. S/S Co.

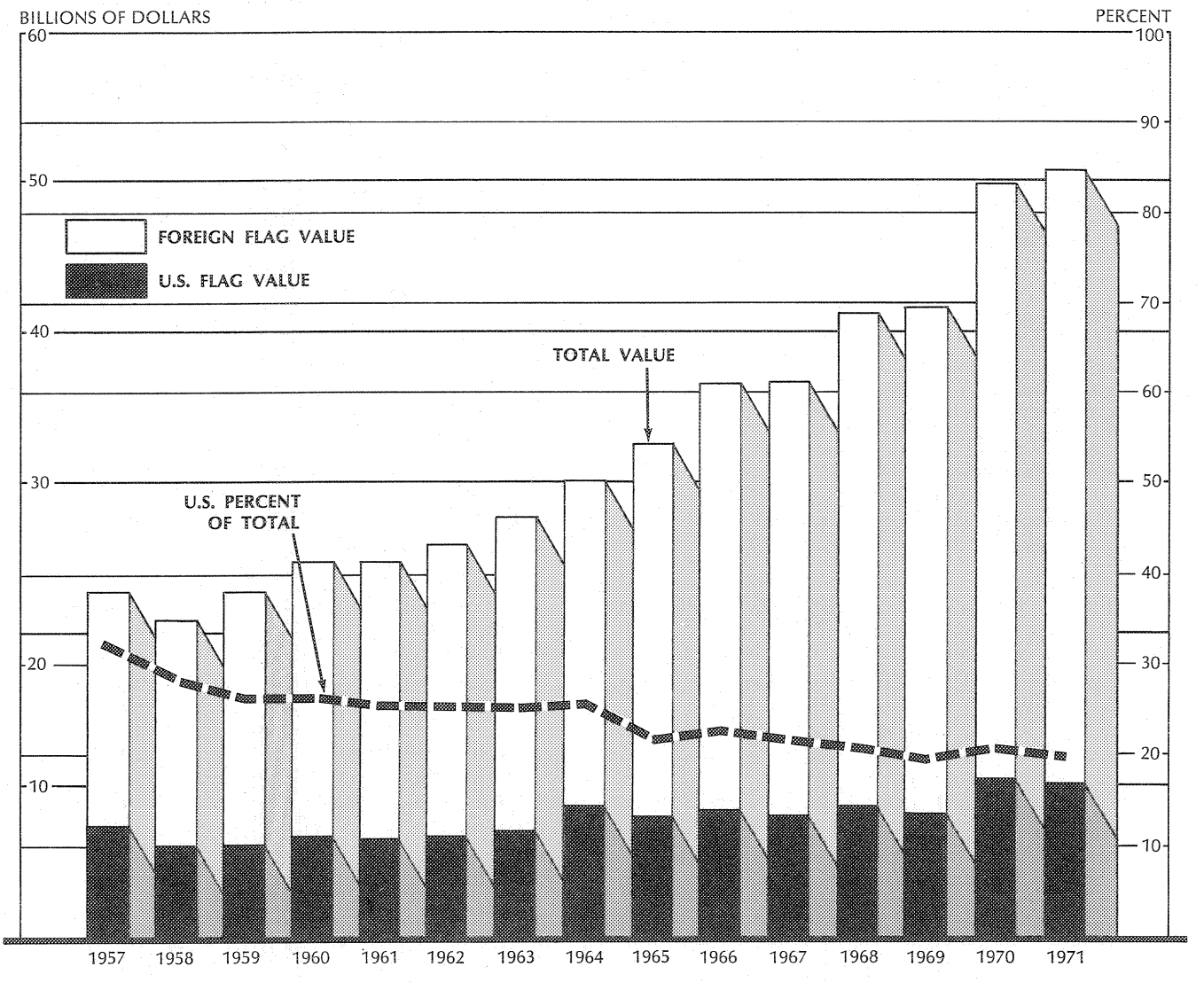
APPENDIX XI. U.S. OCEANBORNE FOREIGN TRADE: COMMERCIAL CARGO CARRIED [TONNAGE]



CALENDAR YEAR	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971*
Total Tons (Millions)	289.3	253.3	267.0	277.9	272.4	296.8	311.6	332.8	371.3	392.3	387.6	418.6	426.1	473.2	456.9
U.S. Flag Tons	50.8	30.9	27.1	31.0	26.3	29.6	28.5	30.5	27.7	26.2	20.5	25.0	19.1	25.2	24.3
U.S. Percent of Total	17.6	12.2	10.2	11.1	9.7	10.0	9.2	9.2	7.5	6.7	5.3	6.0	4.5	5.3	5.3
Liner Total Tons	46.7	43.4	48.1	50.7	49.0	48.3	48.9	50.3	49.2	49.9	47.9	46.1	41.0	50.4	48.8
Liner U.S. Flag Tons	17.8	14.0	13.5	14.5	12.6	12.7	13.5	14.2	11.2	11.4	10.6	11.1	9.2	11.8	10.3
Liner U.S. Percent	38.0	32.3	28.1	28.6	25.8	26.2	27.7	28.1	22.8	22.9	22.2	24.0	22.6	23.5	21.0
Non-Liner Total Tons	135.1	105.1	106.9	109.0	106.7	125.2	136.2	161.4	171.6	189.5	190.4	209.5	211.6	240.7	216.2
Non-Liner U.S. Flag Tons	16.2	8.8	8.2	8.4	7.8	8.3	8.2	9.8	8.2	6.9	5.4	6.4	4.4	5.4	4.7
Non-Liner U.S. Percent	12.0	8.4	7.7	7.7	7.3	6.7	6.0	6.1	4.8	3.6	2.8	3.0	2.1	2.2	2.2
Tanker Total Tons	107.5	104.8	112.0	118.2	116.7	123.3	126.5	121.1	150.5	152.8	149.3	163.1	173.5	182.1	192.0
Tanker U.S. Flag Tons	16.8	8.0	5.4	8.1	5.9	8.5	6.8	6.6	8.2	7.9	4.5	7.5	5.5	8.0	9.4
Tanker U.S. Percent	15.7	7.6	4.8	6.9	5.1	6.9	5.4	5.4	5.5	5.2	3.0	4.6	3.2	4.4	4.9

