# MARAD '89

The Annual Report
of the
Maritime Administration
for Fiscal Year 1989

*U.S. DEPARTMENT OF TRANSPORTATION*
Maritime Administration

April 1990

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THE SECRETARY OF TRANSPORTATION
WASHINGTON, D.C. 20590

March 30, 1990

The Honorable Dan Quayle
President of the Senate
Washington, DC 20510

The Honorable Thomas S. Foley
Speaker of the House of
Representatives
Washington, DC 20515

Dear Sirs:

I have the pleasure of forwarding to you the annual report of the Maritime Administration for fiscal year 1989 as required by the Merchant Marine Act, 1936, as amended.

Sincerely,

Samuel K. Skinner

Samuel K. Skinner

Enclosure

The Liberty ship JOHN W. BROWN on its way to Baltimore, MD, where it was launched in 1942, from NORSHIPCO (Norfolk, VA).

## FOREWORD

The Annual Report of the Maritime Administration (MARAD) for the fiscal year which ended on September 30, 1989, is submitted to the Congress in accordance with Section 208 of the Merchant Marine Act, 1936, as amended.

It incorporates reports required by the Congress on the following topics: acquisition of obsolete vessels in exchange for vessel trade-in credit; war-risk insurance activities; scrapping or removal of obsolete vessels owned by the United States; and U.S-flag carriage of Government-sponsored cargoes. There were no reportable activities during FY 1989 involving the allocation of construction- and operating-differential subsidy to port ranges and the settlement of claims arising under the Suits in Admiralty Act.

During the period, the Secretary of Transportation and the Maritime Administrator continued to press for the reform of the liner operating-differential subsidy program to enhance the ability of U.S. carriers to compete with their foreign competitors. Reform legislation was not enacted, however. Progress was made toward removal of foreign trade practices unfairly impeding U.S. carriers' operations in the Far East.

U.S. commercial shipyards continued to be awarded all Navy new construction contracts under the largest combatant ship construction program in the U.S. Navy's peacetime history. No commercial vessels were delivered during the year.

On September 30, 1989, the U.S.-flag privately owned, deep-draft merchant fleet (including the Great Lakes fleet) totaled 491 vessels with an aggregate carrying capacity of 22.8 million deadweight tons.

The report provides details on these topics and many other MARAD activities as well as on the state of the maritime industry.

**CAPTAIN WARREN G. LEBACK**
**Maritime Administrator**

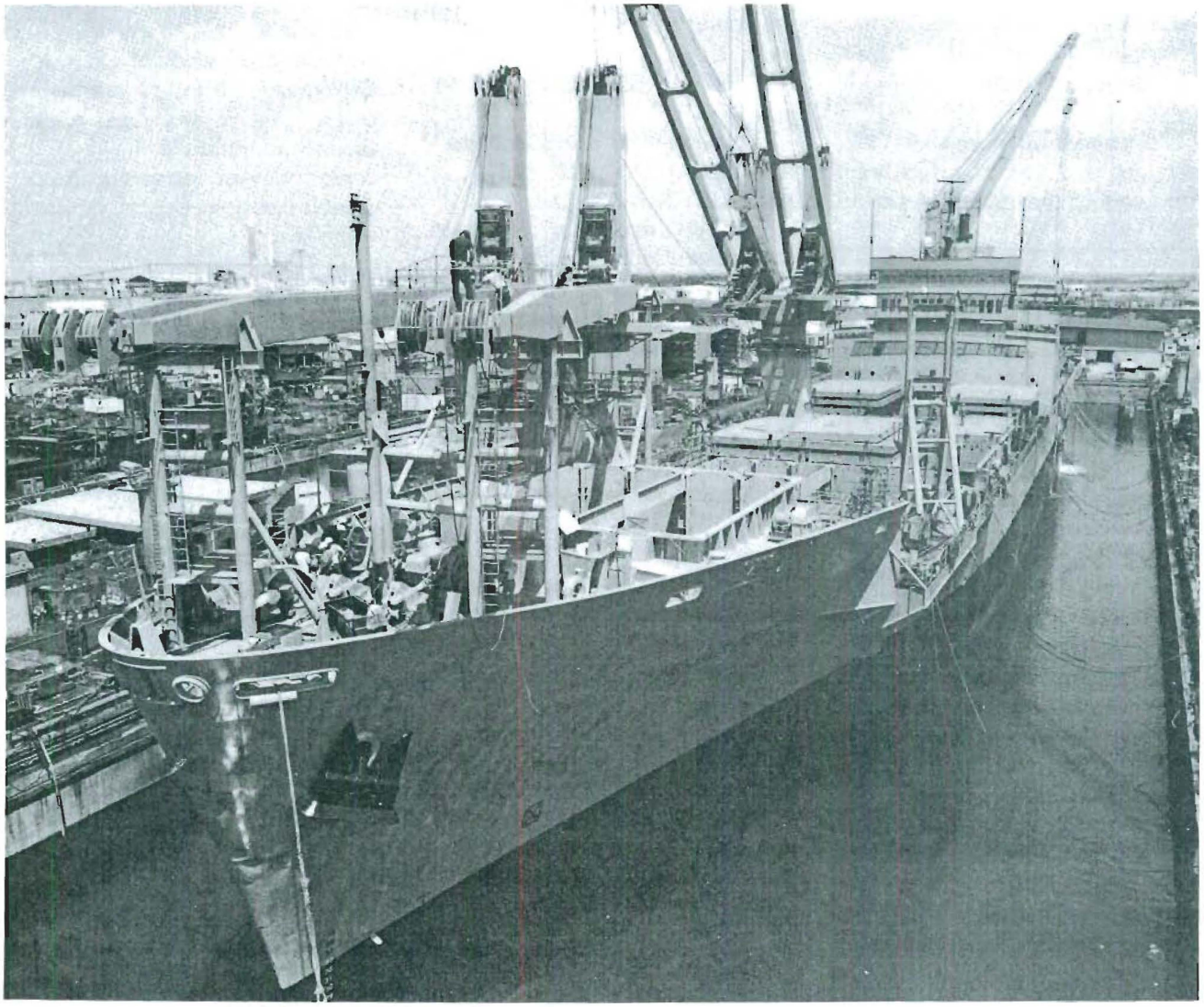
# Chapter 1
# Shipbuilding and Ship Conversion

## Shipyard Activity

In fiscal year 1989, the U.S. Navy continued to award all of its new construction contracts to U.S. commercial shipyards, dominating the workload in this reporting period. During the first three quarters of the past year, 7 Navy vessels, of 1,000 light displacement tons (LDT) and over, were ordered from U.S. private shipyards, while 17 Navy vessels were delivered. Major Navy vessels of 1,000 LDT and over, under construction or on order as of September 30, 1989, totaled 91 ships. In addition, the U.S. Coast Guard had two medium-endurance cutters under construction. These Navy and Coast Guard vessels, 15 of which have deliveries extending to 1994, are being built in 13 U.S. privately owned shipyards.

Under the Navy's T-Ship program 6 privately owned shipyards had 21 new T-Ships on order or under construction, as well as 3 merchant ships being converted.

The prefix "T" designates civilian-manned ships, both Government-owned and privately



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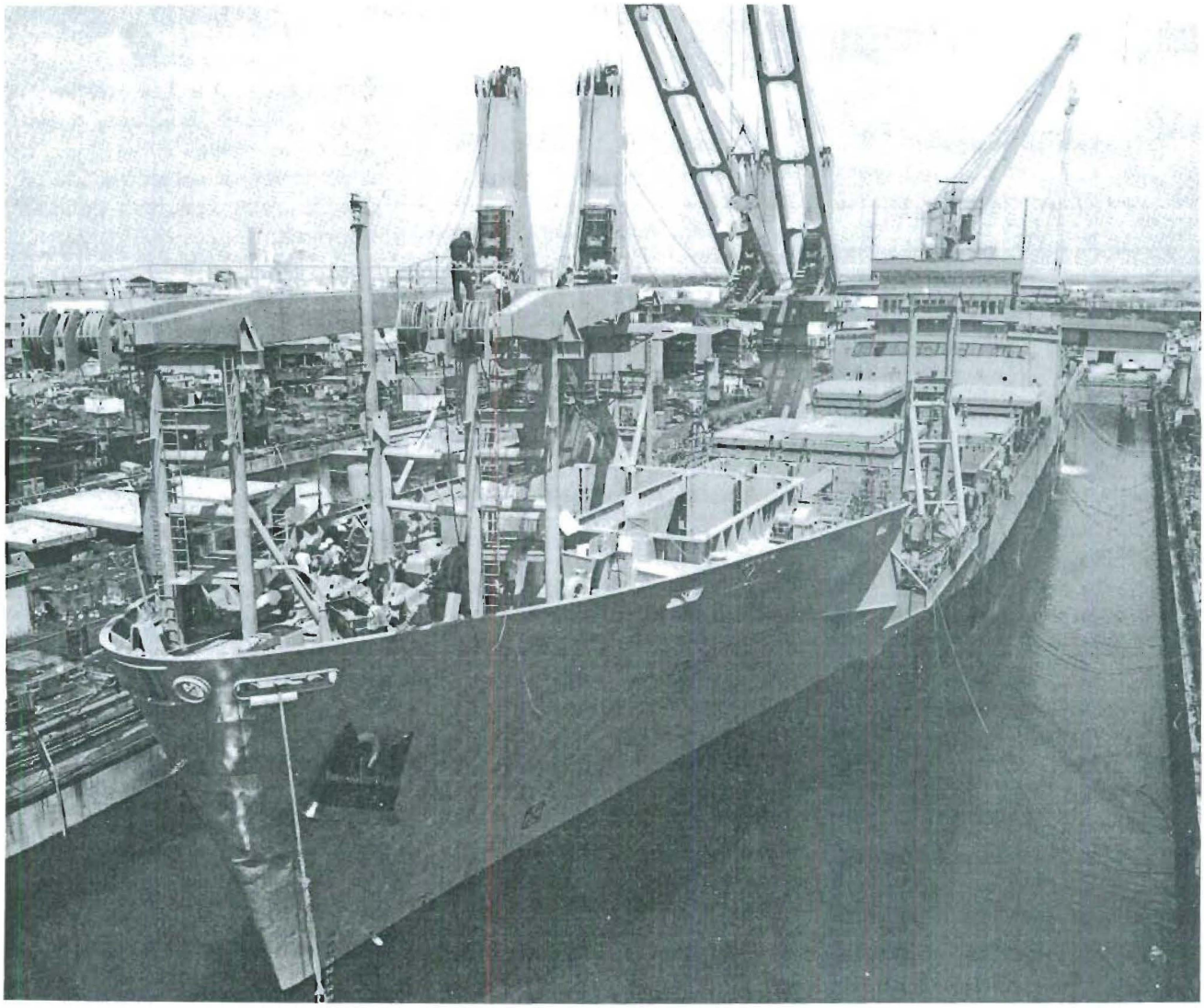

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owned, operated by or under charter to the Military Sealift Command (MSC). Nine T-Ships were completed during FY 1989.

Vessel types in the multi-billion dollar T-Ship procurement program include maritime prepositioning ships, fast sealift ships, fleet oilers, auxiliary crane ships, and hospital ships. Vessels in this program are mission-oriented, designed to perform a specific primary service such as underway refueling or offloading other ships which do not possess self-unloading capability.

There were no commercial ships of 1,000 gross tons and over delivered in FY 1989.

No commercial vessels of 1,000 gross tons and over were on order at the end of the reporting period.

## Auxiliary Crane Ship Conversions

Under a Memorandum of Understanding between the Maritime Administration (MARAD) and the U.S. Navy, MARAD is responsible for administering the Auxiliary Crane Ship (T-ACS) Program--one aspect of the U.S. Navy's T-Ship Program. The T-ACS Program involves reactivating and converting 12 existing Ready Reserve Force (RRF) ships to auxiliary crane ships. Each vessel is equipped with either two or three sets of pedestal-mounted, twin boom, rotating marine deck cranes with an outreach capable of unloading containerships lacking cargo handling gear.

MARAD is also responsible for maintaining the ships in a state of readiness for deployment in forward areas where cargo-handling facilities are limited, such as in underdeveloped ports or ports damaged by hostilities.

In FY 1989, the conversions of the seventh and eighth crane ships were completed. The SS DIAMOND STATE (T-ACS 7) and the SS EQUALITY STATE (T-ACS 8) were formerly the containerships PRESIDENT TRUMAN and AMERICAN BUILDER, respectively. The conversion work was performed by Tampa Shipyards, Inc., of Tampa, FL (see Table 1). At the end of the reporting period, the ninth and tenth T-ACS ships, SS GREEN MOUNTAIN STATE (T-ACS 9) and SS BEAVER STATE (T-ACS 10), formerly the containerships AMERICAN ALTAIR and AMERICAN DRACO, respectively, were being converted at Norfolk Shipbuilding and Drydock Corp., of Norfolk, VA. Redelivery of these vessels was expected during the latter half of FY 1990.

## Schoolship Conversion

Bay Shipbuilding Corp. of Sturgeon Bay, WI, was awarded a contract for conversion of the MORMACTIDE, a Government-owned breakbulk cargo vessel, to a public nautical schoolship.

The vessel was originally built by Newport News Shipbuilding and Drydock Co. in 1962. After conversion, it will accommodate about 800 officers, crew, and cadets.

The conversion work also will provide expanded mess rooms, galley, class rooms, a navigational laboratory, maintenance and repair laboratories, and shops. An additional diesel generator and switchboard will be installed as well as increased air conditioning and heating equipment, evaporators, sewage treatment plants, and laundries to support the expanded complement. Work on the vessel was scheduled for completion in December 1989.

## Title XI Guarantees

Title XI of the Merchant Marine Act, 1936, as amended, established the Federal Ship Financing Guarantee Program. As originally enacted, Title XI authorized the Federal Government to insure private sector loans or mortgages made to finance or refinance the construction or reconstruction of American-flag vessels in domestic shipyards.

Title XI was amended in 1972 to provide direct Government guarantees of the underlying debt obligations, with the Government holding a mortgage on the equipment financed.

The U.S. Government guarantees full payment to the lender of the unpaid principal and interest of the mortgage obligation in the event of default by the vessel owners.

As of September 30, 1989, Title XI guarantees in force aggregated approximately $3.6 billion, covering some 3,000 vessels and 200 individual shipowners.

During FY 1989, Congressional authority for the Title XI program had a cap of $12 billion, with $9.5 billion allocated to MARAD, $1.65 billion reserved for ocean thermal energy conversion vessels and facilities, and $850 million authorized to guarantee the

financing of fishing vessels by the National Oceanic and Atmospheric Administration.

The insurance premiums and guarantees fees paid by recipients go into the Federal Ship Financing Fund, a revolving fund which is used for payment of expenses of the program. During this reporting period, there were no defaults on Title XI guaranteed contracts.

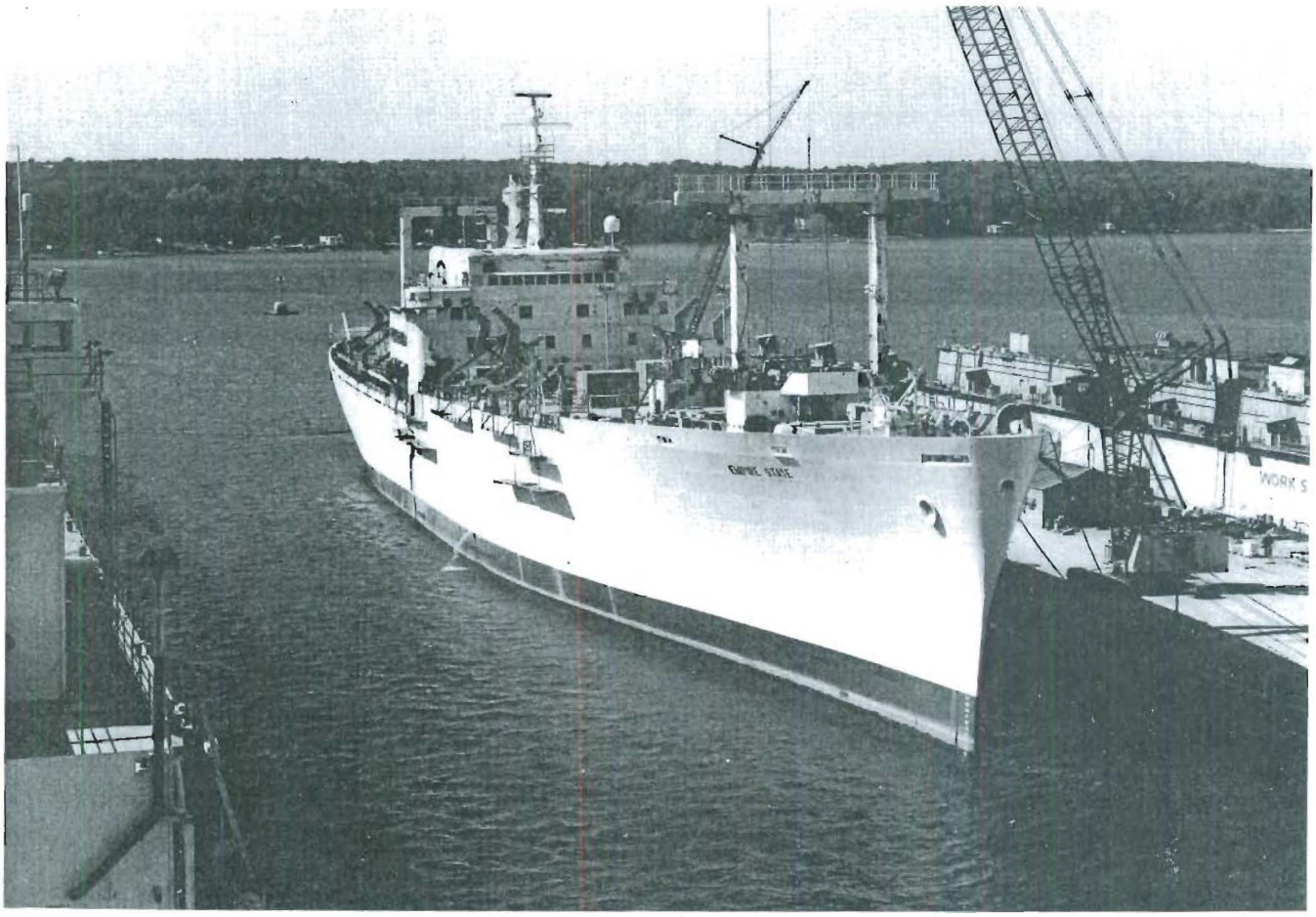
During FY 1989, the Federal Ship Financing Fund had a net income of $313.8 million and the cash balance of the fund was $5.1 million. During the reporting period the Federal Ship Financing Fund was self-supporting. On September 30, 1989, the fund had investments (Treasury Securities) of $402 million. A supplemental appropriation was received on July 28, 1989, which permitted the liquidation of loans from the U.S. Treasury to cover payouts on defaulted Title XI obligations in fiscal years 1988 and 1987 when the Federal Ship Financing fund was depleted.

## Capital Construction Fund

The Capital Construction Fund (CCF) Program was established under the Merchant Marine Act of 1970. It assists operators in accumulating capital to build, acquire, and reconstruct vessels through the deferral of Federal income taxes on certain deposits, as defined in Section 607 of the Merchant Marine Act, 1936, as amended.

The CCF Program applies to vessels built for the U.S. foreign trade, Great Lakes, noncontiguous domestic trade (e.g., between the West Coast and Hawaii), and the fisheries of the United States.

During calendar year 1988, $189 million was deposited into these accounts. Since the program was initiated in 1971, fundholders have deposited $5.1 billion in CCF accounts and withdrawn $3.8



The EMPIRE STATE (ex-MORMACTIDE) underwent extensive conversion to a training ship. The completed conversion and transfer to State University of New York Maritime College was expected in early FY 1990.

billion for the modernization and expansion of the U.S. merchant marine. As of December 31, 1988, a total of 83 companies (see Table 4) were parties to CCF agreements.

## Construction Reserve Fund

Like the Capital Construction Fund, the Construction Reserve Fund (CRF) encourages upgrading of the American-flag fleet. This program allows eligible parties to defer taxation of capital gains on the sale or other disposition of a vessel if net proceeds are placed in a CRF and reinvested in a new vessel within three years.