*Preliminary data subject to future revision.

APPENDIX XII. U. S. OCEANBORNE FOREIGN TRADE: COMMERCIAL CARGO CARRIED [DOLLAR VALUE]



CALENDAR YEAR	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971*
Total Value ($ billions)	22.8	20.9	22.8	24.7	24.7	25.9	27.5	30.0	32.4	36.4	36.6	41.1	41.7	49.7	50.7
U.S. Flag Value ($ billions)	7.3	6.0	6.0	6.5	6.3	6.5	6.9	7.7	6.9	8.2	7.9	8.5	8.0	10.3	10.0
U.S. Percent of Total	32.1	28.6	26.1	26.4	25.6	25.1	25.1	25.8	21.4	22.5	21.7	20.7	19.2	20.7	19.8
Liner Total Value	16.4	15.3	16.8	18.5	18.3	18.9	19.5	21.3	22.3	24.8	24.8	26.8	27.0	33.5	33.0
Liner U.S Flag Value	6.4	5.4	5.5	5.9	5.7	5.8	6.2	7.0	6.2	7.5	7.4	7.8	7.4	9.7	9.3
Liner U.S. Percent	39.1	35.3	32.5	32.1	31.4	30.1	31.5	32.8	27.8	30.4	29.8	29.0	27.3	28.8	28.2
Non-Liner Total Value	4.0	3.4	3.7	3.6	3.7	4.3	5.2	5.9	6.6	8.2	8.6	10.8	11.0	12.2	12.8
Non-Liner U.S. Flag Value	.5	.3	.3	.3	.4	.4	.5	.5	.4	.4	.4	.5	.4	.4	.4
Non-Liner U.S. Percent	12.6	9.2	8.4	9.0	10.6	9.6	9.6	8.6	6.3	4.9	4.5	4.6	3.8	3.3	3.5
Tanker Total Value	2.4	2.2	2.3	2.6	2.7	2.7	2.8	2.8	3.5	3.4	3.2	3.4	3.6	4.0	4.9
Tanker U.S Flag Value	.4	.3	.2	.3	.2	.3	.2	.2	.3	.3	.2	.2	.2	.2	.3
Tanker U.S. Percent	16.8	11.4	7.5	10.4	7.3	9.4	9.0	8.8	8.2	7.7	4.8	6.6	5.2	5.6	5.7

*Preliminary data subject to future revision.
Note: Includes Government sponsored cargo; excludes Department of Defense cargo and U.S./Canada translakes cargo.

APPENDIX XIII. RESEARCH AND DEVELOPMENT CONTRACTS AWARDED IN FISCAL YEAR 1972

Project	Contract	Vendor	Amount
Maritime Research Information System	35498	National Academy of Sciences Washington, D.C.	$ 242,162
Hydrodynamic Testing of Tug-Barge Systems	400-28003	Naval Ship Research and Development Center Carderock, Md.	336,253
Maritime Transportation Research Board (MTRB) [support]	400-28011	National Academy of Sciences Washington, D.C.	135,000
Ship Structure Committee [support]	400-28010	National Academy of Sciences Washington, D.C.	135,000
Tanker Tank Cleaning	2-36279	Mine Safety Appliances Research Corp. Philadelphia & Pittsburgh, Pa.	307,675*
Collection and Separation Facilities for Oily Wastes	2-36202	Frederic R. Harris, Inc. New York, N.Y.	645,393
Clean Ballast Tanker Design	2-36227	J. J. Henry Co., Inc. New York, N.Y.	129,495
Pollution Control and Prevention Program	1-35049	Esso Research and Engineering Company Florham Park, N.J.	83,750*
Fate and Effects of Oil in the Seas	400-28013	NOAA-National Marine Fisheries Service Washington, D.C.	210,000
Fate and Effects of Oil in the Seas	400-28014	National Bureau of Standards Washington, D.C.	190,000
Great Lakes Pollution Control Program	2-36268	Cleveland Cliffs Iron Co. Cleveland, Ohio	30,400*
Environmental Impact of Supertankers	400-28015	Council on Environmental Quality Washington, D.C.	50,000
Consolidated Nuclear Steam Generator—Nuclear Propulsion System—Pump Diffuser Evaluation	1-35555	Babcock & Wilcox Co. Lynchburg, Va.	190,000*
Consolidated Nuclear Steam Generator—Preconstruction Engineering	2-36216	Babcock & Wilcox Co. Lynchburg, Va.	1,693,179
Consolidated Nuclear Steam Generator—Critical Heat Flux Characteristics	1-35555	Babcock & Wilcox Co. Lynchburg, Va.	114,047*
Ocean Wave Height Measuring Systems	400-28016	Naval Ship Engineering Center Hyattsville, Md.	25,000
Highly Skewed Propeller	2-36315	Aries Marine Shipping Co. Lake Success, N.Y.	949,543*
Oily Water Separator	400-28025	U. S. Coast Guard Washington, D.C.	148,530*
Segregated Ballast Tanker Economics	2-36313	J. J. Henry Co., Inc. New York, N.Y.	149,530
Longitudinal Strength Instrumentation of Great Lakes Ore Carrier S.S. BEEGHLY	400-28026	U. S. Coast Guard Washington, D.C.	25,000*

[1] Projects in connection with the National Maritime Research Center at Galveston, Texas. Todd Shipyards is subcontracting a majority of the work.
*Directly or indirectly cost-shared.

Project	Contract	Vendor	Amount
High Block Coefficient Merchant Ship Forms with Length Beam Ratios Ranging Down to Low Values	1-35587	Hydrodynamics, Inc. Laurel, Md.	238,500
Surface Preparations and Coatings	2-36215	General Dynamics Corp. Quincy, Mass.	500,000*
Shipbuilding Production Research	2-36233	Todd Shipyards Corp. Seattle, Wash.	580,000*
Shipbuilding—Welding Methods	2-36214	Bethlehem Steel Corp. Shipbuilding Division Sparrows Pt., Md.	700,000*
Domestic Shipping Market Analysis Project	2-36258	A. T. Kearney & Co., Inc. Chicago, Ill.	600,000
Container Impact Study Results and Development Action Program	1-35494	Manalytics, Inc. San Francisco, Calif.	22,400*
Bulk Commodity Alternative Form Changes and Transport Modes	2-36252	Litton Industries Advance Marine Technology Division Culver City, Calif.	968,946
Economic and Operational Evaluation of Tug-Barge Systems	2-36285	G. G. Sharpe, Inc. New York, N.Y.	345,110
Floatable Waste Treatment Plant	2-36200	Lockheed Shipbuilding and Construction Co. Seattle, Wash.	191,755
Radio Technical Commission for Marine Services [support]	400-28001	Radio Technical Commission for Marine Services, Wash., D.C.	6,400
Advanced Conning System	1-35410	American Export Lines, Inc. New York, N.Y.	82,197
Shipping Operations Information Systems (S.O.I.S.)	2-36238	Computer Sciences Corp. Falls Church, Va.	499,957*
Anti-Stranding Sonar System	2-36228	Raytheon Co. Portsmouth, R.I.	172,561
Satellite-Aided Ship Operations Program	2-36281	General Electric Co. Daytona Beach, Fla.	4,584,669*
Crew Skills and Disciplines	0-35505	The Stanwick Corp. Arlington, Va.	59,920
Remote Radar Transmission Processing and Display Satellite/Nav./Comm.	2-36289	Applied Information Industries Moorestown, N.J.	1,114,000
Kings Point Satellite Navigation/Communication Transmission System and Satellite Nav./Comm. System Reconfiguration	2-35594	Applied Information Industries Moorestown, N.J.	653,762*
Rational Ship Structural Design Criteria	2-36210	Sea Use Council Seattle, Wash.	281,694
Cost Benefit Analysis Model for Great Lakes Ships with Ice-Transiting Capabilities, Phase II	1-35487	University of Michigan Ann Arbor, Mich.	90,000

[1] Projects in connection with the National Maritime Research Center at Galveston, Texas. Todd Shipyards is subcontracting a majority of the work.
*Directly or indirectly cost-shared.

APPENDIX XIII. R&D CONTRACTS AWARDED IN FY 1972 (Continued)

Project	Contract	Vendor	Amount
Requirements for Mat. Transp. Service Port Facilities and Related Community Services in Support of Arctic Commerce	2-36288	The Arctic Institute of North America Washington, D.C.	175,560
Commercial Shipboard Test and Demonstration of Low Cost Navy Navigation and Satellite Equipment	400-28012	Johns Hopkins University Applied Physics Laboratory Silver Spring, Md.	68,000*
Vibration and Deviation Concept	2-36251	Raytheon Co. Portsmouth, R.I.	340,761
Advanced Devices for Improvement of Bulk Carriers in Ice conditions Indigenous to the Great Lakes	1-35554	Arctec. Corp. Columbia, Md.	80,860
Concept Testing, Oil Water Separation	MA-6562	Todd Shipyards Corp.[1] Galveston, Tex.	198,000
Concept Testing, Ship Sewage Treatment	MA-6562	Todd Shipyards Corp.[1] Galveston, Tex.	168,000
Concept Testing, Stack Gas Control	MA-6562	Todd Shipyards Corp.[1] Galveston, Tex.	124,500
Technology Assessment of Selected Candidate Tug-Barge Linkages	MA-6562	Todd Shipyards Corp.[1] Galveston, Tex.	112,000
Mini-Drydock Development	MA-6562	Todd Shipyards Corp.[1] Galveston, Tex.	173,000
LNG Tank Design Evaluation	MA-6562	Todd Shipyards Corp.[1] Galveston, Tex.	30,000
Offshore Terminal Study [support]	MA-6562	Todd Shipyards Corp.[1] Galveston, Tex.	70,000
Commercial Nuclear Propulsion Study	MA-6562	Todd Shipyards Corp.[1] Galveston, Tex.	134,500
Measuring Program Effectiveness of Civil Rights in Shipbuilding	2-36212	University of Pennsylvania Philadelphia, Pa.	47,460
Radio Frequency Management Services	400-28002	National Oceanic & Atmospheric Admin. Rockville, Md.	7,401
Maritime Contract Impact System	1-35574	General Electric, Information Service Department Washington, D.C.	41,970
Forecast and Analysis of U. S. Bulk Carrier Requirements	2-36231	Inner City Fund Washington, D.C.	17,245