The CRF is used predominately by owners of vessels operated in coastwise trades, the inland waterways, and other trades not eligible for the CCF Program. Its benefits are not as broad as those of the CCF.

The number of companies with CRF balances increased to nine during the 1989 fiscal year (see Table 5). The total monies on deposit increased from $3.1 million to $4.8 million.

## Shipyard Improvements

The U.S. ship construction and ship repair industry invested more than $195 million during fiscal year 1989 in upgrading and expansion of facilities. Much of this investment went to improve efficiency and competitiveness for future participation in the Navy's construction, repair, and overhaul projects--perceived to be the most consistent and stable element in the industry's projected market. Information received by MARAD at the end of FY 1989 indicates that at least $250 million is planned to be invested in 1990. The industry's capital investments since 1970 have totaled $4.4 billion.

**Table 1:** MARAD MANAGED SHIP CONVERSION ACTIVITY DURING FY 1989

| Ship | Name | Shipyard | Redelivery |
|---|---|---|---|
| **Conversions Completed** | | | |
| T-ACS 7 | DIAMOND STATE | Tampa Shipyards | 2-22-89 |
| T-ACS 8 | EQUALITY STATE | Tampa Shipyards | 5-23-89 |
| **Conversions Underway** | | | |
| T-ACS 9 | GREEN MOUNTAIN STATE | Norshipco | (4-30-90) |
| T-ACS 10 | BEAVER STATE | Norshipco | (6-30-90) |
| OPDS 3 | SS CHESAPEAKE | Houston Ship Repair | (11-19-90) |

[1]Dates in parenthesis indicate planned dates; others are actual dates.

| Country of Construction | Total All Types No. | Total All Types Deadweight Tons | Combination Pass. & Cargo No. | Combination Pass. & Cargo Deadweight Tons | Freighters No. | Freighters Deadweight Tons | Bulk No. | Bulk Deadweight Tons | Tankers No. | Tankers Deadweight Tons |
|---|---|---|---|---|---|---|---|---|---|---|
| Total | 692 | 23,629.3 | 27 | 130.2 | 330 | 4,178.2 | 115 | 6,299.8 | 220 | 13,021.1 |
| United States | - | - | - | - | - | - | - | - | - | - |
| Argentina | 7 | 233.6 | - | - | 3 | 39.1 | 3 | 190.2 | 1 | 4.3 |
| Belgium | 2 | 90.8 | - | - | - | - | - | - | 2 | 90.8 |
| Brazil | 28 | 1,103.6 | - | - | 7 | 68.6 | 6 | 501.8 | 15 | 533.2 |
| Bulgaria | 9 | 197.7 | - | - | 3 | 30.5 | 2 | 76.8 | 4 | 90.4 |
| China | 28 | 531.9 | - | - | 25 | 292.6 | - | - | 3 | 239.3 |
| Denmark | 22 | 601.2 | - | - | 15 | 256.6 | - | - | 7 | 344.6 |
| Finland | 14 | 48.7 | 5 | 28.5 | 6 | 12.4 | - | - | 3 | 7.8 |
| France | 6 | 135.9 | 2 | 11.2 | 1 | 2.0 | 3 | 122.7 | - | - |
| Germany (East) | 20 | 304.8 | - | - | 20 | 304.8 | - | - | - | - |
| Germany (West) | 48 | 690.4 | 6 | 14.2 | 40 | 658.0 | 1 | 9.8 | 1 | 8.4 |
| Greece | 7 | 28.4 | 1 | 1.4 | 6 | 27.0 | - | - | - | - |
| India | 9 | 505.1 | - | - | - | - | 6 | 253.4 | 3 | 251.7 |
| Indonesia | 2 | 6.8 | - | - | - | - | - | - | 2 | 6.8 |
| Italy | 17 | 288.9 | 3 | 37.5 | 7 | 75.4 | 1 | 132.9 | 6 | 43.1 |
| Japan | 223 | 8,883.5 | 3 | 9.1 | 85 | 1,167.5 | 64 | 3,428.0 | 71 | 4,278.9 |
| Korea (South) | 97 | 7,116.9 | 1 | 19.5 | 25 | 434.3 | 12 | 759.9 | 59 | 5,903.2 |
| Malta | 4 | 30.4 | - | - | 4 | 30.4 | - | - | - | - |
| Mexico | 3 | 110.9 | - | - | - | - | 1 | 21.7 | 2 | 89.2 |
| Netherlands | 25 | 85.9 | 2 | 0.6 | 17 | 62.8 | - | - | 6 | 22.5 |
| Norway | 4 | 14.3 | - | - | 2 | 1.5 | 1 | 8.8 | 1 | 4.0 |
| Philippines | 1 | 2.2 | - | - | 1 | 2.2 | - | - | - | - |
| Poland | 24 | 398.8 | - | - | 16 | 163.7 | 7 | 205.7 | 1 | 29.4 |
| Portugal | 6 | 14.8 | - | - | 6 | 14.8 | - | - | - | - |
| Romania | 8 | 138.4 | - | - | 6 | 61.0 | - | - | 2 | 77.4 |
| Singapore | 1 | 2.8 | - | - | 1 | 2.8 | - | - | - | - |
| Spain | 14 | 155.0 | 2 | 2.1 | 4 | 23.9 | 2 | 84.9 | 6 | 44.1 |
| Sweden | 1 | 5.5 | 1 | 5.5 | - | - | - | - | - | - |
| Taiwan | 8 | 683.8 | - | - | 6 | 281.3 | 1 | 301.1 | 1 | 101.4 |
| Turkey | 17 | 108.8 | - | - | 14 | 75.4 | 2 | 31.3 | 1 | 2.1 |
| U.A.R. (Egypt) | 2 | 6.0 | - | - | 2 | 6.0 | - | - | - | - |
| U.S.S.R. | 3 | 84.6 | - | - | 1 | 4.8 | 1 | 51.6 | 1 | 28.2 |
| United Kingdom | 7 | 113.9 | 1 | 0.6 | 2 | 41.7 | - | - | 4 | 71.6 |
| Yugoslavia | 25 | 905.0 | - | - | 5 | 37.1 | 2 | 119.2 | 18 | 748.7 |

**Table 3:** FEDERAL SHIP FINANCING GUARANTEE (TITLE XI) PROGRAM SUMMARY
Principal Liability (Statutory Limit $9.5 Billion) on September 30, 1989

| | Contracts in Force | |
|---|---|---|
| | **Vessels Covered** | **Outstanding Amount** |
| Liner | 928* | $ 302,742,000 |
| Bulk | 97 | 2,400,230,000 |
| Drill Rig | 19 | 163,669,000 |
| Drill Supply | 54 | 58,147,000 |
| Inland | 2,056** | 293,337,000 |
| Coastal | 175 | 237,895,000 |
| Other | 20 | 146,292,000 |
| **Totals** | **3,349** | **$3,602,312,000** |

* Includes 880 LASH barges.
** Includes cruise and dredging vessels and crane and pipe laying barges.

Table 4: CAPITAL CONSTRUCTION FUND HOLDERS--September 30, 1989

Alaska Riverways, Inc.
Amak Towing Co., Inc.
AMC Boats, Inc.
American President Lines, Ltd.
American Shipping, Inc.
Andover Co., L.P.
Aquarius Marine Co.
Atlantic Richfield Co.
Atlas Marine Co.
Bankers Trust New York Corp.
Bethlehem Steel Corp.
Binkley Co., The
Blue Lines, Inc.
Brice, Inc.
C&E Boat Rentals, Inc.
Cement Transit Co.
Central Gulf Lines, Inc.
Citimarlease (Burmah I), Inc.
Citimarlease (Burmah LNG Carriers, Inc.
Citimarlease (Burmah Liquegas), Inc.
Citimarlease (Fulton), Inc.
Citimarlease (Whitney), Inc.
Crowley Maritime Corp.
Dillingham Tug & Barge Corp.
Durocher Dock & Dredge
Edison Chouest Offshore, Inc.
Edward E. Gillen Co.
Eserman Offshore Service, Inc.
Exxon Shipping Corp.
Falcon Alpha Shipping, Inc.
Falcon Capital, Inc.
Farrell Lines, Inc.
Foss Maritime Co.
Fred Devine Diving & Salvage, Inc.
G&B Marine Transportation, Inc.
GATX Corp.
General Electric Credit and Leasing Corp.
General Electric Credit Corp. of Delaware
General Electric Credit Corp. of Georgia
Gilco Supply Boats, Inc.
Great Lakes Towing Co.
Hannah Brothers
Hannah Marine Corp.
Hawaiian Electric Funds
Hvide Shipping, Inc.
Inland Steel Co.
Inter-Cities Navigation Corp.
Interstate Towing Co.
John E. Graham & Sons
Kinsman Lines, Inc.
L&L Marine Services, Inc.
Leppaluoto Offshore Marine, Inc.
Lykes Bros. Steamship Co.
Madeline Island Ferry Lines, Inc.
Matson Navigation Co., Inc.
Middle Rock, Inc.
Miller Boat Lines, Inc.
Moody Offshore, Inc.
National Steel and Shipbuilding Co.
Neuman Boat Lines, Inc.
Nicor, Inc.
North American Boat Rentals, Inc.
Oceanic Research Services, Inc.
O.L. Schmidt Barge Lines, Inc.
Ocean Shipholdings, Inc.
Oglebay Norton Co.
OMI Corp.
Overseas Shipholding Group, Inc.
Pacific Hawaiian Lines, Inc.
Ritchie Transportation Co.
Rouge Steel Co.
Seabulk Tankers, Ltd.
Sea-Land Corp.
Sheplers, Inc.
Steel Style Marine Sun Co.
Totem Resources Corp.
Union Oil Co. of California
Waterman Steamship Corp.
Waveland Marine Services, Inc.
Western Pioneer, Inc.
Windjammer Cruises, Inc.
Y&S Marine, Inc.
Zidell, Inc.

Table 5: CONSTRUCTION RESERVE FUND HOLDERS--September 30, 1989

Arrow Tankers, Inc.
Cargill Marine and Terminal, Inc.
Central Gulf Steamship Corp.
Ingram Industries, Inc.
Joan Turecamo, Inc.
Kurz Marine, Inc.
Mobil Oil Corp.
Mountauk Oil Transporation Corp.
Serodino, Inc.

## Chapter 2

# Ship Operations

## U.S. Fleet Profile

On September 30, 1989, the U.S.-flag, privately owned, deep-draft merchant fleet (including the Great Lakes fleet shown in Table 14) totaled 491 vessels with an aggregate carrying capacity of about 22.8 million deadweight tons (dwt.).

The oceangoing segment of the privately owned fleet included 413 vessels of 20 million dwt., of which 375 ships of 17.6 million dwt. were active. The latter comprised 37 breakbulk cargo ships, 125 intermodal vessels (containerships, barge-carrying vessels, and roll-on/roll-off vanships known as RO/ROs), 2 combination passenger-cargo ships, 189 tankers (including liquefied natural gas carriers), and 22 bulk carriers. (See Table 6.) All 38 of the inactive vessels were laid up.

Employment of the U.S.-flag oceangoing fleet (including Government-owned ships) at the end of the fiscal year is shown in Table 7.

On January 1, 1989, the privately owned American-flag merchant fleet ranked 8th in the world on a dwt. basis and 13th in the number of ships. (See Table 8.)

In calendar year 1988, commercial cargoes carried by ships of all flags in the U.S. oceanborne foreign trade totaled 781.8 million tons. U.S.-flag foreign trade tonnage increased from 28.8 million to 30.8 million tons, but the U.S.-flag share of total tonnage decreased from 4 percent in 1987 to 3.9 percent in 1988.

Commercial cargoes transported in U.S. oceanborne foreign trade from 1979 through calendar year 1988 are shown in Table 9. The table shows the total trade by tonnage and value, and the portion carried by U.S.-flag vessels.

## Operating-Differential Subsidy

U.S.-flag vessels which operate in essential foreign trade are eligible for operating-differential subsidy (ODS) which is administered by the Maritime Administration (MARAD). ODS is designed to offset certain lower ship operating costs of foreign flag competitors. Net subsidy outlays during FY 1989 amounted to $212.3 million.

Approximately $2.7 million in subsidy was paid for four voyages by Lykes Bros. Steamship Co., Inc. in the Great Lakes trade during fiscal year 1989.

ODS accruals and expenditures from January 1, 1937, through September 30, 1989, are summarized in Table 10. Accruals and outlays by shipping lines for the same period are shown in Table 11. ODS contracts in force are shown in Table 12.

## Section 614 Activities

Section 614 of the Merchant Marine Act, 1936, as amended, permits a company receiving ODS funds to elect to suspend its ODS agreement for all or a portion of its vessels, subject to certain conditions. Suspension of the ODS agreement includes suspending all attendant statutory and contractual restrictions in the ODS agreement, except those pertaining to operation in the domestic trade.

In FY 1989, no vessels operated under suspended ODS agreements.

## Subsidy Rates

The Merchant Marine Act of 1970 created a Subsidy Index System to provide for payment of seafaring wage subsidies in per diem amounts. The rate of change in the index is computed annually by the Bureau of Labor Statistics and is used as the measure of change in seafaring employment costs.

ODS rates also are calculated for maintenance and repairs, hull and machinery insurance, and protection and indemnity insurance for both premiums and deductibles.

MARAD has completed all 1989 subsidy rates applicable to liner vessel operations and has substantially completed the 1989 subsidy rates applicable to bulk vessel operations.

## Passenger/Cruise Service

For the reporting period ending on September 30, 1989, U.S.-flag oceangoing passenger service was provided by the cruise ships INDEPENDENCE and CONSTITUTION, each with a 750-passenger capacity. Built in 1950 and 1951 and refurbished in 1988, the vessels were operated by American Hawaii Cruises, Inc., in the Hawaiian inter-island trade.

Additionally, two operators provided local, coastwise cruises with U.S.-flag vessels with capacity for fewer than 200 passengers, in fiscal year 1989. American Canadian Line served the New England Coast, Hudson River, Erie Canal, St. Lawrence Seaway and Saguenay River. Clipper Cruise Line served the U.S. Atlantic Coast. During the 1989 winter season these lines offered cruises to the Bahamas and/or Caribbean Islands.

On the inland waterways, two traditionally styled steamboats, the 267-passenger DELTA QUEEN and the 635-passenger MISSISSIPPI QUEEN, operated by the Delta Queen Steamboat Co., provided a variety of cruises on the Mississippi and Ohio Rivers.

Three U.S.-flag cruise lines filed for bankruptcy protection in FY 1989. The companies were American Cruise Lines, Exploration Cruise Line, and S.S. Monterey L.P. In 1988, American Cruise Lines operated three ships (338 berths); Exploration Cruise Line operated six ships (534 berths); and Aloha Pacific, the operating company for the SS MONTEREY, operated one ship (600 berths).

No Title XI program applications for cruise vessels were approved in FY 1989.

## Corporate/Service Changes

On January 31, 1989, the Maritime Subsidy Board approved International Shipholding Corp.'s request for permission to acquire Waterman Marine Corp. and Waterman Industries Corp.

## Section 804 Activities

Section 804 of the Merchant Marine Act, 1936, as amended, prohibits any contractor receiving ODS 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 U.S.-flag service, without prior approval of the Secretary of Transportation. The prohibition also applies to any officers, directors, agents, or executives of such an organization.

In April 1988, MARAD extended for a second two-year period, a section 804 waiver of the provisions originally granted to American President Lines, Ltd. (APL) in May 1986. The waiver, as amended in February 1989, allows APL to charter and operate four foreign-flag vessels for feeder service between its Line A or Line B ports through May 1990. The vessels are permitted to serve Singapore, Manila, and Thailand.

During fiscal year 1989, several minor amendments were made to the June 3, 1988 5-year section 804 waiver granted to APL on June 3, 1988. The waiver permits the company to own or charter and operate 10 foreign-flag vessels on 6 feeder services in southern and southwestern Asia.

On February 6, 1989, MARAD granted a section 804 waiver until June 3, 1993, to permit APL to own or charter and operate two foreign-flag vessels between a Line A or Line B port and a port or ports in the People's Republic of China.

On November 1, 1988, MARAD granted an 804 waiver to Mormac Marine Group, Inc. (Mormac), which expires in December 1995, to permit Mormac to acquire an interest in or to charter nine foreign-flag crude and product tankers of 40,000 to 130,000 dwt. capacity.

MARAD also granted an 804 waiver to Chestnut Shipping Co. and Margate Shipping Co. on March 17, 1989, until December 23, 1993, and November 11, 1996, respectively, to permit a related company, Keystone Shipping Co., to acquire an interest in or charter nine foreign-flag liquid bulk vessels ranging in size from 40,000 to 130,000 dwt.

## Foreign Transfers

In FY 1989, MARAD approved the transfer of 89 ships of 1,000 gross tons and over, to foreign ownership and/or registry. In addition, sixteen vessels were sold for scrapping abroad. Permission was granted for the foreign transfer of 68 vessels of less than 1,000 gross tons during the fiscal year. These comprised 60 commercial and 8 pleasure craft.

Also during the year, 49 U.S.-owned ships of over 1,000 gross tons and 63 under 1,000 gross tons were approved for charter to aliens. Forty charter approvals were either amended or modified.

Effective January 1, 1989, Public Law 100-710 amended the former Ship Mortgage Act, 1920, and the Shipping Act, 1916, to, among other things, expand the categories of persons who can be trustee/mortgagees or mortgagees of preferred mortgages on documented vessels. Interim final rules to implement the changes in the law became effective upon publication in the *Federal Register* on February 2, 1989 (54 F.R. 5382). Pursuant to this law and

implementing regulations, the Agency removed two banks and approved the retention of 57 banks on the Roster of Approved Trustees. Four new banks were approved as trustees and six banks were approved as mortgagees.

During the fiscal year, 34 violations were reported involving privately owned ships and 22 violations were mitigated or settled.

MARAD's approval of the transfers of vessels of 3,000 gross tons and over to foreign ownership or registry, or both (whether for operation or scrapping), are subject to the terms and conditions of the Agency's current Foreign Transfer Policy (46 CFR Part 221 Appendix). On September 30, 1989, there were 79 vessels subject to these terms and conditions, which accompany titles to the ships and remain in effect for the period of their remaining economic lives.

User charges for processing applications for foreign transfers and similar actions totaled $82,220 in this reporting period. This total includes fees filed pursuant to MARAD contracts reflecting prior domestic and foreign sales.

Activities under Section 9 of the Shipping Act, 1916, are summarized in Table 13.

| | Privately Owned | | MARAD Owned | | Total | |
|---|---|---|---|---|---|---|
| | Number Ships | Deadweight Tons (000) | Number Ships | Deadweight Tons (000) | Number Ships | Deadweight Tons (000) |
| **Active Fleet:** | | | | | | |
| Passenger/Pass. Cargo | 2 | 14 | 5 | 41 | 7 | 55 |
| General Cargo | 37 | 564 | 1 | 11 | 38 | 575 |
| Intermodal | 125 | 3,727 | 1 | 3 | 126 | 3,730 |
| Bulk Carriers (Inc. TB) | 22 | 972 | - | - | 22 | 972 |
| Tankers (Inc. TKB & LNG) | 189 | 12,371 | 1 | 17 | 190 | 12,388 |
| **Total Active Fleet** | **375** | **17,648** | **8** | **72** | **383** | **17,720** |
| **Inactive Fleet:** | | | | | | |
| Passenger/Pass. Cargo | 2 | 23 | 11 | 84 | 13 | 107 |
| General Cargo | 7 | 87 | 164 | 1,947 | 171 | 2,034 |
| Intermodal | 4 | 89 | 37 | 866 | 41 | 955 |
| Bulk Carriers (Incl. TB) | 4 | 298 | - | - | 4 | 298 |
| Tankers (Incl. TKB & LNG) | 21 | 2,560 | 28 | 783 | 49 | 3,343 |
| **Total Inactive Fleet** | **38** | **3,057** | **240** | **3,680** | **278** | **6,737** |
| **Total Active and Inactive:** | | | | | | |
| Passenger/Pass. Cargo | 4 | 37 | 16 | 125 | 20 | 162 |
| General Cargo | 44 | 651 | 165 | 1,958 | 209 | 2,609 |
| Intermodal | 129 | 3,816 | 38 | 869 | 167 | 4,685 |
| Bulk Carriers (Incl. TB) | 26 | 1,270 | - | - | 26 | 1,270 |
| Tankers (Incl. TKB & LNG) | 210 | 14,931 | 29 | 800 | 239 | 15,731 |
| **Total American Flag** | **413** | **20,705** | **248** [2] | **3,752** | **661** | **24,457** |

[1] Vessels of 1,000 gross tons and over, excluding privately owned tugs, barges, etc.
[2] Includes 240 National Defense Reserve Fleet vessels, 91 of which belong to the Ready Reserve Force.
NOTE: Tonnage figures may not add due to rounding.