[1] Projects in connection with the National Maritime Research Center at Galveston, Texas. Todd Shipyards is subcontracting a majority of the work.
*Directly or indirectly cost-shared.

Project	Contract	Vendor	Amount
U. S. Ocean Bulk Shipping Program	2-36245	Jones, Bardelmeier, Clements, Ltd. Nassau, Bahamas	50,000
Foreign Trade Forecasting Model	1-35516	Synergy, Inc. Washington, D.C.	20,235
Maritime Union Pension Fund Study and Labor Management Negotiations	2-36260	Inner City Fund Washington, D.C.	35,000
Marine Data Systems Analysis	2-36278	Data Architects, Inc. Waltham, Mass.	305,228
Master Maritime Planning System	2-36286	Temple, Barker, Sloane, Inc. Wellesley Hills, Mass.	13,600
Maritime Planning for Sea Power Development	2-36282	Lulejian & Assoc., Inc. Redondo Beach, Calif.	83,000
Union/Management Evaluation, Project 72	2-36283	Communications Network Corp. Washington, D.C.	85,000
Improved Existing Foreign Trade Model	2-36263	Synergy, Inc. Washington, D.C.	68,109
Oil Tanker Forecast Model	2-36264	Communications Network Corp. Washington, D.C.	24,000
Foreign Seaman's Wage Forecast	2-3262	Synergy, Inc. Washington, D.C.	53,654

[1] Projects in connection with the National Maritime Research Center at Galveston, Texas. Todd Shipyards is subcontracting a majority of the work.
*Directly or indirectly cost-shared.

APPENDIX XIV SUBSIDIZED AND UNSUBSIDIZED OPERATORS COMBINED CONDENSED BALANCE SHEETS, DECEMBER 31, 197

SEE NOTES (STATED IN THOUSAND DOLLARS)

		Unsubsidized	
	Subsidized	Tanker	Cargo
ASSETS			
Current Assets:			
Cash	$ 13,920	$ 44,525	$ 17,307
Marketable Securities	34,010	7,473	19,215
Accounts Receivable	187,964	19,930	130,966
Other	50,142	10,072	146,763
Total current assets	286,036	82,000	314,251
Special Funds and Deposits	248,696[2]	35,630	11,359
Investments	21,549	10,211	64,668
Deferred ODS receivable (see contra)	35,472[3]	—0—	—0—
Property and equipment—less depreciation			
Vessels	813,363	288,115	347,866
Other	238,026	20,620	221,426
Other assets	40,882	43,634	121,821
Voyages in progress—net	—0—	45	92
Total assets	$1,684,024	$480,255	$1,081,483

	Subsidized	Unsubsidized	
		Tanker	Cargo
LIABILITIES AND NET WORTH			
Liabilities:			
Current Liabilities:			
Accounts payable and accruals	$ 170,867	$ 22,179	$ 217,572
Current long-term debt	6,584	19,188	40,430
Other	21,591	3,438	8,901
Total current liabilities	199,042	44,805	266,903
Voyages in progress—net	24,397	4,992	8,819
Long-term debt	601,794[2]	264,485	307,848
Recapture ODS (see contra)	35,472[3]	—0—	—0—
Operating reserves	46,327	1,188	29,668
Other liabilities	48,888	40,744	111,451
Total liabilities	$ 955,920	$356,214	$ 724,689
Net Worth:			
Capital Stock	$ 118,357	$ 38,210	$ 42,402
Surplus:			
Capital	249,888	41,227	213,654
Earned	359,859	44,604	100,738
Total surplus	609,747	85,831	314,392
Total net worth	728,104[4]	124,041	356,794
Total liabilities and net worth	$1,684,024	$480,255	$1,081,483

APPENDIX XIV SUBSIDIZED AND UNSUBSIDIZED OPERATORS[1] COMBINED CONDENSED INCOME AND SURPLUS ACCOUNTS DECEMBER 31, 1971

SEE NOTES (STATED IN THOUSAND DOLLARS)

		Unsubsidized	
	Subsidized	Tanker	Cargo
Shipping Operations:			
Revenue:			
Terminated voyages	$ 722,994	$116,754	$ 653,833
Other shipping operations	10,635	2	29,437
Total revenue	733,629	116,756	683,270
Expense:			
Terminated voyage expense:			
Wages, payroll taxes, welfare contributions	246,686	26,894	93,752
Subsistence	11,065	1,275	4,308
Maintenance and repairs	37,574	4,698	20,642
Insurance (Hull and P and I)	45,540	8,044	21,407
Total	340,865	40,911	140,109
Less: Operating-differential subsidy (ODS)	197,237	—0—	—0—
Total	143,628	40,911	140,109
Other vessel expense	76,892	15,025	110,944
Voyage expense	322,199	9,643	157,522
Total terminated voyage expense	542,719	65,579	408,575
Other shipping operations expense:			
Overhead	92,048	3,336	95,878
Depreciation on shipping property	37,096	16,183	46,574
Other miscellaneous shipping expenses	52,450	2,527	141,485
Total expense	724,313	87,625	692,512
Gross profit (loss) from shipping operations	9,316	29,131	(9,242)
Interest and other income	20,781	4,760	29,942
Interest and other deductions	(30,779)	(15,692)	(40,215)
Net profit (loss) from shipping operations	(682)	18,199	(19,515)
Non-shipping operations—net profit (loss)	86	315	59
Ordinary income (loss) before Federal income taxes	(596)	18,514	(19,456)
Provisions for Federal income taxes	(926)	4,447	(5,727)
Ordinary income after taxes	330	14,067	(13,729)
Extraordinary and prior period items:			
Extraordinary items—net income (net expense)	(4,479)	263	(718)
Prior period items—net income (net expense)	—0—	(296)	3,282
Federal income taxes thereon (net expense)	(4,373)	(2)	(2,060)
Total	(8,852)[4]	(35)	504
Net income (loss) (carried forward)	(8,522)	14,032	(13,225)

	Subsidized	Unsubsidized	
		Tanker	Cargo
Net income (loss) (brought forward)	(8,522)	14,032	(13,225)
Add: Surplus (capital and earned) beginning of year	642,385[6]	60,755	274,104
Total surplus available	633,863	74,787	260,879
Surplus changes:			
Cash dividends	(24,116)	(1,900)	(18,260)
Other (net)	—0—	12,944[5]	71,773[5]
Total	(24,116)	11,044	53,513
Surplus (capital and earned) end of year	$ 609,747	$ 85,831	$ 314,392

[1] The data were obtained from Forms MA-172 filed (1) by the 12 subsidized operators for the calendar year 1971 and (2) by 12 cargo and 26 tanker unsubsidized operating companies for various 1971 fiscal year periods, covering 239 subsidized vessels, 37 unsubsidized tankers and 76 unsubsidized cargo vessels.

[2] Long-term debt includes $16,116 of mortgage indebtedness due within one year and payable from special funds and deposits of subsidized operators.

[3] Represents Government's share of recapturable subsidy deducted from subsidy payments pending settlement of 10 year subsidy recapture periods. Of the amount shown $25,005 applies to completed but unsettled subsidy recapture periods and $10,466 applies to current incomplete subsidy recapture periods. The corresponding amounts at December 31, 1970 were $24,506 and $13,548.

[4] Net worth of the 12 subsidized operators includes earnings of $523,787 on which Federal income taxes have been deferred as of December 31, 1971. This reflects a reduction of $16,475 when compared with $540,262 as of December 31, 1970. Deferred earnings of $109,043 were eliminated from the above 1970 figures for companies which are no longer subsidized.

[5] Other surplus changes: The other surplus changes for unsubsidized operators resulted from contributions of capital stock and prior period tax adjustments.

[6]

Opening surplus 1971 annual report	$729,090
Less: Surplus for companies no longer subsidized	86,705
Opening surplus for 1972 annual report	$642,385

(Amounts Stated in Thousand Dollars)

FINANCIAL STATEMENTS

Exhibit 1. BALANCE SHEET—JUNE 30, 1972 AND JUNE 30, 1971 (Note 1)

ASSETS	JUNE 30 1972	JUNE 30 1971
CASH AND FUND BALANCES (note 2)	$ 518,976,474	$ 426,702,475
ADVANCES:		
U.S. Government agencies	86,654	693
Others	40,743	25,216
	127,397	25,909
NOTES AND ACCOUNTS RECEIVABLE:		
U.S. Government agencies	550,642	2,705,425
Domestic firms and individuals	6,017,056	4,291,374
Foreign governments and nationals	45,938	45,938
	6,613,636	7,042,737
Less allowance for losses	174,015	175,142
	6,439,621	6,867,595
ACCRUED INTEREST RECEIVABLE (note 3)	814,191	513,505
MATERIAL AND SUPPLIES (at cost or estimated cost)	610,702	663,444
INVESTMENTS—U.S. TREASURY SECURITIES	37,793,391	27,609,849
LOANS RECEIVABLE:		
Ship mortgage loans—domestic	56,133,423	63,293,920
Loan to foreign government		270,133
	56,133,423	63,564,053
Less allowance for losses	9,927,825	9,927,825
	46,205,598	53,636,228
VESSELS UNDER CONSTRUCTION	65,352,868	65,348,196
FIXED ASSETS USED IN OPERATIONS (at cost, estimated cost or assigned amounts)	37,218,134	38,653,629
Less accumulated depreciation	18,366,019	19,306,072
	18,852,115	19,347,557
ASSETS HELD PRIMARILY FOR MOBILIZATION PURPOSES (at cost, estimated cost or assigned amounts):		
Vessels	1,857,939,600	1,995,584,563
Less accumulated depreciation	1,798,677,627	1,931,795,216
	59,261,973	63,789,347
Facilities and equipment	38,004,181	38,186,256
Less accumulated depreciation	14,946,917	14,470,977
	23,057,264	23,715,279
Stand-by inventories	5,002,901	5,531,667
	87,322,138	93,036,293
OTHER ASSETS:		
Vessels held primarily for scrapping	133,150,676	243,780,436
Other vessel (HYDROFOIL)		150,000
Less allowance for losses	128,201,037	235,235,277
	4,949,639	8,695,159
Deferred charges:		
Unamortized construction-differential subsidies	1,085,548,317	976,937,383
Other deferred charges and miscellaneous items	777,825	846,982
	1,086,326,142	977,784,365
Less allowance for losses	733,339	719,828
	1,085,592,803	977,064,537
	$1,873,036,937	$1,679,510,747

The notes and schedules to financial statements are an integral part of this statement.