Table 7: EMPLOYMENT OF U.S.-FLAG OCEANGOING MERCHANT FLEET--SEPTEMBER 30, 1989 [1]

| Status and Area of Employment | Total | | Vessel Type (tonnage in thousands) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Passenger/ Pass. & Cargo | | General Cargo | | Intermodal | | Bulk Carriers [2] | | Tankers [3] | |
| | No. | Deadweight Tons | No. | Deadweight Tons | No. | Deadweight Tons | No. | Deadweight Tons | No. | Deadweight Tons | No. | Deadweight Tons |
| **Grand Total** | **661** | **24,457** | **20** | **162** | **209** | **2,609** | **167** | **4,685** | **26** | **1,270** | **239** | **15,731** |
| **Active Vessels** | **383** | **17,720** | **7** | **55** | **38** | **575** | **126** | **3,730** | **22** | **972** | **190** | **12,388** |
| **Privately Owned** | **375** | **17,648** | **2** | **14** | **37** | **564** | **125** | **3,727** | **22** | **972** | **189** | **12,371** |
| **U.S. Foreign Trade** | **142** | **5,228** | **-** | **-** | **29** | **449** | **74** | **2,486** | **15** | **762** | **24** | **1,531** |
| **Foreign-to-Foreign** | **22** | **2,023** | **-** | **-** | **-** | **-** | **7** | **186** | **-** | **-** | **15** | **1,837** |
| **Domestic Trade** | **158** | **8,967** | **2** | **14** | **-** | **-** | **23** | **473** | **7** | **210** | **126** | **8,270** |
| Coastal | 89 | 3,632 | - | - | - | - | 2 | 43 | 5 | 160 | 82 | 3,429 |
| Noncontiguous | 69 | 5,335 | 2 | 14 | - | - | 21 | 430 | 2 | 50 | 44 | 4,841 |
| **M.S.C. Charter** | **53** | **1,430** | **-** | **-** | **8** | **115** | **21** | **582** | **-** | **-** | **24** | **733** |
| **Government Owned** | **8** | **72** | **5** | **41** | **1** | **11** | **1** | **3** | **-** | **-** | **1** | **17** |
| B.B. Charter & Other Custody | 8 | 72 | 5 | 41 | 1 | 11 | 1 | 3 | - | - | 1 | 17 |
| **Inactive Vessels** | **278** | **6,737** | **13** | **107** | **171** | **2,034** | **41** | **955** | **4** | **298** | **49** | **3,343** |
| **Privately Owned** | **38** | **3,057** | **2** | **23** | **7** | **87** | **4** | **89** | **4** | **298** | **21** | **2,560** |
| Temporarily Inactive | - | - | - | - | - | - | - | - | - | - | - | - |
| Laid-up | 31 | 2,909 | 2 | 23 | 3 | 33 | 3 | 59 | 3 | 273 | 20 | 2,521 |
| Laid-up (MARAD Custody) | 7 | 148 | - | - | 4 | 54 | 1 | 30 | 1 | 25 | 1 | 39 |
| **Government Owned (MARAD Custody)** | **240** | **3,680** | **11** | **84** | **164** | **1,947** | **37** | **866** | **-** | **-** | **28** | **783** |
| **National Defense Reserve Fleet** | **240** | **3,680** | **11** | **84** | **164** | **1,947** | **37** | **866** | **-** | **-** | **28** | **783** |
| Ready Reserve Force (RRF) [4] | 90 | 1,555 | - | - | 51 | 668 | 30 | 691 | - | - | 9 | 196 |
| Other Reserve | 137 | 1,938 | 6 | 54 | 107 | 1,209 | 5 | 88 | - | - | 19 | 587 |
| Special Programs [5] | 7 | 141 | 1 | 9 | 4 | 45 | 2 | 87 | - | - | - | - |
| Non-Retention [6] | 6 | 46 | 4 | 21 | 2 | 25 | - | - | - | - | - | - |
| **In Processing for RRF** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** |
| **Other Government Owned** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** |

[1] 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.

[2] Includes Tug Barges.

[3] Includes Tanker Barges and LNG vessels.

[4] Excludes vessels under B.B. charter and other custody.

[5] Vessels unavailable for activation due to special status.

[6] Vessels not actively maintained.

Table 8: MAJOR MERCHANT FLEETS OF THE WORLD -- JANUARY 1, 1989

| Country | No. of Ships[1] | Rank by No. of Ships | Deadweight Tons | Rank by Deadweight Tonnage |
|---|---|---|---|---|
| Liberia | 1,405 | 3 | 89,200,000 | 1 |
| Panama | 3,304 | 1 | 72,977,000 | 2 |
| Japan | 1,118 | 6 | 39,699,000 | 3 |
| Greece | 974 | 7 | 37,130,000 | 4 |
| Cyrpus | 1,140 | 5 | 31,832,000 | 5 |
| U.S.S.R. | 2,434 | 2 | 25,481,000 | 6 |
| British Independent Territories | 545 | 9 | 24,180,000 | 7 |
| United States (Private) | 424 | 13 | 21,601,000 | 8 |
| Norway (NIS) | 366 | 15 | 19,335,000 | 9 |
| China | 1,235 | 4 | 18,437,000 | 10 |
| Nassau Bahamas | 430 | 12 | 16,547,000 | 11 |
| Philippines | 562 | 8 | 14,770,000 | 12 |
| Singapore | 417 | 14 | 11,752,000 | 13 |
| Korea (South) | 434 | 11 | 11,382,000 | 14 |
| Italy | 500 | 10 | 10,765,000 | 15 |
| All Others[2] | 8,180 | | 156,831,000 | |
| **Total** | **23,468** | | **601,919,000** | |

[1] Oceangoing merchant ships of 1,000 gross tons and over.
[2] Includes 251 United States Government-Owned ships of 3,975,000 dwt.

Table 9: U.S. OCEANBORNE FOREIGN TRADE/COMMERCIAL CARGO CARRIED [1]

Tonnage (Millions)

| Calendar Year | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 [2] |
|---|---|---|---|---|---|---|---|---|---|---|
| Total Tons | 823.1 | 772.2 | 760.0 | 675.5 | 630.4 | 676.8 | 640.9 | 674.8 | 718.7 | 781.8 |
| U.S.-Flag Tons | 35.0 | 28.2 | 34.2 | 31.1 | 36.7 | 29.4 | 27.3 | 28.5 | 28.8 | 30.8 |
| U.S. Percent of Total | 4.2 | 3.7 | 4.5 | 4.6 | 5.8 | 4.3 | 4.3 | 4.2 | 4.0 | 3.9 |
| Liner Total Tons | 57.0 | 59.3 | 60.0 | 54.5 | 56.8 | 63.5 | 66.7 | 71.8 | 79.4 | 79.7 |
| Liner U.S.-Flag Tons | 15.7 | 16.2 | 16.5 | 14.3 | 14.0 | 13.8 | 14.0 | 14.3 | 11.9 | 13.7 |
| Liner U.S. Percent | 27.5 | 27.3 | 27.6 | 26.2 | 24.6 | 21.7 | 21.0 | 19.9 | 14.9 | 17.2 |
| Non-Liner Total Tons | 342.7 | 356.7 | 365.6 | 335.8 | 317.7 | 346.3 | 327.5 | 309.0 | 327.1 | 364.2 |
| Non-Liner U.S. Flag Tons | 3.6 | 4.1 | 4.5 | 3.3 | 4.8 | 5.1 | 5.1 | 4.9 | 6.3 | 6.5 |
| Non-Liner U.S. Percent | 1.0 | 1.2 | 1.2 | 1.0 | 1.5 | 1.5 | 1.5 | 1.6 | 1.9 | 1.8 |
| Tanker Total Tons | 423.4 | 356.3 | 334.4 | 285.6 | 256.0 | 266.9 | 246.7 | 294.0 | 312.2 | 337.9 |
| Tanker U.S.-Flag Tons | 15.7 | 7.9 | 13.2 | 13.2 | 17.9 | 10.5 | 8.2 | 9.3 | 10.6 | 10.6 |
| Tanker U.S. Percent | 3.7 | 2.2 | 3.9 | 4.7 | 7.0 | 3.9 | 3.3 | 3.2 | 3.4 | 3.1 |

Value ($ Billions)

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Total Value | 242.1 | 294.3 | 315.4 | 281.2 | 267.4 | 302.7 | 311.0 | 320.5 | 359.4 | 396.2 |
| U.S.-Flag Value | 35.7 | 42.3 | 47.0 | 43.5 | 43.0 | 44.6 | 46.4 | 49.0 | 44.8 | 57.3 |
| U.S. Percent of Total | 14.7 | 14.4 | 14.9 | 15.5 | 16.1 | 14.7 | 14.9 | 15.3 | 12.5 | 14.5 |
| Liner Total Value | 117.6 | 136.9 | 148.0 | 140.6 | 139.6 | 164.0 | 181.2 | 199.9 | 221.9 | 243.6 |
| Liner U.S.-Flag Value | 32.5 | 39.2 | 41.7 | 39.1 | 37.9 | 41.2 | 43.4 | 46.5 | 41.7 | 51.4 |
| Liner U.S. Percent | 27.6 | 28.7 | 28.1 | 27.8 | 27.2 | 25.1 | 24.0 | 23.3 | 18.8 | 21.1 |
| Non-Liner Total Value | 62.0 | 74.1 | 81.0 | 72.0 | 69.8 | 78.6 | 77.2 | 83.2 | 92.1 | 107.1 |
| Non-Liner U.S.-Flag Value | 1.1 | 1.3 | 1.9 | 1.2 | 1.2 | 1.1 | 1.4 | 1.3 | 1.6 | 4.5 |
| Non-Liner U.S. Percent | 1.7 | 1.8 | 2.3 | 1.7 | 1.7 | 1.5 | 1.8 | 1.6 | 1.8 | 4.2 |
| Tanker Total Value | 62.6 | 83.6 | 86.4 | 68.5 | 58.0 | 60.1 | 52.6 | 37.4 | 45.4 | 45.5 |
| Tanker U.S.-Flag Value | 2.1 | 1.8 | 3.4 | 3.2 | 4.0 | 2.2 | 1.6 | 1.2 | 1.5 | 1.4 |
| Tanker U.S. Percent | 63.4 | 2.1 | 3.9 | 4.7 | 6.8 | 3.7 | 3.1 | 3.2 | 3.2 | 3.1 |

[1] Table includes Government-sponsored cargo; excludes U.S./Canada translakes cargoes and certain Department of Defense cargoes.
[2] Preliminary data.

Table 10: ODS ACCRUALS AND OUTLAYS--JANUARY 1, 1937, TO SEPTEMBER 30, 1989

| Calendar Year of Operation | Accruals | | | Outlays | | Net Accrual Liability |
|---|---|---|---|---|---|---|
| | Subsidies | Recapture | Subsidy Accrual | Paid in FY 1989 | Total Amount of Net Accrued Paid | |
| 1937-1955 | $682,457,954 | $157,632,946 | $524,825,008 | $-0- | $524,825,008 | $-0- |
| 1956-1960 | 751,430,098 | 63,755,409 | 687,674,689 | -0- | 687,674,689 | -0- |
| 1961 | 170,884,261 | 2,042,748 | 168,841,513 | -0- | 168,841,513 | -0- |
| 1962 | 179,396,797 | 4,929,404 | 174,467,393 | -0- | 174,467,393 | -0- |
| 1963 | 189,119,876 | (1,415,917) | 190,535,793 | -0- | 190,535,793 | -0- |
| 1964 | 220,334,818 | 674,506 | 219,660,312 | -0- | 219,660,312 | -0- |
| 1965 | 183,913,236 | 1,014,005 | 182,899,231 | -0- | 182,899,231 | -0- |
| 1966 | 202,734,069 | 3,229,471 | 199,504,598 | -0- | 199,504,598 | -0- |
| 1967 | 220,579,702 | 5,162,831 | 215,416,871 | -0- | 215,416,871 | -0- |
| 1968 | 222,862,970 | 3,673,790 | 219,189,180 | -0- | 219,189,180 | -0- |
| 1969 | 230,256,091 | 2,217,144 | 228,038,947 | -0- | 228,038,947 | -0- |
| 1970 | 232,541,169 | (1,908,643) | 234,449,812 | -0- | 234,449,812 | -0- |
| 1971 | 202,440,101 | (2,821,259) | 205,261,360 | -0- | 205,261,360 | -0- |
| 1972 | 190,732,158 | -0- | 190,732,158 | -0- | 190,732,158 | -0- |
| 1973 | 219,475,963 | -0- | 219,475,963 | -0- | 219,475,963 | -0- |
| 1974 | 219,297,428 | -0- | 219,297,428 | -0- | 219,297,428 | -0- |
| 1975 | 260,676,152 | -0- | 260,676,152 | -0- | 260,676,152 | -0- |
| 1976 | 275,267,465 | -0- | 275,267,465 | -0- | 275,267,465 | -0- |
| 1977 | 294,779,691 | -0- | 294,779,691 | -0- | 294,779,691 | -0- |
| 1978 | 285,075,424 | -0- | 285,075,424 | -0- | 285,075,424 | -0- |
| 1979 | 279,347,897 | -0- | 279,347,897 | -0- | 279,347,897 | -0- |
| 1980 | 386,309,467 | -0- | 386,309,467 | -0- | 386,309,467 | -0- |
| 1981 | 352,060,560 | -0- | 352,060,560 | -0- | 352,060,560 | -0- |
| 1982 | 366,654,502 | -0- | 366,654,502 | -0- | 366,654,502 | -0- |
| 1983 | 278,716,168 | -0- | 278,716,168 | 981,000 | 278,716,168 | -0- |
| 1984 | 342,756,506 | -0- | 342,756,506 | 884,780 | 342,756,628 | -0- |
| 1985 | 367,368,710 | -0- | 367,368,710 | 951,562 | 367,368,710 | -0- |
| 1986 | 318,295,019 | -0- | 318,295,019 | 362,424 | 318,295,019 | -0- |
| 1987 | 180,778,629 | -0- | 180,778,629 | 685,667 | 180,778,629 | -0- |
| 1988 | 221,194,287 | -0- | 221,194,287 | 20,989,973 | 218,491,137 | 2,703,028 |
| 1989 | 220,409,000 | -0- | 220,409,000 | 187,439,406 | 187,439,406 | 32,969,594 |
| Total Regular ODS | $8,748,146,168 | $238,186,435 | $8,509,959,733 | $212,294,812 | $8,474,287,111 | $35,672,622 |
| Soviet Grain Program [1] | $147,132,626 | $-0- | $147,132,626 | $-0- | $147,132,626 | -0- |
| **Total ODS** | **$8,895,278,794** | **$238,186,435** | **$8,657,092,359** | **$212,294,812** | **$8,621,419,737** | **$35,672,622** |

[1] No longer operative.

**Table 11:** OPERATING-DIFFERENTIAL SUBSIDY ACCRUALS AND OUTLAYS BY LINES--JANUARY 1, 1937, TO SEPTEMBER 30, 1989

| LINES | Accruals | | | ODS Paid | Net Accrued Liability |
|---|---|---|---|---|---|
| | ODS | Recapture | Net Accrual | | |
| Aeron Marine Shipping | $26,079,663 | $0 | $26,079,663 | $26,079,663 | $0 |
| American Banner Lines [1] | 2,626,512 | 0 | 2,626,512 | 2,626,512 | 0 |
| American Diamond Lines [1] | 185,802 | 28,492 | 157,310 | 157,310 | 0 |
| American Export Lines [2] | 693,821,868 | 10,700,587 | 683,121,281 | 683,121,281 | 0 |
| American Mail Lines [3] | 158,340,739 | 7,424,902 | 150,915,837 | 150,915,837 | 0 |
| American Maritime Transport | 3,669,605 | 0 | 3,669,605 | 2,738,849 | 930,756 |
| American President Lines [3] | 1,298,629,179 | 17,676,493 | 1,280,952,686 | 1,275,120,335 | 5,832,351 |
| American Shipping | 21,193,694 | 0 | 21,193,694 | 21,193,694 | 0 |
| American Steamship | 76,462 | 0 | 76,462 | 76,462 | 0 |
| Aquarius Marine Co. | 32,530,705 | 0 | 32,530,705 | 32,356,697 | 174,008 |
| Aries Marine Shipping | 25,291,415 | 0 | 25,291,415 | 25,291,415 | 0 |
| Atlantic & Caribbean S/N [1] | 63,209 | 45,496 | 17,713 | 17,713 | 0 |
| Atlas Marine Co. | 34,547,639 | 0 | 34,547,639 | 34,038,460 | 509,179 |
| Baltimore Steamship [1] | 416,269 | 0 | 416,269 | 416,269 | 0 |
| Bloomfield Steamship [1] | 15,588,085 | 2,613,688 | 12,974,397 | 12,974,397 | 0 |
| Chestnut Shipping Co. | 55,382,760 | 0 | 55,382,760 | 54,179,959 | 1,202,801 |
| Delta Steamship Lines | 575,053,817 | 8,185,313 | 566,868,504 | 566,868,504 | 0 |
| Ecological Shipping Co. | 4,968,943 | 0 | 4,968,943 | 4,968,943 | 0 |
| Equity | 750,572 | 0 | 750,572 | 750,572 | 0 |
| Farrell Lines | 630,300,414 | 1,855,375 | 628,445,039 | 626,771,720 | 1,673,319 |
| Gulf & South American Steamship | 34,471,780 | 5,226,214 | 29,245,566 | 29,245,566 | 0 |
| Lykes Bros. Steamship | 1,719,257,370 | 52,050,598 | 1,667,206,772 | 1,649,234,654 | 17,972,118 |
| Margate Shipping | 95,442,912 | 0 | 95,442,912 | 93,782,143 | 1,660,769 |
| Moore McCormack Bulk Transport | 83,703,452 | 0 | 83,703,452 | 81,430,362 | 2,273,090 |
| Moore McCormack Lines [8] | 734,212,876 | 17,762,445 | 716,450,431 | 716,450,431 | 0 |
| N.Y. & Cuba Mail Steamship | 8,090,108 | 1,207,331 | 6,882,777 | 6,882,777 | 0 |
| Ocean Carriers | 36,140,900 | 0 | 36,140,900 | 36,133,900 | 7,000 |
| Oceanic Steamship [5] | 113,947,681 | 1,171,756 | 112,775,925 | 112,775,925 | 0 |
| Pacific Argentina Brazil Line [1] | 7,963,936 | 270,701 | 7,693,235 | 7,693,235 | 0 |
| Pacific Far East Line [6] | 283,693,959 | 23,479,204 | 260,214,755 | 260,214,755 | 0 |
| Pacific Shipping Inc. | 18,840,400 | 0 | 18,840,400 | 18,840,400 | 0 |
| Prudential Lines [4] | 641,012,300 | 24,223,564 | 616,788,736 | 616,788,736 | 0 |
| Prudential Steamship [1] | 26,352,954 | 1,680,796 | 24,672,158 | 24,672,158 | 0 |
| Sea Shipping | 25,819,800 | 2,429,102 | 23,390,698 | 23,390,698 | 0 |
| Seabulk Transmarine I & II, Inc. | 37,092,376 | 0 | 37,092,376 | 35,845,320 | 1,247,056 |
| South Atlantic Steamship [1] | 96,374 | 84,692 | 11,682 | 11,682 | 0 |
| States Steamship | 231,997,100 | 5,110,997 | 226,886,103 | 226,886,103 | 0 |
| United States Lines [7] | 750,518,013 | 54,958,689 | 695,559,324 | 695,559,324 | 0 |
| Waterman Steamship | 302,546,211 | 0 | 302,546,211 | 300,356,036 | 2,190,175 |
| Worth Oil Transport | 17,428,314 | 0 | 17,428,314 | 17,428,314 | 0 |
| Total Regular ODS | $8,748,146,168 | $238,186,435 | $8,509,959,733 | $8,474,287,111 | $35,672,622 |
| Soviet Grain Programs [9] | $147,132,626 | | $147,132,626 | $147,132,626 | $0 |
| **Total ODS** | **$8,895,278,794** | **$238,186,435** | **$8,657,092,359** | **$8,621,419,737** | **$35,672,622** |