LIABILITIES	JUNE 30 1972	JUNE 30 1971
ACCOUNTS PAYABLE AND OTHER LIABILITIES (note 4)		
U.S. Government agencies:		
Liability for vessels under construction	$ 65,352,876	$ 65,348,197
Advances and contributions	2,545,568	10,003,980
Accounts payable and accrued liabilities	133,266	211,583
	68,031,701	75,563,760
Other:		
Accrued operating-differential subsidies (note 5)	75,451,633	125,012,186
Less estimated recapture subsidies	4,477,591	397,524
	70,974,042	124,614,662
Vessel trade-in allowance payable	17,310,566	
Amounts due shipbuilders for construction of vessels	41,526,079	17,726,354
Accrued annual leave	2,863,036	2,581,406
Accounts payable and accrued liabilities	6,965,919	9,271,638
Deposits by contractors and others	1,105,555	1,272,006
Withholding for purchase of savings bonds and payment of state and local taxes	225,304	101,290
Unearned insurance premiums (note 6)	3,569,728	3,143,333
Other deferred charges	1,169,798	1,061,743
	145,710,017	159,712,432
	213,741,728	235,336,192
EQUITY OF THE UNITED STATES GOVERNMENT (exhibit 2)		
Maritime Regular	1,599,084,624	1,391,923,962
Vessel Operations Revolving Fund	16,801,008	16,930,601
Federal Ship Mortgage Insurance Revolving Fund	38,146,704	30,342,134
War Risk Insurance Revolving Fund	5,262,873	4,977,358
	1,659,295,209	1,444,174,555
	$1,873,036,937	$1,679,510,747

The notes and schedules to financial statements are an integral part of this statement.

FINANCIAL STATEMENTS (continued)

EXHIBIT 2. STATEMENT OF EQUITY OF THE UNITED STATES GOVERNMENT FOR THE YEARS ENDED JUNE 30, 1972 AND JUNE 30, 1971 (Note 1)

	YEAR ENDED JUNE 30	
	1972	1971
BALANCE, BEGINNING OF FISCAL YEAR	$1,444,174,555	$1,301,033,003
ADDITIONS:		
Funds appropriated by the Congress	525,031,000	512,895,000
Contributions received for Chapel at United States Merchant Marine Academy, Kings Point, N.Y.	56,866	95,909
	1,969,262,421	1,814,023,912
DEDUCTIONS:		
Net cost of combined operations (exhibit 3)	278,613,293	338,443,785
Payments into General Fund Receipt	18,818,625	28,595,152
Unobligated balance of appropriations transferred to U.S. Treasury	176,875	306,353
Property other than vessels transferred to others (net)	51,956	348,709
Vessels transferred to others—Government Agencies (net)	12,306,463	2,155,358
	309,967,212	369,849,357
BALANCE, CLOSE OF FISCAL YEAR (exhibit 1)	$1,659,295,209	$1,444,174,555

The notes and schedules to financial statements are an integral part of this statement.

FINANCIAL STATEMENTS (continued)

EXHIBIT 3. STATEMENT OF OPERATIONS FOR YEARS ENDED JUNE 30, 1972 AND 1971

(Note 1)

	YEAR ENDED JUNE 30	
	1972	1971
OPERATIONS OF MARITIME ADMINISTRATION:		
Net costs of operating activities (note 6)		
Reserve Fleet Program:		
Depreciation of reserve fleet vessels	$ 1,887,514	$ 9,405,356
Maintenance and preservation	1,178,550	1,499,321
	3,066,064	10,904,677
Maritime Training program	6,967,766	6,824,644
Maintenance of reserve shipyards	186,044	283,371
Operation of warehouses	47,026	196,537
	10,266,900	18,209,229
Direct subsidies and costs attributable to National Defense:		
Estimated operating-differential subsidies (note 5)	181,979,747	252,419,871
Construction-differential subsidies	56,633,456	45,555,967
Cost of National Defense features	1,616,837	1,613,048
	240,230,040	299,588,886
Administrative expenses	21,277,437	16,642,935
Research and development	12,349,763	8,298,317
Uncapitalized expenses incidental to ship construction		1,950
Financial assistance to State Marine Schools	2,222,420	2,591,808
	35,849,620	27,535,010
Other costs (– income)		
Loss on sale of fixed assets other than vessels	422,581	–7,054,000
Depreciation facilities and equipment not allocated to current program	194,242	266,860
Adjustments applicable to prior years	–309	276,691
Loss on sale or surplus material and scrap	87,633	2,456,760
Loss (– gain) on sale of fixed assets other than vessels	29,462	963,442
Inventory and property adjustments	877,050	263,155
Interest income	–1,579,858	–1,701,307
Miscellaneous (net)	195,924	3,094,762
	226,725	–1,433,637
Net cost of Maritime Administration operations	286,573,285	343,899,488
OPERATIONS OF REVOLVING FUNDS (– net income or loss):		
Vessel Operations Revolving Fund	129,593	
War Risk Insurance Revolving Fund	–285,515	–242,733
Federal Ship Mortgage Insurance Revolving Fund	–7,804,070	–5,212,970
NET COST OF COMBINED OPERATIONS (exhibits 2 and 4)	$278,613,293	$338,443,785

The notes and schedules to financial statements are an integral part of this statement.