[1] No longer subsidized or combined with other subsidized lines.
[2] AEL was acquired by Farrell Lines, March 29, 1978.
[3] APL merged its operations with AML's October 10, 1973.
[4] Changed from Prudential-Grace Lines, Inc., August 1, 1974.
[5] Purchased by Lykes Bros. Steamship Co., Inc.
[6] Went into receivership August 2, 1978.
[7] Ceased to be subsidized line in November 1970 but returned as a subsidized carrier in January 1981.
[8] Purchased by United States Lines October 1983.
[9] No longer operative.

le 12 : ODS CONTRACTS IN FORCE--SEPTEMBER 30, 1989

.iner Trades

| ator and ract No. | Contract Duration | Number Subsidized Ships | Service (Trade Route/Area) | Annual Sailings Minimum | Annual Sailings Maximum | |
|---|---|---|---|---|---|---|
| rican President Lines, i. A/MSB-417 | 1-01-78 to 12-31-97 | 23 | Transpacific Services: [1] California/Far East Line A (TR 29) | 72 | 108 | |
| | | | California/Far East Line A Extension (TRs 17, 28, 29) [2, 3] | 18 | 28 | |
| | | | Washington-Oregon/Far East Line B (TR 29) | 54 | 80 | |
| | | | Washington-Oregon/Far East Line B Extension (TRs 17, 28, 29) [4] | 6 | - | |
| ell Lines Incorporated A/MSB-352 | 1-01-76 to 12-31-95 | 1 | U.S. Atlantic/West Africa (TR 14-1) [5, 6] | 20 | 38 | |
| ell Lines Incorporated A/MSB-482 | 1-01-81 to 12-31-2000 | 4 | U.S. Atlantic/Mediterranean Service (TRs 10, 13) [6] | 44 | 66 | |
| es Bros. Steamship Co., ic. IA/MSB-451 | 1-01-79 to 12-31-98 | 27 | U.S. Gulf/U.K. Continent (TR 21) | 36 | 60 | |
| | | | U.S. Gulf & S. Atlantic/ Mediterranean (TR 13) [7, 12] | 42 | 48 | |
| | | | U.S. Gulf/Far East (TR 22) [7, 9, 10, 12, 15] | 36 | 60 | Overall maximum |
| | | | U.S. Gulf/South & East Africa (TR 15-B) [7, 9, 11, 12, 15] | 18 | 24 | not to exceed 330 |
| | | | U.S. Atlantic & Gulf/West Coast South America (TR 31/2) [13] | 24 | 48 | |
| | | | Great Lakes/Mediterranean-India (Trade Area 4) [7, 12] | 3 | 10 | |
| | | | U.S. Pacific/Far East, North (TR 29) [14] | 20 | 80 | |
| | | | U.S. Pacific/Far East, South (TR 17/29) [14] | 20 | | |
| idential Lines, Inc. MA/MSB-421 | 1-01-78 to 12-31-97 | 0 | U.S. North Atlantic/Mediterranean (TR 10) [16] | 24 | 36 | |
| nited States Lines, Inc. [17] MA/MSB-483 | | | | | | |
| ldendum No. 4 to amended and restated MA/MSB-483 | 7-08-83 to 12-31-95 | 0 | U.S. Atlantic & Gulf/Australia, New Zealand (TR 16) | 16 | 21 | |
| nited States Lines (S.A.) Inc. 16/ | 1-01-75 to 12-31-94 | 0 | U.S. Atlantic/East Coast South America (TR 1) | 30 | 70 | |
| MA/MSB-338 (formerly Moore-McCormack Lines, Inc.) | | 0 | U.S. Atlantic/South & East Africa (TR 15-A) | 22 | 36 | |
| MA/MSB-353 formerly Delta Steamship ines, Inc.) | 1-01-76 to 12-31-95 | 1 | U.S. Gulf/East Coast South America (TR 20) | 26 | 53 | |
| MA/MSB-425 formerly Delta Steamship ines, Inc.) | 6-17-78 to 12-31-97 | 0 | U.S. Atlantic/Caribbean (TR 4) | 22 | 33 | |

Table 12: (Continued)

| Operator and Contract No. | Contract Duration | Number Subsidized Ships | Service (Trade Route/Area) | Annual Sailings Minimum | Annual Sailings Maximum |
|---|---|---|---|---|---|
| Waterman Steamship Corp. MA/MSB-115 | 6-04-71 to 6-03-91 | 4 [18] | U.S. Atlantic-Gulf/India, Persian Gulf & Red Sea, Indonesia, Malaysia, Singapore, Brunei (TRs 18, 17) [19] | 30 | 40 |
| Waterman Steamship Corp. MA/MSB-378 | 10-26-76 to 10-25-96 | 0 [20] | U.S. Atlantic-Gulf/Far East, Indonesia, Malaysia, Singapore, Brunei (TRs 12, 22, 17) [18] | 8 | 12 |
| Waterman Steamship Corp. MA/MSB-450 | 11-21-78 to 11-20-98 | 0 [21] | U.S. Gulf/Western Europe (TR 21) | 24 | 35 |
| **Total Liner Vessels** | | **60** | | | |

[1] Dual service privileges provide that full containerships may call at both California and Washington-Oregon, with voyages originating in California being Line A sailings, and voyages originating in Washington-Oregon being Line B sailings; however, both types of such voyages shall be counted toward maximum sailings in both Lines A and B, with the outbound and inbound portions of the sailings being counted and applied separately.

[2] Service to/from U.S. Atlantic ports is on a privilege basis with a maximum of 28 sailings.

[3] Includes required service to Indonesia, Malaysia (except Sarawak and Sabah), and Singapore. Numbers of required sailings are a portion of the requir sailings on Line A.

[4] Includes required service to Indonesia, Malaysia, and Singapore. Numbers of required sailings are a portion of the required sailings on Line B.

[5] Farrell is also permitted to make 12 sailings annually from the U.S. Gulf to West Africa.

[6] Farrell owns one LASH vessel, AUSTRAL RAINBOW, which is eligible to operate with subsidy on TR 10/13 or 14-1.

[7] Lykes is permitted to make 24 sailings annually between U.S. North Atlantic and Mediterranean ports on a privilege basis in conjunction with required service on TR 13, 15B, 22, and TA 4. Lykes is permitted to make 48 sailings annually between U.S. Pacific and Mediterranean ports on a privilege b in conjunction with required service on TR 13.

[8] Lykes is allowed 24 sailings annually between U.S. Atlantic and South and East Africa on a privilege basis in conjunction with required service on TR

[9] Lykes has the option to perform additional sailings on TRs 22 and 15B over maximum sailings if the minimum sailings are made on all other services: on TR 22, nine additional sailings; on TR 15B, five additional sailings. The overall maximum must not exceed 330 annual sailings.

[10] Subject to stipulation that a minimum of 12 and a maximum of 30 sailings per annum shall include ports in Indonesia and Malaysia (including Singapo

[11] Lykes is also allowed to make 12 sailings annually from the U.S. Gulf to West Africa on a privilege basis in conjunction with required service on TR

[12] Lykes is permitted to make 16 sailings annually between U.S. Atlantic and Gulf ports and Southwest Asian ports (Suez to Burma) in conjunction with required service on TR 13, TR 15B, TR 22 and TA 4.

[13] Caribbean Subservice--a maximum of 24 sailings per annum may provide limited TR 19 service exclusively between U.S. Gulf ports and ports on the Atlantic coast of the Republic of Panama, the former Panama Canal Zone, and the north coast of Colombia.

[14] Lykes stopped service on TR 29 and TR 17/29 in July 1986.

[15] Lykes may make privilege calls from the U.S. Atlantic to the Far East in conjunction with required service on TR 22.

[16] Prudential Lines TR 10 service was suspended in May 1986.

[17] USL/USL(S.A.), in bankruptcy, provides no service under the subsidy contract; MSB authorhized reassignment of contract to Midlantic National Bank as Trustee.

[18] Between March and July 1984, Waterman sub-bareboat chartered three of the six vessels assigned to the contract back to Central Gulf Lines, from wh they had been bareboat chartered. Waterman has again bareboat chartered the GREEN VALLEY from Central Gulf through 1990 as substitute for PRESIDENT TAYLOR which was chartered from American President Lines, Ltd. for 1988.

[19] Waterman is to provide a minimum of 12 and a maximum of 18 sailings annually to the Indonesia, Malaysia, Singapore, Brunei (TR 17) area under Contract Nos. MA/MSB-115 and MA/MSB-378.

[20] Both vessels which had previously been assigned to the contract were turned in to MARAD under custodial agreements.

[21] Waterman is authorized to operate its LASH vessels assigned to other contracts on TR 21.

Table 12: (Continued)

**B. Bulk Trades:**

| Operator and Contract No. | ODS Agreements: Contract Effective Date | ODS Agreements: Contract Termination Date | Number of Subsidized Ships 9/30/89 | Service | Annual Sailings: Minimum No. of Days |
|---|---|---|---|---|---|
| American Maritime Transport, Inc. MA/MSB-129 | 8-09-73 | 8-08-93 | 2 | Worldwide Bulk Trade | 335 |
| American Maritime Transport, Inc. MA/MSB-166 | 10-10-74 | 10-09-94 | 1 | Worldwide Bulk Trade | 335 |
| Aquarius Marine Co. MA/MSB-309 | 10-15-75 | 10-14-95 | 1 | Worldwide Bulk Trade | 335 |
| Asco-Falcon II Shipping Co. MA/MSB-439 | 5-24-81 | 5-23-2001 | 1 | Worldwide Bulk Trade | 335 |
| Atlas Marine Co. MA/MSB-274 | 12-30-76 | 12-29-96 | 1 | Worldwide Bulk Trade | 335 |
| Brookville Shipping, Inc. MA/MSB-166(a) | 10-10-74 | 10-09-94 | 1 | Worldwide Bulk Trade | 335 |
| Brookville Shipping, Inc. MA/MSB-272 | 4-14-76 | 4-13-96 | 1 | Worldwide Bulk Trade | 335 |
| Chestnut Shipping Co. MA/MSB-299 | 12-01-76 | 11-30-96 | 2 | Worldwide Bulk Trade | 335 |
| Equity Carriers I, Inc. MA/MSB-439 | 5-24-81 | 5-23-2001 | 1 | Worldwide Bulk Trade | 335 |
| Equity Carriers III, Inc. MA/MSB-439 | 5-24-81 | 5-23-2001 | 1 | Worldwide Bulk Trade | 335 |
| Margate Shipping Co. MA/MSB-134 | 12-28-73 | 12-27-93 | 3 | Worldwide Bulk Trade | 335 |
| Moore McCormack Bulk Transport, Inc. MA/MSB-295 | 12-10-75 | 12-09-95 | 3 | Worldwide Bulk Trade | 335 |
| Ocean Carriers, Inc. MA/MSB-167 | 4-03-76 | 4-02-96 | 4 | Worldwide Bulk Trade | 335 |
| Seabulk Transmarine I, Inc. MA/MSB-440 | 3-27-81 | 3-26-2001 | 1 | Worldwide Bulk Trade | 335 |
| Seabulk Transmarine III, Inc. MA/MSB-442 | 9-20-81 | 9-19-2001 | 1 | Worldwide Bulk Trade | 335 |
| **Total Bulk Trades** | | | **24** | | |

Table 13: FOREIGN TRANSFERS AND OTHER SECTION 9 APPROVALS--FY 1989[1]

| A. Program Summary | Number | Gross Tons |
|---|---|---|
| **U.S. PRIVATELY-OWNED VESSELS** | | |
| Transfer to Foreign Ownership and/or Registry | | |
| Vessels of 1,000 Gross Tons and Over | 89 | 1,025,206 |
| Vessels Under 1,000 Gross Tons | | |
| Commercial Craft | 60 | 21,937 |
| Pleasure Craft | 8 | 1,350 |
| Subtotal | **68** | **23,287** |
| **Total** | **157** | **1,048,493** |
| Charters to Aliens | | |
| Vessels of 1,000 Gross Tons and Over | | |
| Approvals | 49 | |
| Modifications | 30 | |
| Extensions | 4 | |
| Vessels of Under 1,000 Gross Tons | | |
| Approvals | 63 | |
| Modifications | 5 | |
| Extensions | 1 | |
| Violations | | |
| Reported | 34 | |
| Mitigated or Settled | 22 | |
| Recissions (Sales to Aliens) | 9 | |
| Foreign Transfers-Stock/Control/Interest | 7 | |
| Modification (Stock Transfer) | 1 | |
| Modifications (Sales to Aliens) | 6 | |
| Mortgages to Aliens | 1 | |
| Denials | 1 | |
| **U.S. GOVERNMENT-OWNED VESSELS** | **1** | **7,170** |

[1]Approvals granted by MARAD pursuant to section 9, Shipping Act, 1916, as amended.

Table 13: (Continued)

B. **FOREIGN TRANSFER APPROVALS**--Vessels of 1,000 Gross Tons and Over

| | Pursuant to Section 9 (U.S. Owned and U.S. Documented) | | |
|---|---|---|---|
| | No. of Vessels | Gross Tons | Average Age |
| Tankers | 8 | 561,709 | 22 yrs |
| Cargo | 18 | 243,974 | 28 yrs |
| Passenger/Cargo | 1 | 11,353 | 31 yrs |
| Miscellaneous | 62 | 208,170 | 20 yrs |
| **Total** | **89** | **1,025,206** | **22 yrs** |

| Recapitulation by Nationality | Number | Gross Tons |
|---|---|---|
| Bahamian | 6 | 74,531 |
| British | 2 | 7,465 |
| Canadian | 12 | 31,492 |
| Cayman Islands | 1 | 1,071 |
| Greek | 1 | 11,353 |
| Grenadine | 1 | 5,972 |
| Honduran | 1 | 2,376 |
| Korea, Republic of (South) | 5 | 5,828 |
| Kuwaiti | 6 | 494,416 |
| Liberian | 6 | 21,610 |
| Panamanian | 13 | 62,442 |
| People's Republic of China | 1 | 2,983 |
| Qatari | 1 | 4,193 |
| Vanuatu | 3 | 42,620 |
| **Total** | **59** | **768,352** |
| Sale Alien (No Foreign Registry) | 14 | 31,934 |
| Sale to Alien for Scrapping | 16 | 224,920 |
| **Total** | **30** | **256,854** |
| **GRAND TOTAL** | **89** | **1,025,206** |
| **U.S. GOVERNMENT-OWNED (Sunken Ship)** | **1** | |

## Chapter 3

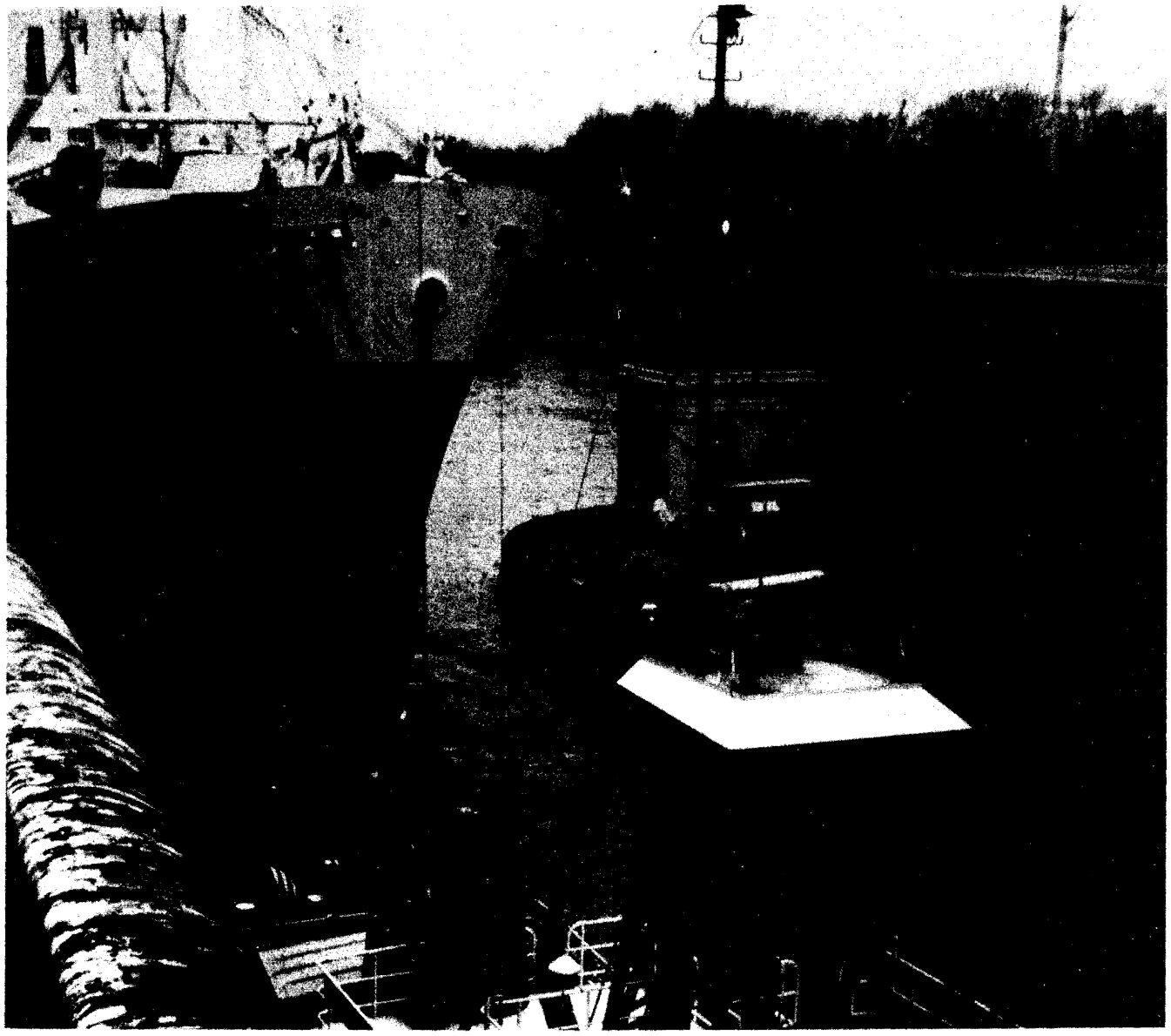
# Domestic Operations

The segment of the American merchant marine which operates in the Great Lakes, on the inland waterways, and in the coastwise, intercoastal, and domestic offshore trades carries a combined total of over one billion short tons of cargo each year.

## Great Lakes

On September 30, 1989, the U.S. Great Lakes fleet consisted of 78 self-propelled vessels of 1,000 gross tons and over, 63 of which were active. (See Table 14.) Although there was a significant drop in tonnage, American Great Lakes vessel operators experienced continued strong cargo carrying demand during 1989. The total tonnage for three major commodities, iron ore, coal, and stone, was 72.1 million short tons through September 1989. The U.S. Great Lakes fleet operated late into the winter season--through January 15, 1989--and resumed operations March 15, 1989, after a brief winter lay-up.

Declining lake levels and lack of harbor dredging, combined with strong demand for cargo, kept the



The tug SHEILA MORAN pulling a vessel through one of 13 locks in the St. Lawrence Seaway.

fleet at near full capacity utilization. Only 11 vessels remained in lay-up. Because of their age, size, or lack of self-unloading capability, the laid-up vessels were maintained primarily as emergency reserves.

During the period, the MT DOCK EXPRESS TEXAS roll-on\roll-off (RO/RO) vessel operated between Pascagoula, MS, and the Great Lakes Naval Training Center carrying over-sized training facility modules which were offloaded while the vessel remained at anchor. Deck barges shuttled the cargo between the vessel and shoreside facilities. Self-propelled tractors positioned the modules at the Training Center in a landing craft-type operation.

## Inland Waterways

Navigation conditions improved on the Mississippi River during fiscal year 1989, after serious operating problems caused by the drought in 1988. Barge rates were up, or at least steady, and, for the first time in several years, inland shipyards began taking orders for new barges. Some brief periods of reduced tow size were announced between St. Louis, MO, and Cairo, IL, and rainfall shortages throughout the river basin were projected to cause the Missouri River to close one month early.

In calendar year 1987 (the last year for which statistics are available), 651.8 million short tons of traffic moved on the inland waterways of the United States compared with 637.8 million short tons in 1986. Preliminary 1988 figures show an increase of less than one percent. The cargo consisted primarily of bulk commodities and raw materials.

More than 365.7 million tons, or 56.7 percent of the total 1987 annual shipments, were coal, coal-products, crude oil, and petroleum products. Some of these moved to power plants which could not otherwise have been supplied.

For the third consecutive year, military cargo moved by barge on the inland waterway system. The Oklahoma National Guard shipped material by barge to Fort McCoy, WI. An active U.S. Army unit also was deployed by barge from Fort Campbell, KY, to Fort Chafee, AR, and returned in late September 1989.

Shipments of chemicals and allied products totaled about 54 million tons or 8 percent of the inland waterways total. Farm products for either domestic or export markets provided over 63 million tons or 9 percent of inland waterways cargoes.

On the Tennessee-Tombigbee Waterway, the newest waterway system linking the Tennessee River with the Gulf via Mobile, AL, cargo continued to increase. In 1985 1.4 million tons were moved. In 1986 traffic more than doubled to 3.6 million tons.

During the period, the Maritime Administration (MARAD) continued to participate in the Upper Mississippi River Environmental Management Program, providing industry coordination with environmental planners in a five-state area.

MARAD also provided Department of Transportation representation to the Upper Mississippi River Basin Association in its environmental planning and liaison efforts.

In FY 1989, MARAD co-funded the Mississippi River Transportation Economics Study along with the U.S. Department of Agriculture and the five Upper Mississippi State Departments of Transportation. The study provides a computer model for forecasting various economic impacts upon the towing industry and recommends several actions for improved operation.

## Domestic Ocean Trades

There were few significant changes to fleet composition or to services during the year.

The pioneering U.S.-flag integrated tug/barge units, MARTHA R. INGRAM/IOS-3301 and CAROLE G. INGRAM/IOS-3302, built in the early 1970s, were retired permanently in FY 1989. In addition, the small petroleum tanker A.H. DUMONT and the chemical carrier ALASKAN were scrapped.

Matson Navigation Co. discontinued direct calls at Portland, OR, in its Hawaiian service, while increasing sailings from Seattle and Los Angeles. Matson also acquired the RO/RO ship ATLANTIC SPIRIT (to be renamed KAIMOKU) from Crowley Maritime Corp. The ship will be used as an alternate vessel in the carriage of containers.

Preliminary data from the U.S. Army Corps of Engineers for calendar year 1988 showed total cargo tonnage for the domestic ocean trade to be down by about 1.5 percent from the 1987 level. In the Alaskan crude oil trade, 853 voyages were made from Valdez by 51 U.S.-flag and 7 foreign-flag tankers, carrying an estimated 101.5 million long tons, a decrease in cargo carried of 6.4 percent from FY 1988. The U.S. ships unloaded at ports on the Pacific Coast and in Alaska, Hawaii, and Panama, while the foreign-flag vessels discharged at St. Lucia, a storage point in the Caribbean, and in the U.S. Virgin Islands, for refining.

During FY 1989, the Chiriqui Grande terminal at the eastern end of the Trans-Panama Pipeline transferred 18 million tons of Alaskan crude oil to U.S.-flag tankers, which made 211 voyages to Atlantic and Gulf Coast ports.

On March 24, 1989, the 209,200-deadweight-ton (dwt.) U.S.-flag VLCC EXXON VALDEZ ran aground on Bligh Reef in Prince William Sound, AK, releasing an estimated 240,000 barrels of North Slope crude oil. During the nearly 6-month cleanup effort which followed, MARAD worked with the U.S. Coast Guard and the U.S. Customs Service to process requests for waivers of the coastwise laws to permit use of certain foreign vessels, principally oil skimmers, in the cleanup. Eight initial waivers and 17 extensions affecting a total of 13 vessels were ultimately approved, after diligent efforts to locate suitable U.S. vessels.

## Domestic Tanker Movements

The Alaskan crude oil trade and product shipments between U.S. Gulf and Atlantic Coast ports remained the two key trades for U.S.-flag tankers in FY 1989.

As of May 1989, 14 tankers of 1.6 million dwt. were in lay-up (excluding the EXXON VALDEZ).

The U.S. Gulf to East Coast tanker trades remained slow in FY 1989. This was primarily due to increased pipeline throughput and to increasing product imports.

At the close of this reporting period, freight rates in the Jones Act tanker trades were up slightly from levels in 1988. The increase coincided with somewhat firmer fuel prices. Although the majority of the tankers involved in this trade were proprietary vessels, either owned or long-term chartered and operated by the oil companies, a significant single-voyage market continued for independent tanker operators. Out of 24 single voyage charters reported during the year, 18 were for Department of Defense cargoes.

## Offshore Drilling

At the end of FY 1989, there were 678 units (excluding tenders) in the world inventory of mobile offshore drilling units. Of these, 384 were owned by U.S.-based companies or their foreign subsidiaries. Eleven mobile units were under construction worldwide, with two units on order from U.S.-based drilling contractors.

The number of U.S.-owned rigs decreased by 32 units in FY 1989. On September 30, 1989, 217 rigs, or 57 percent of the total U.S.-owned drilling fleet, were stationed in U.S. waters. All but three of these were located in the Gulf of Mexico.

While utilization of the Gulf-based mobile drilling fleet climbed slightly in October through December 1988, in the opening months of 1989 fleet utilization declined dramatically--a reversal of the usual seasonal pattern. At the end of 1988, Gulf of Mexico utilization equaled 60 percent; beginning in January 1989 utilization declined steeply, despite a slight reduction in the available fleet, to a low of 45 percent in March 1989. Subsequently, utilization increased slightly through May 1989 but then rose dramatically through the summer months, regaining much of the position it had lost over the winter of 1988-89. As of the end of FY 1989, the overall utilization of mobile drilling units in the Gulf of Mexico stood at 62 percent.

In fiscal year 1989, the most modern units in the Gulf fleet experienced improved available day rates as a result of an upsurge in demand.

The most prevalent type of rig in the Gulf of Mexico was the independent-leg, cantilever jackup rated for operations in at least 250 feet of water. At the end of FY 1989, a rig of this design could command a rate of from $11,000 to $21,000 per day for work in the Gulf. This compares to a range of from $10,000 to $15,000 per day at the end of FY 1988.

In FY 1989, MARAD took custody of six mobile offshore drilling units constructed with the aid of Title XI ship financing guarantees. It also approved the sale of 13 rigs in its custody. The 13 include 3 of the 6 acquired during FY 1989. Early in 1989, MARAD approved the sale of one semisubmersible then in its custody to the U.S. Department of Defense. A total of 10 jackup drill rigs were approved for sale to foreign interests. Seven were sold to Norwegian owners, but will continue to be managed by U.S.-based drilling contractors. Another of the 10 jackups was sold to a drilling consortium based in India in which a U.S. rig owner/operator has a partnership interest. Additionally, two drillships were sold to buyers who intend to remove all drilling equipment and convert the vessels for other employment. As the result of MARAD sales to non-offshore-related interests, four rigs were removed from the world fleet of mobile offshore drilling units.

At the end of FY 1989, MARAD had three mobile offshore drilling units in its inventory--two drillships and one semisubmersible. Sales were pending for the two drillships. The prospective buyers intended to convert the vessels for work outside the offshore drilling industry.

**Table 14:** U.S. GREAT LAKES FLEET [1]--SEPTEMBER 30, 1989

| | Vessels | Gross Registered Tons | Estimated Deadweight Tons |
|---|---|---|---|
| **Total** | **78** | **1,112,185** | **2,122,178** |
| Bulk Carriers | 69 | 1,076,893 | 2,101,600 |
| Active | 59 | 967,426 | 1,911,665 |
| Temporarily Inactive | 3 | 39,635 | 73,075 |
| Laid-Up Inactive (More than 12 months) | 7 | 69,832 | 116,860 |
| Tankers | 3 | 14,022 | 20,578 |
| Active | 3 | 14,022 | 20,578 |
| Temporarily Inactive | 0 | 0 | 0 |
| Others [2] | 6 | 21,270 | - |
| Active | 1 | 4,244 | - |
| Temporarily Inactive | 1 | 3,968 | - |
| Laid-Up Inactive (More than 12 months) | 4 | 13,058 | - |

[1] Self-propelled vessels of 1,000 gross registered tons and over.
[2] Includes railroad car ferries, auto ferries.

## Chapter 4

# Market Development

The Maritime Administration (MARAD) conducts specialized marketing programs designed to increase U.S.-flag participation in the Nation's oceanborne foreign commerce. Programs are directed toward market research, improvement of communications between carriers and shippers, and individual consultation with firms active in international trade.

## Marketing Program

MARAD's marketing program is conducted in cooperation with Agency offices strategically located throughout the country. During FY 1989, trade specialists assigned to these offices consulted with the transportation policymakers of 1,300 firms engaged in foreign commerce to encourage the adoption of a company policy to utilize U.S.-flag vessels for the carriage of their oceanborne commerce. Voluntary reports from shippers and carriers indicate that some $65.3 million in additional ocean freight revenues for U.S.-flag vessels resulted from these policy consultations. Over the last 7 years, this program has generated over $125 million in additional revenue for U.S.-flag carriers.

During FY 1989, U.S.-flag operators continued to use MARAD resources to strengthen their own competitive marketing initiatives. Under the Market Lead System, MARAD provides market intelligence from private and Government sources to U.S.-flag vessel operators. These notices identified more than 300 individual business opportunities having cargo potential for the carriers in FY 1989.

MARAD actively participated in some 160 seminars, forums, workshops, and other meetings dealing with international trade and distribution during the year. Attended by shippers, carriers, freight forwarders, and other maritime interests, these meetings provided an opportunity for the exchange of information and views on transportation economics and practices. The meetings, which were held in such diverse places as New York, Seattle, Los Angeles, New Orleans, and Tampa, enabled the Agency to brief several thousand executives of firms involved in foreign trade on the national policy benefits which result from shipper utilization of U.S.-flag services. MARAD continued to meet with individual liner operators to improve the effectiveness of its marketing interface with them.

## Market Analysis and Planning

The Market Analysis and Planning Program is the Agency's primary area of research aimed at improving the U.S.-flag fleet's competitiveness by enhancing revenue and profitability. In FY 1989, over 20 reviews of international trade products, services, and customers were completed to develop shipper practices in selecting carriers for ocean transportation needs. The emphasis of these reviews was to direct MARAD's marketing efforts where they would be most effective in assisting the U.S.-flag carriers.

MARAD also completed and published a report on U.S. imports and exports shipped through Canadian ports in 1987. The report, based on the most recent final data available from the Bureau of Census, showed that Canadian diversion shipments were 4 million long tons, valued at $9.3 billion. This represented a 20 percent increase in tonnage and a 30 percent increase in value over the previous year.

## Bilateral Cargo Monitoring

To assure a fair transportation environment for U.S.-flag vessels, MARAD monitors cargo movements between the United States and its trading partners. Numerous trades were examined on an *ad hoc* basis. Some were monitored more closely due to changing trade conditions, unilateral actions by trading nations, or the existence of bilateral trade agreements.

As a result of the bilateral agreement with China, trade between the United States and China was monitored closely. In calendar year 1988, the liner trade between the two countries totaled 8.2 million tons valued at $9.9 billion, which represents an increase of $3.2 billion, or 48 percent, over the previous year.

U.S.-flag liner vessels lifted 7 percent of the overall liner trade by weight and 25 percent by value. Chinese-flag vessels lifted 12 percent by weight and 16 percent by value. These shares were approximately the same as the previous year. Actual cargo carried increased substantially; however, U.S.-flag tonnage rose from 359,125 long tons in calendar

year 1987 to 565,621 tons in 1988, an increase of 57 percent.

## Preference Cargoes

Monitoring compliance with the cargo preference laws of the United States is essential in encouraging Federal agencies to maximize the use of U.S.-flag vessels. MARAD is mandated by Congress to monitor compliance with the three major cargo preference laws and to report findings to them. These laws are:

- The Cargo Preference Act of 1904, which requires all items procured for or owned by the military departments to be carried exclusively on U.S.-flag vessels. (MARAD's oversight responsibilities under the Merchant Marine Act of 1970 [Public Law 91-469] encompass all of the Department of Defense's [DOD] ocean transportation requirements to ensure that at least 50 percent of the 100 percent requirement is met by the use of privately owned U.S.-flag commercial vessels as required by Public Law 83-664.);

- Public Resolution 17 of the 73rd Congress, which requires that all cargoes generated by the Export-Import Bank (Eximbank) be shipped on U.S.-flag vessels, unless a waiver is granted; and

- The Cargo Preference Act of 1954 (Public Law 83-664), which requires that at least half of all Government-generated cargo subject to the law be transported on privately owned U.S.-flag commercial vessels available at fair and reasonable rates. In 1985, the Merchant Marine Act, 1936, was amended to require that the percentage of certain agricultural cargoes moving on U.S.-flag vessels increase from 50 to 75 percent over a three-year period commencing in April 1986.

To assure that all cargo preference laws are followed, MARAD monitors the shipping activities of 52 Federal agencies, independent establishments, and Government corporations (see Table 15). With the exception of the Eximbank, for which records are maintained over the life of a loan or guarantee, statistics for all programs are maintained on the basis of a calendar-year (CY) or 12-month program period.

A computerized reporting system enabled MARAD to process 21,800 bills-of-lading for 1988. These documents covered civilian agencies, some DOD contractor shipments, Eximbank, and most Foreign Military Sales Credit (FMSC) Program cargoes. The equivalent of 38,000 bills-of-lading that embrace Military Assistance Program (MAP) and FMSC shipments also were processed using computer tapes provided by DOD.

### Agencies Not In Full Compliance With Public Law 83-664

In CY 1988 the Agency for International Development (AID) Loans and Grants Program failed to achieve the 50 percent U.S.-flag shipping requirement under Public Law 83-664. Vessel owners and grain elevators were unable to complete the loading of a large commitment of bulk grain until January 1989. AID would have satisfied the CY 1988 U.S.-flag shipping requirement if the cargo had been loaded during CY 1988. AID will not include this tonnage when calculating the U.S.-flag compliance requirement for CY 1989.

The Urban Mass Transportation Administration (UMTA) also failed to achieve the 50 percent U.S.-flag participation under Public Law 83-664. A grantee disregarded the U.S.-flag shipping requirement and transported a considerable amount of tonnage exclusively on foreign-flag vessels during CY 1988. Procedures are being initiated to have the grantee "make up" the cargoes to U.S.-flag carriers.

The Military Sealift Command (MSC), in contravention to MARAD's specific advice to that Agency, utilized a MSC-controlled vessel (bareboat charter) in competition with a privately owned U.S.-flag commercial vessel to transport Foreign Military Sales Financed/MAP Merger (FMSF) cargoes. The Defense Security Assistance Agency (DSAA), responsible for the FMSF/MAP Merger programs, did not authorize or sanction use of this vessel by MSC. Therefore, MSC is soley responsible for this violation of Public Law 664.

### Ocean Freight Differential

In 1985, the Merchant Marine Act, 1936, was amended to require MARAD to reimburse the Commodity Credit Corp. (CCC) of the U.S. Department of Agriculture (USDA) for ocean freight differential (OFD) costs for an increased U.S.-flag share of agricultural shipments exported under certain specified export programs (Public Law 83-480 and Section 416 programs). OFD cost is defined as the difference

## Port and Intermodal Operations Program

This cost-shared program helps improve productivity in the operation of facilities, equipment, and waterways. The program also provides planning for emergency operating conditions at ports in time of crisis or war.

Projects completed, ongoing, or initiated in FY 1989 are described below:

| Completed Projects | Description |
|---|---|
| Marine Container Terminal Productivity | Prepared feature article on the critical role of marine terminal productivity in intermodal container transport for the 1989 edition of *Intermodal North America Yearbook.* |
| Intermodal Equipment Inventory | Prepared and distributed the MARAD report, *Inventory of American Intermodal Equipment--1989*, a comprehensive statistical review and classification of equipment owned by American steamship and container leasing companies. |
| Port Safety and Environmental Protection Reports | Prepared and distributed four quarterly issues of MARAD's report, *Port and Shipping Safety and Environmental Protection.* |
| Container Transport by Inland Vessels | Under the auspices of the Permanent International Association of Navigation Congresses, prepared report on container shipping by barge on U.S. inland waterways. |
| Marine Terminal Training | Prepared a comprehensive report on available domestic and international training programs for marine terminal managers. |

| Ongoing Projects | Description |
|---|---|
| Interagency Environment and Safety Liaison | Maintained liaison with the U.S. Coast Guard, Environmental Protection Agency, State Department, U.S. Army Corps of Engineers, and other agencies on matters pertaining to activities of the National Shipping Coordinating Committee, the Chemical Transportation Advisory Committee and the Towing Safety Advisory Committee. |

| | |
|---|---|
| Interagency Group on Terrorism | Continued to serve as a member of the Department of State's Inter-Departmental Group on Terrorism which coordinates international training activities to combat terrorism and reports to Congress each calendar year. |
| Overweight Marine Containers | Participated in industry and Government discussions and various analytic efforts concerning the issue of overweight marine containers moving on U.S. highways. |
| Rail Transport of Double-Stack Containers | Continued to participate in joint Federal Railroad Administration/MARAD Stack Containers study entitled, *Double-Stack Container Systems--Implications for the U.S. Railroads and Ports*. Prepared technical paper on the same topic for the Transportation Research Board's annual meeting. |
| Port Automated Cargo Release System | Initiated phase II of the cooperative agreement with the Golden Gate Ports Association to develop a generic design of a port community cargo release system linked to U.S. Customs' Automated Commercial System. |

| Projects Initiated | Description |
|---|---|
| Marine Terminal Management Training Course | In conjunction with port and maritime industry associations, initiated development of the first 2-week training course for marine terminal supervisory personnel to be held at the U.S. Merchant Marine Academy. It was scheduled for January 1990. |
| Narco-Terrorism Conference | In cooperation with the International Association of Airport and Seaport Police, began planning the program for an International Working Conference on Maritime Security and Drug Interdiction in Ports to be held in Miami, FL, from January 3-5, 1990. |

# Chapter 6
# Technology Assessment

Through its Office of Technology Assessment, the Maritime Administration (MARAD) conducts technology assessment activities related to the development and use of water transportation systems for both economic and national security purposes.

It assesses maritime developments and future trends involving many interrelated areas including trade, markets, intermodal transportation, emerging technologies, economic developments, fuels and materials, and national defense requirements. It also identifies and stimulates the transfer of advanced technologies from other areas into the maritime environment and serves as a focal point to bring advanced technical expertise to bear on issues of concern to MARAD and the Department of Transportation.

Technical and Program Studies (TPS) contracts and cooperative agreements awarded in FY 1989 are listed in Appendix III.

## Military Sealift

The Military Sealift program includes the development of more efficient and effective waterborne transportation services for the carriage of military cargoes by commercial vessels. Its goal is to provide logistical support to military operations in cooperation with the U.S. Navy.

Four projects were completed in FY 1989:

- *Promotion of Defense-Relevant Ships in Jones Act Trades.*
- *Improvements in Loading and Discharge for Military Sealift Breakbulk Cargo (ROTOLOADER).*
- *A Stabilized Shipboard Crane to Support In-Stream Military Logistic Operations.*
- *Acoustic Quieting of Commercial Transportation Systems.* (This is a classified report.)