FINANCIAL STATEMENTS (continued)

EXHIBIT 4. STATEMENT OF SOURCES AND APPLICATION OF FUNDS FOR THE YEAR ENDED JUNE 30, 1972 (Note 1)

SOURCES:		
Funds appropriated by Congress		$525,031,000
Collections on mortgage loan receivable		7,430,629
Proceeds from sale of vessels		10,958,170
Proceeds from sale of non-current assets other than vessels		61,850
Contributions received for construction of Chapel		56,866
Total funds provided		543,538,515
APPLICATION:		
Net cost of combined operations (exhibit 3)	$278,613,293	
Items considered in net cost of combined operations:		
Provision for depreciation	–2,898,844	
Amortization of construction-differential subsidies	–58,882,765	
Gain or (– loss) on disposal of non-current assets:		
Vessels	–498,087	
Other	–474,320	
Property and other adjustments	17,193,116	233,052,393
Unamortized construction-differential subsidies		167,493,699
Payments into General Fund of U.S. Treasury		18,818,625
Increase in investments of U.S. Treasury		10,285,000
Unobligated balance returned to U.S. Treasury		176,875
Total funds applied		429,826,592
Increase in working capital:		$113,711,923

SUMMARY OF CHANGES IN WORKING CAPITAL

YEAR ENDED JUNE 30, 1972

	JUNE 30		Increase
	1972	1971	(– Decrease)
Assets:			
Cash	$518,976,474	$426,702,475	$ 92,273,999
Advances	127,397	25,909	101,488
Notes and accounts receivable	6,439,621	6,867,595	–427,974
Accrued interest receivable	814,191	513,505	300,686
Material and supplies	610,702	663,444	–52,742
Other deferred charges and miscellaneous items (net)	44,486	127,154	–82,668
Total	527,012,871	434,900,082	92,112,789
Liabilities:			
Accounts payable and other liabilities	148,388,861	169,987,995	21,599,134
	$378,624,010	$264,912,087	$113,711,923

The notes and schedules to financial statements are an integral part of this statement.

NOTES TO FINANCIAL STATEMENTS
—June 30, 1972 and 1971

1. The preceding financial statements include the assets, liabilities, income and expense of the Maritime Administration, the Vessel Operations Revolving Fund, the War Risk Insurance Revolving Fund, and the Federal Ship Mortgage Insurance Revolving Fund and also accounts maintained by certain steamship companies for vessels operated for the Vessel Operations Revolving Fund under General Agency agreements.

2. Cash and fund balances consist of:

	1972	1971
Fund Balances with U.S. Treasury		
Operating funds	$518,976,474	$415,918,928
Trust and deposit funds	1,330,859	1,373,296
Allocations from other agencies	1,380,117	9,217,429
Cash in Banks, on hand, and in transit		192,822
	$521,687,450	$426,702,475

3. Accrued interest receivable:

On ship mortgage loans:	1972	1971
Domestic firms and individuals	$755,358	$475,436
On other loans and investments	58,833	38,069
	$814,191	$513,505

4. The Maritime Administration was contingently liable under agreements insuring mortgages, construction loans and accrued interest payable to lending institutions totaling $1,081,945,308 at June 30, 1972 and $886,399,041 at June 30, 1971. Commitments to insure additional loans and/or mortgages amounted to $627,427,570 at June 30, 1972, and $280, 403,776 at June 30, 1971. U.S. Government securities and cash of $87,756,060 at June 30, 1972, and $102,031,159 at June 30, 1971, were held in escrow by the Government in connection with insurance of loans and mortgages which were financed by the sale of bonds to the general public. There were also conditional liabilities for prelaunching War Risk Builder's Risk Insurance of $17 million at June 30, 1971, and $17 million at June 30, 1970. The Maritime Administration was also contingently liable for undetermined amounts in connection with settlements to be made under 396 claims against the Administration aggregating $29,587,065 at June 30, 1972, and 645 claims aggregating $31,613,910 at June 30, 1971. Based on previous experience, it is anticipated that settlement of these claims will be made for amounts substantially less than the gross amounts of the claims.

   At June 30, 1972, and 1971 the U.S. Treasury held in safekeeping for the Maritime Administration $40,000 and $40,000, respectively, of U.S. Government securities which had been accepted from vessel charterers, subsidized operators, and other contractors as collateral for their performance under contracts.

5. Operating-differential subsidies are paid subject to final adjustments at the end of the operators' recapture periods which are established by contracts generally as ten-year terms. The Administration was contingently liable for subsidies in the amounts of $1,798,484 and $8,988,245 at June 30, 1972, and June 30, 1971, respectively, which had not been paid because of estimated recapturable excess profits in the same amounts pending final accountings for applicable recapture periods.

6. Costs on the Statement of Operations are shown after deductions for revenue and reimbursements and include depreciation on facilities and equipment used in operations and on reserve fleet vessels held primarily for mobilization purposes.

   Costs shown for the following programs include:

	Year Ended June 30			
	1972		1971	
	Depreciation	Revenue and Reimbursements	Depreciation	Revenue and Reimbursements
Maintenance and preservation of reserve fleet vessels	$145,821	$1,069,736	$ 199,728	$5,452,456
Maritime training program	272,199	211,203	370,396	458,073
Maintenance of reserve shipyards	204,149	18,105	286,828	3,457
Operation of warehouses	29,165	—	41,620	57,223
Administrative expense	48,607	1,182,457	70,416	3,469,844
Research and development	77,771	—	100,924	
Total	$777,712	$2,481,501	$1,069,912	$9,441,053

7. Accounts payable and other liabilities shown on exhibit 4 exclude $65,352,867 at June 30, 1972, and $65,348,197 at June 30, 1971, which were offset against related costs for vessels under construction.

8. Fixed assets used in operations are as follows:

	June 30	
	1972	1971
Facilities and equipment	$30,413,893	$32,704,904
Land and land improvements	3,600,112	3,727,000
Construction in progress	3,204,129	2,221,725
	$37,218,134	$38,653,629

   Depreciation shown on exhibit 1 applies to Facilities and Equipment only.

9. Facilities and equipment held primarily for mobilization purposes are as follows:

	June 30	
	1972	1971
Land and land improvements	$38,004,181	$38,186,256
Other facilities and equipment	14,946,917	14,470,977
	$52,951,098	$52,657,233

SHIPPING STUDIES and REPORTS

Where prices are not included, a limited number of copies are available from the Office of Public Affairs, Maritime Administration.

GENERAL

The American Shipper & the U. S. Flag Merchant Fleet. Office of Market Development, 12pp., Maritime Administration.

MARAD 1971; Year of Breakthrough, (Report of the Maritime Administration for fiscal year 1971). 88pp., $1.00, GPO.

Emergency Preparedness: Progress in Seaports. Maritime Administrtion, 34pp.

Index of Current Regulations of the Maritime Administration, Maritime Subsidy Board, National Shipping Authority, Revised as of January 1, 1972. 43pp., $.50, GPO.

Maritime Subsidies, 174pp., $1.50, GPO.

A New Wave of American Shipping, Maritime Administration.

U. S. Merchant Marine—America's Life Lines, 2pp., Maritime Administration.

Vessel Inventory Report, As of June 30, 1972, 108pp., Maritime Administration.

STATISTICAL

Foreign Flag Ships Owned by U. S. Parent Companies, 33pp., Maritime Administration.

Foreign Oceanborne Trade of U. S. Containerized Cargo on Selected Trade Routes, CY 1970, 27pp., $.35, GPO.

Merchant Fleets of the World, as of December 31, 1970, 19pp., $.30, GPO.

New Ship Construction, Part I & II, 12pp., Maritime Administration.

TECHNICAL

Study to Improve Marine Transportation Through Aerospace Electronics, Prepared by Applied Information Industries.

Volume I, 65pp., COM–72–10241
Volume II, 85pp., COM–72–10242
Volume III, 215pp., COM–72–10243
Volume IV, 74pp., COM–72–10244

Motions & Joint Loads of a Barge Train in Waves, Prepared by Massachusetts Institute of Technology, 129pp., COM–72–10510.

Barge Trains in a Coastal Seaway, Part III Directional Stability & Control, Prepared by Stevens Institute of Technology, 75pp., COM–72–10298.

Impact of Maritime Containerization on the U. S. Transportation System, Prepared by Manalytics, Inc.
Volume I, 28pp., COM–72–10405
Volume II, 319pp., COM–72–10406

Ship Design Improvement Project, Prepared by Newport News Shipbuilding.
Volume II, 320pp., COM–72–10436
Volume III, Book 1, 80pp., COM–72–10437
Volume III, Book 2, 144pp., COM–72–10438
Volume III, Book 3, 148pp., COM–72–10439
Volume III, Book 4, 195pp., COM–72–10440

Human Factors in Ship Control, Volume V, Prepared by General Dynamics Corp., 184pp., COM–72–10403.

An Analytical and Experimental Study for the Prediction of Ship Impact Forces in a Seaway, Prepared by Massachusetts Institute of Technology, 96pp., COM–72–10469.

Relationship of Land Transportation Economics to Great Lakes Traffic Volume, Prepared by Robert Rebie Associates, 175pp., COM–71–01082.

Removal of Oil from Seawater, Prepared by AMF/Beaird Maxim Evaporators, 137pp., COM–71–01095.

Detection of Oil Contamination in Sea Water, Prepared by ITT Research Institute, Volume III, 52pp., COM–71–00935.

Lookout Assist Device, Prepared by Sperry Marine Systems Div., 32pp., COM–72–10404.

U. S. Seamen and the Seafaring Environment, Prepared by Office of Maritime Manpower, 41pp., COM–72–10007.

Experimental & Theoretical Determination of Waveform & Ship Responses Extremes, Prepared by Massachusetts Institute of Technology, 60pp., COM–72–10511.

The Motions of Connected Hulls in Regular Head Seas, Prepared by Massachusetts Institute of Technology, 274pp., PB 184465.

The above **technical** *reports may be purchased from the National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia, 22151, for $3.00 each, or 65¢ in microfiche.*

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