Another report, in preparation for early 1990 release, and six funded projects initiated in FY 1989 are listed in Appendix III.

## Government Shipping

The Government Shipping program seeks to develop lower cost transportation services for transporting cargo preference shipments for Government agencies such as the Department of Agriculture and the Agency for International Development.

During FY 1989, several projects were completed. These examined the feasibility of constructing automated bagging and handling facilities for agricultural products at U.S. port locations. They also analyzed the opportunity for developing a transportable floating bulk unloading facility which would be deployed at those foreign destination ports where facilities are inadequate. Technical and economic analyses were conducted for five port locations.

A project was initiated to design, build, and test a scale model of a specialized container for carrying export bulk wheat flour during the year. Results were to be completed during FY 1990.

## Ship Design

The Ship Design program involves exploring and understanding ship structures and hydrodynamics technologies fundamental to vessel design and performance in a seaway.

Ship structural projects seek solutions for structural problems affecting ship safety and survivability, develop new structural materials, and improve structural design and fabrication procedures. They are cost shared with, and jointly administered by, several other Government agencies. Contracts are awarded by the U.S. Coast Guard on behalf of the interagency Ship Structure Committee.

During fiscal year 1989, the first phase of a major program element in reliability based structural design was implemented. This project will illustrate the differences between traditional design methods and reliability based methods. Other projects awarded during the reporting period include preparation for a symposium on the use of composite materials in marine structures, development of better procedures to manage the structural life of marine structures,

development of in-service underwater hull repair procedures, and a study of structural fatigue.

The Marine Coefficient Information System was completed in the reporting period and is configured to collect maneuvering data from full scale ship trials. This data is used with systems identification methods of analysis to develop mathematical maneuvering models.

## Maritime Safety

The Maritime Safety program assesses advanced vessel navigation and communication systems and operational procedures. It also evaluates maintenance policies which enhance maritime safety while enabling vessels to operate more efficiently and meet Federal standards for safety and air, water, and noise pollution, both in port and at sea.

A Memorandum of Agreement between MARAD and the U.S. Coast Guard was signed formally setting up a Cooperative Technical Studies/Research and Development Program. Four projects were initiated in this fiscal year.

The first is a follow-on effort of a recently completed project by Dynamics Research Corp. on human factors in marine accidents. The initial phase studied the U.S. Coast Guard's accident investigation and reporting activities and the recording of causal data into a computer data base. The approach to identifying human factors during the accident analysis and the reporting of the data were expanded to include extensive human factors relationships to assist both with the investigation and with later retrieval and study. The follow-on project trains U.S. Coast Guard investigators to assist implementation.

The second initiative involves the American Bureau of Shipping and provides for shipboard trials of the recently developed "Contingency Planning System." This prototype computer system is to be used on board ships as an expert advisor for damage contingencies. It will provide the master with information on structural and stability characteristics in damaged conditions and damage control options. The system will be installed on a commercial tanker for evaluation.

The third project, which has been initiated with the U.S. Coast Guard, will investigate the possibility of utilizing the "free fall lifeboat" on U.S.-flag ships. These boats have been found to be cost effective abroad and offer many safety advantages to the crew, but implementation under the U.S.-flag is difficult because of U.S. tests and other requirements.

The fourth project is a ship model test program at the David Taylor Research Center to develop procedures for a modular approach to analyzing ship controllability. This approach involves analyzing the hull, propeller, and rudder separately so that interference effects can be identified. Designers and regulatory bodies will then be able to analyze variations in ship controllability with component changes using series model tests of hulls and rudders.

Another project is ongoing with the Transportation Systems Center on "Shipboard Crew Fatigue, Safety, and Reduced Manning." A draft report reviewing fatigue and safety experiences in other modes of transportation has been completed along with some shipboard visits. A final report will summarize findings and review the effectiveness of various methods of measuring crew fatigue and preventing its occurrence.

MARAD also participated in the development of a study for Congress entitled *Transportation-Related Sleep Research*. This study reviewed research activities in the different modes of transportation to identify ways of improving safety where fatigue and sleep problems are present.

## Effective Manning

The Effective Manning program involves operations research and analysis to increase the productivity of shipboard personnel by rationalizing manning structures and improving the quality of life through labor and management cooperation.

The final report of the Effective Manning Project at American President Lines (APL) was completed in fiscal year 1989. This project began in 1984 with an APL and seafaring union agreement on the operation of two foreign-built ships at the foreign manning level of 21. The report records both organizations' approaches to redesigning work functions and changing physical and social structures onboard ship and ashore to man these vessels effectively.

An ongoing study, *The Effect of Smaller Crews on Maritime Safety,*

by the Marine Board of the National Research Council is analyzing the effects of smaller crews on maritime safety. The study group is to develop an approach for the U.S. Coast Guard to evaluate crewing proposals to determine effective safety. It is scheduled to be completed in 1990.

## Ship Performance

The Ship Performance program involves the study and development of ship design innovations and "add on" systems that can be used on U.S.-flag vessels to improve their operational performance and reduce maintenance costs, fuel consumption, and labor costs.

An ongoing project with Phillips Cartner Inc. on *Vessel Productivity Improvement* was near completion. This study was reviewing foreign advances in shipboard productivity and assesses applicability in the United States. Various useful innovations are evaluated on versions of a U.S. containership and tanker.

During the reporting period, planning was initiated for a *Ship of the Future 2000* Conference/Workshop to take place May 14-16, 1990. The effort is planned to bring together industry and Government representatives to assess technological innovations that could take place in the 2000-2025 time frame and develop a plan for the U.S. maritime community. The Conference/Workshop is being developed with principal sponsorship by the Society of Naval Architects and Marine Engineers' Technical and Research Program.

A contract was awarded at the end of FY 1989 to Rensselaer Polytechnic Institute to design, develop, install, and evaluate a Shipboard Piloting Expert System to assist pilots and navigation officers in maneuvering large vessels in restricted waters. The system will be installed aboard a tanker operating in the Alaskan oil trade.

## Cargo Handling

The Cargo Handling program assesses advanced materials handling, automation, data processing, and communications technologies to reduce the cargo handling and documentation costs of intermodal shipments between water and rail or motor carrier transportation modes.

MARAD continued its stimulation and support of industry research and development through the Cargo Handling Cooperative Program (CHCP). Four U.S.-flag carriers, American President Lines, Ltd., Matson Terminals Inc., Sea-Land Service, Inc., and Crowley Maritime, Corp. carried out joint projects designed to increase cargo handling productivity through the introduction of new technology.

The successful test and evaluation of a prototype automatic chassis identification system at a Sea-Land Services, Inc., terminal in Anchorage, AK, was completed. Transponders, carrying the equipment identification number, were placed on the landing gear of the chassis and read remotely by antennae as the chassis passed key checkpoints. Data was transmitted to a computer in the dispatch office where it was used for equipment control and inventory. Based on the success of this and other tests, APL and Sea-Land are moving ahead with implementation of radio frequency identification (RFID) systems in their marine and intermodal terminals.

The assessment of technology available to determine remotely the exact location in a terminal of container handling equipment was completed and a vendor selected for a prototype installation and test at Matson's Sand Island Terminal in Honolulu, HI. The prototype hardware and software were installed in FY 1989, and testing will begin in FY 1990. The system will provide X, Y, and Z coordinates and greatly improve container inventory and operational control.

An analysis of the various functions at marine terminal gates was completed at selected terminals of each carrier. The results will be used to define specific projects to address problem areas identified with the objective of improving throughput.

A draft standard for the intermodal use of RFID or automatic equipment identification (AEI) technology was completed and submitted to the U.S. Technical Committee of the International Organization for Standardization (ISO). The Draft Standard was accepted by the ISO and is currently moving through the formal procedure to become an international standard.

## Waterway Development

The Waterway Development program involves the application and utilization of advanced simulation methodologies to better understand the interaction of

vessel maneuvering capabilities and channel configuration in harbors, rivers, and canals.

At the request of the National Transportation Safety Board, a contract was awarded during fiscal year 1989 to study the grounding of the EXXON VALDEZ. The study used the Computer-Aided Operations Research Facility (CAORF) ship handling simulator.

## Fleet Management Technology

The Fleet Management Technology program involves innovative techniques to ensure the most productive deployment and utilization of ships and equipment to maximize shipper service and carrier competitiveness in a commercial business environment.

During FY 1989 Sea-Land and APL were participating in projects. The Sea-Land project, entitled *Decision Aids for Fleet Management*, is intended to provide guidance for making more accurate fleet operational decisions relating to vessel speed and routing. It was also to study ways to achieve safe, economical vessel operations. The system will incorporate vessel motion predictions, real-time wind and wave forecasts, and vessel operating cost models.

The APL project, *Expert Diesel Engine Maintenance System*, was using expert systems technology to diagnose maintenance problems in the diesel engine propulsion system. This system, which uses real-time sensor data from the engine control system and a combustion analyzer, evaluates performance trends and incorporates the knowledge of expert engineers to predict when failures will occur and their effect on engine operation. The project was expected to be completed in FY 1991.

## Maritime Technology Policy

The Maritime Technology Policy program provides for participation in the basic activities of the Marine Board and the Transportation Research Board and utilizes the technical advisory role of the National Research Council on policy issues of national significance to both industry and Government concerning the water transportation community.

A project with the Transportation Research Board was begun this fiscal year to determine the relationship between deregulation and technology innovation as it relates to container shipping. A committee of experts has been formed, and completion was scheduled for FY 1990.

## Technology Transfer

The Technology Transfer program provides for the development, collection, and dissemination of domestic and foreign technological information relevant to domestic and international water transportation. This program includes the operation of the Maritime Technical Information Facility (MTIF) located on the grounds of the U.S. Merchant Marine Academy at Kings Point, NY.

## Chapter 7

# Maritime Labor and Training

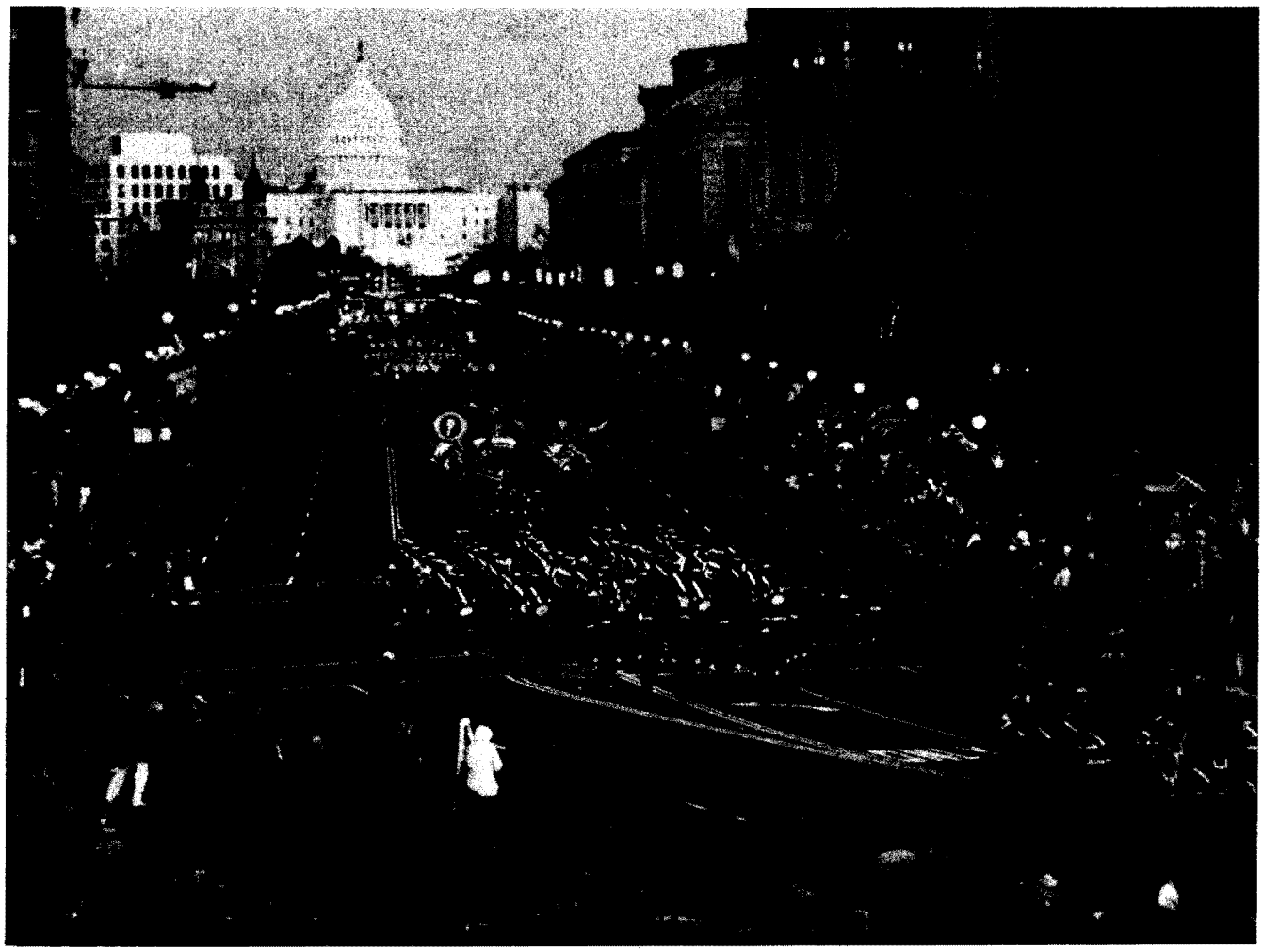
The Maritime Administration (MARAD) supports the training of merchant marine officers and supplemental training related to safety in U.S. waterborne commerce. The Agency also monitors maritime industry labor practices and policies in conjunction with national and international organizations, and promotes consonant labor relations.

## U.S. Merchant Marine Academy

The U.S. Merchant Marine Academy at Kings Point, NY, which MARAD operates, trains young men and women to become officers in the American merchant marine. In addition to classroom training, midshipmen are required to spend a year at sea on American-flag vessels.

Graduates receive U.S. Coast Guard licenses as deck or engineering officers, or both, and Bachelor of Science degrees. U.S. citizen graduates are also obligated to apply for, and accept if offered, commissions as officers in an armed force of the United States.

The Class of 1989 comprised 74 third mates, 90 third assistant engineers, and 10 graduates who completed the dual deck/engine program. Thirteen women were among the graduates. Within 90 days following commencement, approximately 91 percent of the 174 graduates had already found employment in the maritime industry, aboard ship or ashore, or were serving on active duty in the U.S. military services.



The U.S. Merchant Marine Academy Band was chosen to participate in the Inaugural Parade of President George Bush, January 20, 1989.

Average enrollment at the Academy during the year was 832.

At the beginning of the 1989-90 school year, the regiment of midshipmen included 76 women, 14 of whom were scheduled to graduate in June 1990.

Members of Congress nominated 2,050 constituents for the class of 1993. A total of 287 appointments were made in FY 1989. All classes of the Academy are under mandatory service obligation contracts to serve 5 years in the U.S. merchant marine or in maritime-related employment, maintain a Reserve Commission for 8 years, and renew their 5-year U.S. Coast Guard licenses at least once after graduation.

The Academy is accredited by the Middle States Association of Colleges and Schools. The Marine Engineering Systems curriculum is accredited by the Accreditation Board of Engineering and Technology.

## State Maritime Academies

MARAD provides financial assistance to six State maritime academies in accordance with the Maritime Education and Training Act of 1980 (Public Law 96-453). The law provides for the training of merchant marine officers to meet the national objectives stated in the Merchant Marine Act, 1936, as amended.

The State academies are located at Vallejo, CA; Castine, ME; Buzzards Bay, MA; Traverse City, MI; Fort Schuyler, NY; and Galveston, TX. The six State maritime academies graduated 409 students in 1989.

In addition to U.S. Coast Guard licenses, graduates of five academies receive Bachelor of Science degrees (associate degrees are awarded by the Great Lakes Maritime Academy in Traverse City, MI). In 1989, 48 graduates accepted active duty commissions in the armed services.

After graduation, 76 percent of the graduates found employment in the maritime industry aboard ship or ashore, or were serving on active duty in the U.S. Navy or Coast Guard.

As a condition to providing annual Federal student incentive payments of $1,200 each, Public Law 96-453 provides for a mandatory 3-year service obligation in the U.S. merchant marine for any subsidized student. Under this same law, MARAD currently provides training vessels to the five salt-water academies for use in at-sea training. During the period, the former cargo vessel MORMACTIDE was undergoing extensive conversion to a training ship to replace the EMPIRE STATE, the training vessel currently on loan to the maritime academy located in New York. The completed conversion and transfer of the MORMACTIDE to SUNY Maritime College was expected in early FY 1990 (see Chapter 1).

As required by Public Law 100-202, MARAD completed development of a draft implementation plan for sharing a reduced number of training vessels. The State maritime academies were reviewing the plan at year's end.

MARAD received serious allegations of sexual harassment at the California Maritime Academy (CMA). As part of its oversight responsibility, the Agency conducted an investigation of these allegations. The final report was expected to be issued early in fiscal year 1990.

## Supplemental Training

MARAD's supplemental training program provides classroom instruction and hands-on training in maritime firefighting, diesel engineering, and defense readiness. In fiscal year 1989, MARAD trained 2,116 maritime personnel in ship and barge firefighting. Participants were largely U.S. seafarers, but included others concerned with maritime fire safety such as Coast Guard personnel and port-city professional firefighters.

MARAD-sponsored basic firefighting training is offered at the Agency's fire school at Swanton, OH, the U.S. Navy-Military Sealift Command/MARAD fire-training facility in Earle, NJ, and the U.S. Navy fire-training installation, Treasure Island, San Francisco, CA. A fee of $25 per student training day is charged for MARAD fire-training courses.

Also during the reporting period, a pamphlet was developed to assist domestic small vessel operators in obtaining fundamental firefighting training for their crews. This rapidly growing industry has made outstanding use of this aid in coordinating fundamental firefighting training with local fire departments. In this regard, City Outreach Firefighting Workshops also were held in Covington, KY,

and Duluth, MN, to help develop an awareness of shipboard firefighting requirements and local fire contingency plans for vessel fires.

At the request of the Arab Security Studies and Training Center in Riyadh, Saudi Arabia, the two firefighting instructors from the Toledo Fire Training Center conducted a 3-week course in Saudi Arabia on controlling fires aboard ship for 16 security officers from the Arab League countries. The sessions included classroom studies in Riyadh and live fire exercises in Dammam at the King Abdul Aziz port facilities.

Also during the year, MARAD renewed two contracts with maritime industry radio officer training schools to provide specialized training for radio officers. This program facilitates improved communications between U.S. Navy and U.S. merchant marine ships. Such communications capabilities would be vital in the event of a military contingency. Concurrently, 69 shipmasters participated in the ongoing Master Mariners Readiness Training Course funded by MARAD and conducted at Kings Point. The course provides currently employed captains and their prospective replacements with instructions governing joint U.S. Navy/U.S. merchant marine operational practices and procedures.

The Agency's Continuing Education Marine Diesel Program conducted at Kings Point, NY, continued to provide industry personnel with special short courses on the operation and maintenance of marine diesel power plants.

## Labor Relations

### Longshore

In September 1988, representatives of East and Gulf Coast waterfront labor and management began early contract negotiations to avoid problems at the September 30, 1989, contract expiration. About 400 officers of the International Longshoremen's Association (ILA) and 65 management representatives convened at Fort Lauderdale, FL, to discuss working conditions in Atlantic and Gulf Coast ports. At that time, a 1987 action by the Federal Maritime Commission (FMC) against the so-called "50-mile rule" provision of the existing contract, and subsequent endorsement of the FMC action by the courts, injected new uncertainty into labor relations. The FMC decision that the rule is contrary to shipping laws and cannot be enforced opened the existing ILA contract to re-negotiation and gave the ILA the legal right to strike.

The ILA leadership adopted a moderate stance, indicating they expected employers to offer some job program to replace the abolished work preservation measure. Unlike the 1986 negotiations, management showed unity among all the major employer groups with only management representatives from Texas and western Louisiana present as observers. Management's agenda included concessions in the areas of work rules and the Guaranteed Annual Income (GAI) program. Management in the ports of New York and Baltimore in particular were looking for a solution to their paradox of paying large amounts of overtime and GAI even though there was high unemployment among dockworkers in both ports.

After the U.S. Circuit Court of Appeals rejected the ILA efforts to reinstate the 50-mile rule in August 1988, the ILA, along with steamship companies and their trade groups, took the issue to the Supreme Court. The Supreme Court reaffirmed the 1987 ruling by the FMC in January 1989.

Leaders of the ILA and employer representatives resumed meetings in January 1989. At that time, a Container Freight Station Committee was formed to decide on terms for the proposed stations as a replacement for the 50-mile rule. These stations are designed for loading and unloading ocean cargo containers under conditions that make them cost competitive with similar stations utilizing lower cost labor. This would require utilizing only longshoremen eligible for GAI, flexibility in ILA work rules, and a wage subsidy to be paid out of worker benefit funds jointly controlled by management and the ILA. A second committee was formed to negotiate terms of a new master contract to replace the agreement which expired in September 1989.

In early August 1989, the ratified extension of the current master contract was signed, since little progress toward replacing the current contract was being made. A key element of the extension, which expires on December 1, 1990, is establishment of a new joint bargaining unit charged with developing compromise proposals on work methods and pay scales for a 1990 contract. The no-strike clause in the extension greatly reduces the possibility of an East and Gulf Coast work stoppage.

The agreement also calls for talks to continue on individual port labor contracts.

On the West Coast the International Longshoremen's and Warehousemen's Union (ILWU) contract with the Pacific Maritime Association (PMA) does not expire until July 1990.

The ILWU contract contains similar container-handling rules as the East Coast ILA contract. ILWU and PMA officials contend the West Coast rules as enforced are clearly distinguishable from those on the East and Gulf Coasts.

In a non-labor relations issue, the ILA joined with management and the U.S. Customs Service to announce "Operation Portwatch." This project involves the use of longshoremen as another resource to guard against the illegal smuggling of drugs into the United States.

Additionally, the "shape-up," a century old routine, was ended in June 1989. Under that system, longshore workers reported to the waterfront to determine if work was available. This practice has been replaced by a computer driven telephone system, which allows longshoremen to be contacted by a dispatcher at their homes by 9:00 a.m. if work is available.

### Seafaring

Contracts with seafaring maritime unions are not scheduled to expire until June 1990. The spirit of cooperation which exists between seafaring labor and ship operators is expected to continue and encourage the development and coordination of necessary actions that will improve the competitiveness of the U.S. commercial fleet.

### Labor Data

In fiscal year 1989, average monthly U.S. seafaring employment in all sectors (private, Government contract, and Great Lakes) decreased to 14,268, down 1.4 percent from the FY 1988 average of 14,470. (See Table 16.) The total workforce in selected U.S. commercial shipyards decreased 2.1 percent from 92,141 in FY 1988 to 90,179 in FY 1989. Average longshore employment decreased slightly from 28,503 to 28,339.

## Merchant Marine Awards

Public Law 100-324, the Merchant Marine Decorations and Medals Act, was enacted in FY 1988. This law authorizes the Secretary of Transportation to grant medals and decorations for outstanding and meritorious service or participation in national defense action.

Through FY 1989, MARAD had issued over 45,000 certificates of veterans status to merchant mariners whose service in the United States merchant marine during World War II has been determined to be active duty under Public Law 95-202.

Public Law 100-324 also reinstates MARAD's authority to accept and process original requests for the issuance of World War II merchant marine awards and decorations. That authority was rescinded in 1956 by Public Law 84-759.

During this reporting period, the Gallant Ship Award was presented to the tug STAMFORD for its role in responding to a 1986 fire in New York Harbor. This plaque is awarded to a vessel cited for saving lives or property through outstanding or gallant action in marine disasters or other emergencies.

The Master of the STAMFORD was presented the Merchant Marine Meritorious Service Medal and letters of Commendation were presented to the vessel's crew for their participation in the rescue.

While enroute to assist in fighting the fire, the vessel's crew responded to calls from a disabled tug. Although threatened by a possible explosion, the STAMFORD's crew pulled the disabled tug clear of one of the burning barges and then assisted New York City firefighters in extinguishing the fires onboard the barges.

between the costs of shipping cargo on a U.S.-flag vessel and foreign-flag shipping costs.

USDA/CCC continues to be responsible for funding OFD costs for the first 50 percent share of cargo that must move in U.S.-flag vessels under each program. MARAD is responsible for the OFD costs for the U.S.-flag share of cargo above 50 percent, but not to exceed the additional legislated increment of 25 percent in the USDA/CCC Cargo Preference Year covered in this report (April 1, 1988 to March 31, 1989) and each subsequent year.

MARAD has reimbursed USDA/CCC for the incremental OFD amounts within agreed upon time periods. During the report year, which commenced April 1, 1988, MARAD's share of the OFD based on fully supported CCC invoices received as of September 30, 1989, amounted to $44,241,419.

If the total cost to CCC of ocean freight and OFD for the Public Law 480 and Section 416 programs, in any fiscal year, exceeds 20 percent of the value of the commodities exported under these programs plus the ocean freight and OFD incurred, MARAD is required to reimburse CCC the amount of such excess. USDA has advised MARAD that during FY 1989 the total ocean freight costs did not exceed the 20 percent cap.

The 1985 amendments to the Merchant Marine Act also provide that for fiscal year 1986 and each fiscal year thereafter, the minimum tonnage to be exported under the Public Law 480 and Section 416 programs shall be the average of the tonnage exported during the base period. The base period for any fiscal year is defined as the five fiscal years, beginning with the sixth fiscal year preceding such fiscal year and ending with the second fiscal year preceding such fiscal year.


The JEAN LYKES undergoes a routine drydock inspection before transporting agricultural cargo to Ethiopia under the Food for Peace Program.

High and low years are discarded. Based on program tonnage figures provided by USDA, MARAD determined that for FY 1989 the total tonnage for the Public Law 480 and Section 416 programs was 6,870,000 metric tons, resulting in a shortfall of 231,752 metric tons.

The President may waive the minimum quantity if he determines and reports to Congress, together with his reasons, that (a) such quantity cannot be effectively used for the programs or (b) based on a certification by the Secretary of Agriculture, that the commodities are not available for reasons which include the unavailability of funds.

USDA has not given MARAD the reasons for the FY 1989 shortfall, but has advised the Agency that the procedures and information necessary for complying with congressional reporting requirements are being developed.

Regarding the U.S. Great Lakes, 1985 amendments to the Merchant Marine Act have required certain steps be taken as may be necessary and practicable, without detriment to any port range, to preserve for Great Lakes ports each year through CY 1989 the percentage share or metric tonnage (whichever is less) of Public Law 480, Title II bagged, processed, or fortified commodities as exported through these ports during CY 1984.

According to the USDA, 245,338 metric tons, representing 20 percent of the total of these Title II commodities, were exported through Great Lakes ports during CY 1984.

During the program calendar year, which began on April 1, 1988, the quantity of these Title II commodities shipped through Great Lakes ports amounted to 229,480 metric tons, which represented 19.1 percent of the Title II bagged, processed or fortified commodities. Therefore, for this reporting period, USDA did not achieve either the minimum tonnage level or the minimum percentage requirement as prescribed in the statute.

## DOD Commercial/ Contractor Shipments

Agreements have been executed by MARAD with the Departments of Army, Navy, and Air Force, the Corps of Engineers, and the Defense Logistics Agency covering their 12 commercial contracting activities. Under these agreements, MARAD assists DOD and its commercial contractors and suppliers in securing appropriate U.S.-flag shipping services.

The CY 1988 statistics shown in Table 15 include only a portion of the commercial contract cargoes generated by these agencies, since a number of DOD's contracts did not contain bills-of-lading reporting provisions. The Agency will be able to secure these documents for future reports as contracts are modified to reflect MARAD's agreements with the defense agencies.

Tonnages carried by U.S.-flag vessels for troop-support cargoes processed by the Military Traffic Management Command (MTMC) and the Navy's Military Sealift Command (MSC) are not included in Table 15 DOD contractor shipment statistics. DOD troop-support cargoes processed by MTMC and MSC are provided as a separate listing. A breakdown of this tonnage between U.S.-flag privately owned and U.S. Government-owned vessels is included. The data is provided by the MSC, with no independent MARAD verification. Precise revenue data from the MSC are not available.

The DOD Military Services and Agencies did not achieve 100 percent U.S.-flag participation in their commercial contracting activities during CY 1988. Only a small portion of foreign-flag participation was due to the non-availability of U.S.-flag vessels. The primary reasons for the shortfalls were inconsistencies previously existing in the Defense Acquisition Regulation provisions, the absence of appropriate U.S.-flag provisions in a substantial number of DOD's contracts, and some procuring agencies' lack of experience with the administration of cargo preference requirements. These problems have been addressed by recent agreements between MARAD and the DOD contracting commands concerning implementation of the Federal Acquisition Regulation (FAR), which became effective on April 1, 1984. The FAR clearly states that DOD cargoes are covered by the Cargo Preference Act of 1904, making them subject to a 100 percent U.S.-flag requirement.

MARAD has undertaken a coordinated effort with the Defense Acquisition Policy Council to have the Defense Federal Acquisition Regulation amended to ensure that the Cargo Preference Act of 1904 is clearly understood

by all parties to the contracts and that a mechanism is available to monitor compliance by contractors in the requirement to use U.S.-flag vessels.

### International Cooperative Projects' Contractor Shipments

Consistent with international cooperation agreements with our allies, DOD participates in joint procurement. Because the U.S.-flag requirement remains at 100 percent for DOD's involvement in such procurement, actual U.S.-flag participation by statute cannot be less than the percentage relationship of the U.S. Government's financial participation in the particular cooperative project. Therefore, U.S.-flag actual performance in these projects can legitimately be less than 100 percent. This concept was confirmed through exchanges of letters between DOD and MARAD in 1982 and 1983. DOD agreed to insert a provision in every Memorandum of Understanding for Cooperative Procurement reflecting this concept for U.S.-flag utilization. Because of the sensitivity of these projects, none are specifically named, but all projects' shipping activities are incorporated into the total for this category.

U.S.-flag participation in all such joint procurement projects has exceeded the minimum level specified in the Memorandum of Understanding. Therefore, full compliance with the governing cargo preference statutes is being achieved.

### Department of Defense/ Program Initiatives

MARAD and the Military Traffic Management Command (MTMC) have agreed to require household goods freight forwarders to provide MARAD with copies of the ocean bills-of-lading for all shipments of military household goods. The requirement was incorporated in MTMC's solicitation procedures in the latter part of 1988. Table 15 data for military household goods shipments is for the last quarter of 1988 only.

### Strategic Petroleum Reserve

In order to develop and maintain a Strategic Petroleum Reserve (SPR), in 1977 the U.S. Government announced its intention to store 750 million barrels of crude oil in salt domes along the U.S. Gulf Coast. At the end of CY 1988, 559.5 million barrels of crude oil had been stored at five SPR sites.

The Cargo Preference Act requires the Department of Energy (DOE) to transport at least 50 percent of the oil in U.S.-flag tankers. In 1977, MARAD and DOE agreed that a long ton/mile formula would be used to determine compliance, rather than total tonnage carried.

In calendar year 1988, U.S.-flag tankers carried SPR cargo amounting to 903.5 million long ton/miles (50.91 percent). This carriage generated $6.6 million in revenue, which is near the 1987 level of earnings of $7 million for 1.3 billion long ton/miles.

### Eximbank

The Eximbank program's total ocean freight revenues increased from $10.5 million in CY 1987 to $19.3 million in 1988. During CY 1988, U.S.-flag operators earned $14.5 million representing 75 percent of the total ocean freight revenues, as compared to the U.S.-flag carriers' revenues of $8.3 million (78 percent) in CY 1987. This revenue upturn resulted from new project activities and the completion of others.

Table 15: GOVERNMENT-SPONSORED CARGOES--CALENDAR YEAR 1988 [1,2,9,10,11]

**Public Law 664 Cargoes:**

| Program | U.S.-Flag Revenue ($1,000) | Total Metric Tons [3] | U.S.-Flag Metric Tons [3] | Percentage U.S.-Flag Tonnage |
|---|---|---|---|---|
| Agency for International Development (AID): | | | | |
| Loans and Grants | 56,547 | 1,863,811 | 893,055 | 48 [4] |
| P.L. 480 - Title II | 161,243 | 1,951,475 | 1,471,955 | 75 [1] |
| Section 416 | 68,031 | 1,207,526 | 924,602 | 76 [1] |
| Department of Agriculture: | | | | |
| P.L. 480-Title I/III | 215,546 | 4,548,523 | 3,540,314 | 78 [1] |
| Department of Commerce Agencies | 422 | 1932 | 533 | 28 [5] |
| Defense Security Assistance Agency (DSAA) | | | | |
| Foreign Military Sales Financing and MAP Merger Programs | 26,364 | 161,693 | 80,776 | 50 [3,4] |
| Department of Energy: | | | | |
| Bonneville Power Administration | 111 | 899 | 240 | 27 [14] |
| Strategic Petroleum Reserve | 6,622 | 2,667,636 | 1,331,244 | 50 [6] |
| Other Agencies | 610 | 873 | 873 | 100 |
| Department of Health and Human Services | 8 | 3 | 3 | 100 |
| Department of Justice: | | | | |
| Programs | 36 | 117 | 116 | 99 |
| National Aeronautics and Space Administration | 138 | 365 | 137 | 27 [5] |
| National Science Foundation | 3,161 | 27,620 | 27,465 | 99 |
| General Services Administration | 1,006 | 1,032 | 907 | 88 |
| Department of Transportation | | | | |
| Urban Mass Transportation Administration | 1,080 | 5,617 | 1,678 | 30 [3,4] |
| Coast Guard | 150 | 232 | 232 | 100 |
| U.S. Information Agency | 354 | 894 | 1,304 | 69 |
| Department of State: | | | | |
| Foreign Building Office | 1,581 | 12,216 | 6,347 | 52 |
| Turnkey-Security Upgrade | 99 | 373 | 373 | 100 |
| Other Agencies | 25 | 78 | 55 | 70 |

Table 15: GOVERNMENT SPONSORED CARGOES--CALENDAR YEAR 1988 [1 2 9 10 11]--(Continued)

**Public Resolution 17 Cargoes:**

| | Total Metric Tons [3] | U.S.-Flag Metric Tons [3] | Total Freight Revenue | U.S.-Flag Freight | Percentage U.S.-Flag |
|---|---|---|---|---|---|
| Export-Import Bank | 86,844 | 63,527 | $ 19,291,317 | $14,539,535 | 75 [8] |

**Cargo Preference Act of 1904 Cargoes:**

| | Metric Tons[9] | Percentage U.S.-Flag Total Troop Support Cargoes |
|---|---|---|
| Department of Defense Troop Support Cargoes [12] | | |
| Military Sealift Command (MSC) | | |
| U.S.-flag privately owned vessels | 12,066,919 | 90.3 |
| U.S.-flag vessels less than three years under U.S. registry | 0 | 0 |
| U.S. Government owned vessels | 223,169 | 1.7 |
| Grand Total U.S.-flag carriage of MSC Troop Support Cargoes | 12,290,088 | 92 |

| Program | U.S.-Flag Revenue ($1,000) | Total Metric Tons [3] | U.S.-Flag Metric Tons [3] | Percentage U.S.-Flag Tonnage |
|---|---|---|---|---|
| Department of Defense Commercial Contractor Cargoes: [10,13] | | | | |
| Army Material Command | 4,406 | 25,769 | 24,145 | 94 |
| Air Force | 335 | 1,127 | 1,098 | 99 |
| Corps of Engineer | 2,050 | 9,938 | 8,640 | 92 |
| Defense Logistics Agency | 1,136 | 10,951 | 10,255 | 94 |
| Navy | 4,810 | 28,649 | 28,366 | 99 |
| Military Household Goods | 4,586 | 4,732 | 4,732 | 100 [15] |
| Total U.S.-Flag carriage Department of Defense Commercial Contractor Cargoes | 17,304 | 80,944 | 77,035 | |
| Department of Defense International Cooperative Projects: | | | | |
| Prior years' shipments (no previously reported) | 2,545 | 15,532 | 12,616 | 81 |
| CY 1988 shipments | 987 | 1,380 | 1,376 | 99 |

**Cash Transfer Cargoes:**

| Program | U.S.-Flag Revenue ($1,000) | Total Metric Tons | U.S.-Flag Metric Tons | Percentage U.S.-Flag Tonnage |
|---|---|---|---|---|
| Agency for International Development (AID) Israeli Cash Transfer Program | 20,364 | 1,393,035 | 669,396 | 48 [11] |

Table 15: GOVERNMENT SPONSORED CARGOES--CALENDAR YEAR 1988 [1 2 9 10 11]--(Continued)

[1] The Food Security Act of 1985 [(P.L.) 99-198] impacted on the P.L. 480 Title I, II, III, and Section 416 programs by changing the reporting period from a calendar year to a 12-month period, commencing April 1, 1986 through March 31, 1987 and by increasing the U.S.-flag share from 50 to 75 percent over a 3-year period. The required U.S.-flag share for the current reporting period, April 1, 1988 to March 31, 1989, is 75 percent.

[2] Includes civilian agencies, Department of Defense (DOD) Foreign Military Sales Program, and a partial listing of DOD commercial contractor shipments. DOD Troop Support cargoes processed by the MSC are also reported.

[3] Several agencies' tonnages are reflected in metric tons for uniformity only. Cargo preference compliance for those programs involving high cube/low density cargo, is achieved on a gross revenue ton basis. Percentages reflected on a weight tonnage basis for such programs do not necessarily represent the exact extent of the program's compliance with the statute. The total ocean revenue for the FMSF Program in 1988 was $34,276,018 of which U.S.-flag vessels received 77 percent.

[4] This program did not meet the minimum 50 percent U.S.-flag participation level. Sufficient U.S.-flag service was available on a timely basis which would have enabled the agency to meet the cargo preference compliance requirement. AID failed to achieve the 50 percent requirement because vessel owners and grain elevators were unable to complete loading of a large bulk grain commitment until January 1989. Had the cargo loading been completed in 1988 the 50 percent would have been met. AID will not include the tonnage in their CY 1989 compliance report. UMTA failed to achieve the metric and revenue tonnage compliance requirement. The total revenue tonnage amounted to 29,940 revenue tons, of which U.S.-flag vessels transported 11,731 revenue tons or 39.1 percent of the programs cargo.

[5] Agencies complied with the statute. The imbalance in favor of foreign-flag shipments was due to non-availability of U.S.-flag service.

[6] MARAD accounts for the SPR program on the basis of long ton miles (LTM). In CY 1988 this program provided a total of 1.77 billion LTM of which U.S.-flag carriers derived 903.5 million LTM or 50.9 percent.

[7] Cargo of government and private agencies that generated less than 100 metric tons of cargo in 1987. The agencies which reported in 1988 are Drug Enforcement Administration; Geological Survey; Labor Department; National Oceanic and Atmospheric Administration; Smithsonian Institute; Treasury Department; U.S. Customs; Veterans Administration.

[8] Compliance based on Freight Revenue only. The total metric tons shipped was 86,834. U.S.-flag vessels carried 63,527 tons while foreign vessels handled 23,317 tons. The total metric tons lifted by U.S.-flag vessels represented 73 percent of the cargo.

[9] As MSC records liner cargo in measurement tons, MARAD has converted these to metric tons using a factor of .283 metric tons per measurement ton.

[10] DOD's contracting activities are subjected to the Cargo Preference Act of 1904 (10 USC 2631). P.L. 664 impacts 10 USC 2631 requiring that privately owned U.S.-flag vessels must be used for at least 50 percent of DOD's 100 percent U.S.-flag requirement. DOD's contractors must use privately owned U.S.-flag commercial vessels for 100 percent of their cargoes since such cargoes are processed totally within the commercial transportation environment.

[11] While statistics are shown for CY 1988 shipments, Israeli cash transfer program is maintained on a fiscal year basis. This reflects the terms of the side letter executed each year between the government of Israel (GOI) and AID. On a fiscal year 1988 basis, GOI shipped 50.0 percent on U.S. flag vessels:

| Program | U.S.-Flag Revenue ($1,000) | Total Metric Tons | U.S.-Flag Metric Tons | Percentage U.S.-Flag Tonnage |
|---|---|---|---|---|
| AID/Israeli Cash Transfer FY 1988 | $25,759 | 1,650,534 | 830,510 | 50 |

[12] MARAD is unable to verify the Troop Support cargo data since complete information was not available in time for this report.

[13] Data reflects only a partial listing of DOD's contracting activities due to the time required for DOD to update its active contracts to include the full U.S.-flag shipping provisions contained in the FAR.

[14] Compensatory shipments of 1,200 metric tons have been made on U.S.-flag ships by a supplier to compensate for the failure to use U.S.-flag under the contract. These shipments constitute agency compliance with the cargo preference requirement.

[15] Military household goods shipments were not being reported until the forth quarter of 1988. The reported data reflects three months of movements.

# Chapter 5
# Port and Intermodal Development

The Maritime Administration (MARAD) provides technical assistance in port and intermodal planning and operations to State and local port authorities, private industry, and foreign governments. It also develops contingency plans for the utilization of ports and port facilities to meet defense needs in time of national emergency or war. (See also Chapters 8 and 9.)

## Annual Report on Ports

Public Law 96-371 requires the Secretary of Transportation to submit a report to Congress on the status of public ports of the United States. The report for the years 1988 and 1989 examined the composition of the port industry, highlighted issues and problems, and reviewed the importance of U.S. ports to the Nation's economy and military security.

## Port and Waterway Development

MARAD continued its promotion of the use of real-time vessel navigation simulation by the U.S. Army Corps of Engineers and others for testing alternative channel dimensions and configuration designs to reduce the cost of maintenance dredging and deepening projects in U.S. harbors.

Seagirt's new marine terminal at Port of Baltimore is expected to be in operation in FY 1990.

## Technical Assistance to the Port Industry

The Agency continued to provide technical assistance to the port industry through two major programs and several projects dedicated to strengthening the role of U.S. ports in economic development and national defense. This involved the development of various analytical reports, methodologies, and data systems for improving planning, productivity, and the general efficiency of port management and marine terminal operations. These technical projects were cost-shared by MARAD and appropriate State or local port authorities and private sector organizations.

## Port and Intermodal Planning Program

The Agency's port and intermodal planning activities included cooperative port development studies with local, State, and regional agencies and associations; port planning and management information systems; and financial and economic impact analysis projects. Emphasis continued to be placed on developing generic methodologies usable by any port or region.

Projects under this program which were completed, continued, or initiated in FY 1989 are listed below:

| Projects Completed | Description |
|---|---|
| National Strategic Transportation Study | Prepared an assessment of U.S. port activity in the Congressionally mandated DOT Study. |
| Port Development in the United States | Prepared comprehensive technical paper, *Port Development in the United States (Status, Issues, and Outlook)*, for the International Association of Ports and Harbors (IAPH) 16th World Ports Conference, in Miami, FL. Paper was subsequently published by the IAPH Foundation in Tokyo, Japan, as a separate book. |
| National Economic Impact Model | In cooperation with the Commission on Merchant Marine and Defense, employed MARAD's national input-output model in the cost/benefit analysis of several recommendations of the Commission in its final report to the President. |
| Port Executive Information System | Cost-shared with the American Association of Port Authorities (AAPA) the requirements and conceptual design of a generic microcomputer-based information system for senior port management. |
| Inland Port Economic Impact Workshop | Co-sponsored with Memphis State University a 2-day workshop on MARAD's local port economic impact kit methodology for potential use by inland river ports and terminals. |

**Table 16:** MARITIME WORKFORCE AVERAGE MONTHLY EMPLOYMENT

| | Average Monthly Employment in Fiscal Year | |
|---|---|---|
| | 1988 | 1989 |
| **Seafaring Shipboard Jobs:** | **14,470** | **14,268** |
| **Shipyards:**[1] | **92,141** | **90,179** |
| Production Workers | 64,143 | 62,328 |
| Management and Clerical | 27,998 | 27,851 |
| **Longshore:** | 28,503 | 28,339 |

[1]Commercial yards in the Active Shipbuilding Base, constructing new ships and/or seeking new construction orders.

amphibious operations or in ports where shoreside cranes were damaged.

Eight of a planned total of 12 T-ACS vessels have been delivered and conversion of T-ACS 9 and 10 was begun during this reporting period.

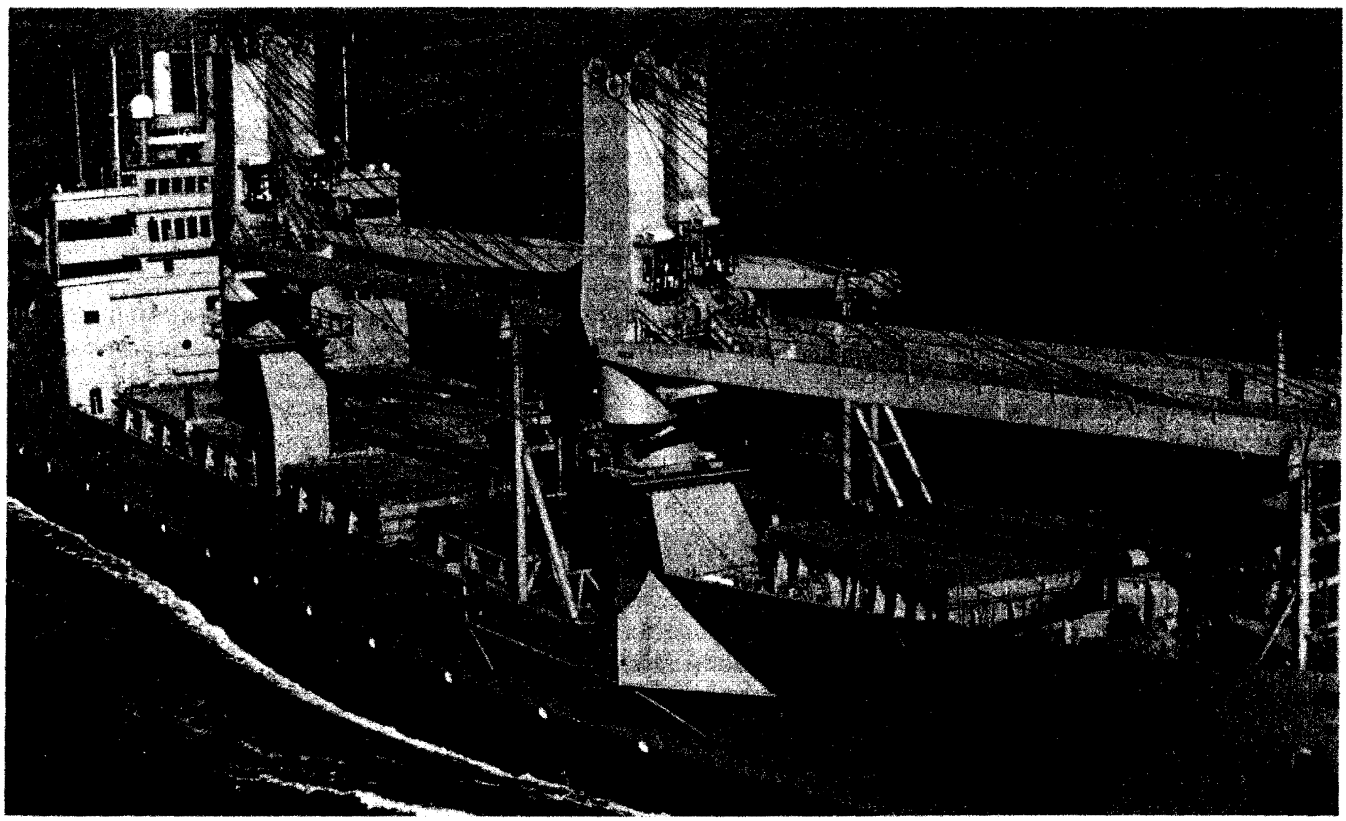
Through the retention services of a General Agent, MARAD maintains these technically advanced craneship systems for operation in support of Navy-designated missions. The eight T-ACS ships under Phase IV Maintenance Custody are the KEYSTONE STATE, GEM STATE, GRAND CANYON STATE, GOPHER STATE, FLICKERTAIL STATE, CORNHUSKER STATE, DIAMOND STATE, and EQUALITY STATE.

Cargo-handling units of the Armed Forces continued to receive specialized training and indoctrination in the operation of advanced controlled cargo-handling crane equipment aboard the FLICKERTAIL STATE (T-ACS) at her layberth at Cheatham Annex, VA. The ship discharged cargo onto lighterage for transport ashore and over the beach.

The Agency also accepted delivery of the DIAMOND STATE (T-ACS 7) and EQUALITY STATE (T-ACS 8) in the RRF program. Upon completion of post-delivery work both ships were towed to their layup site in New Orleans, LA.

In 1986, MARAD accepted custody of the Aviation Logistic Support Ship Program in response to a request from the Chief of Naval Operations, Strategic Sealift Division. During this reporting period, the SS WRIGHT (T-AVB 3), layberthed in Philadelphia, PA, and the SS CURTISS (T-AVB 4), layberthed at the Naval Construction Battalion Center, Port Hueneme, CA, served as military training platforms. Both ships are maintained in a high state of readiness by ship manager crews in support of Department of Defense rapid deployment requirements and to assist in augmentation of the Maritime Prepositioned Forces. These ships provide dedicated sealift for the movement of Marine Corps aviation equipment and technicians from the continental United States to any forward area.

MARAD installed two Modular Cargo Delivery System (MCDS) stations on board the RRF vessel



The DIAMOND STATE, (T-ACS 7) was delivered in FY '89. Such ships are fitted with pedestal-mounted, twin-boom rotating deck cranes which permits unloading of gearless containerships moored alongside.

CAPE ALEXANDER, at the request of the Navy, as part of the Sealift Enhancement Features Program in FY 1989. These stations permit merchant type ships to transfer cargo to naval combatants and auxiliaries during underway replenishment operations. A second installation was begun on the CAPE GIRARDEAU in FY 1989. The Navy eventually plans to equip 20 ships with this system.

## Test Platform

The Naval Sea Systems Command (NAVSEA) has identified two Roll-On/Roll-Off (RO/RO) ships currently in the RRF, CAPE LOBOS and CAPE LAMBERT for conversion to Range Safety/Electronics Test Platform ships.

NAVSEA has requested that MARAD convert these ships which will be transferred to and operated by the Military Sealift Command. The vessels will perform range safety and instrumentation support for live and simulated missile firing exercises, test tactics, and combat systems prior to introduction into the Navy's fleet; serve as an "aggressor" force during exercises; perform medical evacuations; and provide limited services as a research and development platform when not needed for Navy fleet support.

A contract design package was being prepared at year's end and an Invitation for Bids was scheduled to be issued in fiscal year 1990 with an FY 1992 redelivery date anticipated.

## Aerostat Project

Under the terms of an interagency agreement, MARAD delivered the modified vessel M/V WINDWARD SENTRY, formerly the offshore supply boat M/V LIBERATOR, to the U.S. Coast Guard. The vessel is now suitable for service as an Aerostat Support Vessel and will be used to support a balloon-mounted radar system used for drug interdiction. It was delivered on schedule at a fixed cost to the Coast Guard of $3 million. This joint project resulted in significant cost savings to the Government.

## Fast Sealift

The Navy is considering the development of a fast sealift ship to meet cargo delivery requirements during the surge phase of a military mobilization. The Navy has established a Fast Sealift Ship Characteristics Improvement Board (SCIB), and MARAD is participating in the activities of this Board. Congress has appropriated $15 million for FY 1990 contracting for mid- to long-term research and development in fast sealift technology.

## Offshore Petroleum Discharge System Conversion

The Offshore Petroleum Discharge System (OPDS) Conversion Program is part of a project to supply fuel to U.S. Marine Corps and U.S. Army assault units from offshore. The OPDS is designed to enter an offshore area, install a temporary spread mooring, deploy up to four miles of conduit from ship to shore, and begin delivering petroleum products through the conduit within 48 hours.

The U.S. Navy asked MARAD to design and convert the SS CHESAPEAKE and the SS PETERSBURG to the OPDS system. A reconstruction contract for work on the CHESAPEAKE (OPDS-3) was awarded to Houston Ship Repair, Houston, TX, in FY 1989. Contract design work for the PETERSBURG (OPDS-4) was in progress at year's end and an award was expected during the fourth quarter of FY 1990. The OPDS Program eventually will consist of six ships, with contract awards expected in FY 1991 and FY 1992 for OPDS-5 and OPDS-6.

## Fish Reef Program

Pursuant to Public Law 92-402, as amended by Public Law 98-623, ownership of the vessel YANCEY (LKA-93) was transferred to the State of North Carolina for sinking offshore as an artificial fishing reef.

At year's end, four states were currently on the waiting list to receive vessels as they become available for the fish reef program.

## Ship Sales/Disposals

No Government-owned vessels were sold during the year for scrapping or for nontransportation purposes. However, all of the Government's rights, title and interest in three sunken vessels, the WEST LASHAWAY, MELVILLE E. STONE, and JOHN BARRY, were sold for a

total cash return of $113,510, plus 10 percent of the gross appraised value of salved cargo on the JOHN BARRY wreck.

Between 1958 and 1989, a total of 2,319 vessels were sold for scrap or nontransportation purposes for a total return to the Government of $203.3 million.

Many of the vessels were sold to U.S. citizens for nontransportation use under conditions which required that the vessels ultimately be scrapped within the United States. During this fiscal year, in the absence of shipbreaking activity in the United States, three of the approvals were modified to permit resale of the vessels to noncitizens for scrapping in foreign areas.

Pursuant to Public Law 97-360, as amended, the ex-USS SANCTUARY (AH-17) was transferred to Life International, Inc., a District of Columbia nonprofit corporation, for use in providing health education, training, care and technical assistance, and other humanitarian services. Two additional vessels, the ex-GEN. NELSON M. WALKER (AP-125) and the DONNER (LSD-20), were being held at the James River, VA Reserve Fleet for use by this organization in the same manner.

Pursuant to Public Law 100-21, the LANE VICTORY was transferred to the Merchant Marine Veterans of World War II, a California nonprofit corporation, for use as a merchant marine memorial museum.

## Exchanges for Scrap

Pursuant to Section 510(i) of the Merchant Marine Act, 1936, as amended (PL 95-177), three vessels (one RO/RO, one cargo ship, and one tanker) were traded in to the Government in return for 10 scrap vessels, all of which have been sold for scrapping. The value of the traded-out vessels exceeded the value of the traded-in vessels by $820,721.50

## War-Risk Insurance

MARAD administers the standby emergency war-risk insurance program in accordance with the statutory authority of Title XII of the Merchant Marine Act, 1936, as amended. This statutory authority is effective through June 30, 1990, after being reinstated on July 3, 1985, by Public Law 99-59. ***(Public Law 101-115, signed October 13, 1989, further extended this program through June 30, 1995.)*** This program encourages the continued flow of U.S. foreign commerce during periods when commercial insurance cannot be obtained on reasonable terms and conditions that will protect vessel operators and mariners against losses resulting from war or warlike actions.

During the period when binders were issued between 1952 and September 30, 1984, which preceded reinstatement of the statutory authority on July 3, 1985, binder fees totalled $1.45 million, builder's risk insurance totalled $2.58 million, builders risk insurance income totalled $3.5 million, and investment income totalled $9.8 million.

On September 30, 1989, 1,637 vessels were covered by binders issued since Public Law 99-59 reinstated statutory authority. The binders provide for hull and protection and indemnity war-risk insurance on these vessels. Two hundred forty-nine of the vessels included in this total have second seamen's war-risk insurance coverage available under binder. All binders will be effective for 30 days following any automatic termination of commercial insurance.

The binders issued under Public Law 99-59 have generated $91,475 in binder fees. During this same period, $5,703,752 has been generated in investment income as provided by Section 1208(a) of the Act. Since reinstatement of the statutory authority, war-risk revolving fund assets have increased to approximately $16.8 million as of September 30, 1989. Program expenses under Public Law 99-59 have totalled $808,972.

No binders or policies related to MARAD's standby war risk cargo insurance and builder's risk insurance programs have been issued under the reinstatement authority. However, 16 commercial underwriting agents are under standby contracts for the war risk cargo insurance program.

## Marine Insurance

MARAD continued to act as the claim agent for Government-owned vessels during fiscal year 1989. As of September 30, 1989, there were 11 protection and indemnity claims outstanding; 3 were in litigation. Total settlement value of all cases was estimated to be $1,200,000.

MARAD assures that contract requirements are met on all insurance placed in commercial markets by mortgagors of vessels on which the Government guarantees, insures, or holds mortgages; by charterers of Government-owned vessels; and by subsidized operators.

Table 19 shows marine and war-risk insurance approved in FY 1989.

## Emergency Operations

In FY 1989, MARAD continued to assist the Department of Defense and U.S. Navy by providing operating and communications instructions and procedures to the masters of U.S.-flag merchant vessels transiting the Persian Gulf. The new procedures made it possible to reduce the number of naval forces but maintain a high level of vigilance.

During this reporting period, MARAD participated in the Naval Control of Shipping exercise, BELL BUOY 89. With the Commander-Pacific Fleet, MARAD conducted a joint communications test with over 100 merchant ships in the Pacific and Indian Oceans. The test implemented the Allied Merchant Ship Communication System (AMSC).

The Agency continued its active role in NATO's Planning Board for Ocean Shipping (PBOS), including representing the United States in PBOS activities, in FY 1989. This is the peacetime organization responsible for developing plans to provide sealift in support of military deployment and essential civilian economic activity in times of crisis and war.

MARAD Advisories and miscellaneous notices were issued in FY 1989 concerning the rescue of refugees at sea, master mariners and radio officers readiness training courses, and naval control of shipping exercises.

The Agency also conducted Command Post Exercise (CPX) BREAKOUT-89, the fifth in a series of MARAD exercises involved in the activation of vessels from the Ready Reserve Force (RRF). The BREAKOUT-89 exercise examined the requirements to activate either a large portion or all of the vessels in the RRF. This examination identified the key activation strengths and weaknesses of the industrial support base and other participating Government agencies. A final report contains the exercise's findings and recommendations for improvements.

Agency support of the Joint Chiefs of Staff and NATO readiness exercise programs continued in FY 1989. In the Spring of 1989, the MARAD Operations Center was utilized in a worldwide exercise which tested U.S. and NATO capability to provide strategic sealift resources to meet NATO wartime shipping requirements.

MARAD secured a 2-year extension of its Voluntary Tanker Agreement with U.S. operators. The Agreement provides for the voluntary contribution of tanker capacity from U.S. operators to meet Department of Defense requirements during war or national emergency.

## Port Emergency Operations

In FY 1989, MARAD carried out the following preparations for the operation of U.S. ports in emergencies which threaten national security.

| Completed Projects | Description |
|---|---|
| Federal Port Controllers (FPC) | Completed three Federal Port Controller contracts, bringing to 53 the number of ports that may be involved in cargo movements during a national emergency. |

| | |
|---|---|
| Federal Port Controller Information System | Completed the Phase I report on an automated Federal Port Controller Management Information System to organize emergency information. |
| Military Utilization of Marine Containers | Assisted Department of Defense agencies assess utilization of containers to support military logistical requirements, including the draft voluntary container agreement and review of proposed regulations governing the Army's containerization policy. |

| Ongoing Projects | Description |
|---|---|
| National Port Readiness Coordination | Participated in meetings of the National Port Readiness Steering and Working Groups comprised of representatives of MARAD, Military Traffic Management Command (MTMC), Military Sealift Command (MSC), U.S. Coast Guard (USCG), U.S. Army Corps of Engineers (USACE), Naval Control of Shipping Organization (NCSORG) and Maritime Defense Zones (MARDEZ) in accordance with an existing Interagency Memorandum of Understanding on Port Readiness. |
| Local Port Readiness Committees | Headquarters and regional personnel participated in meetings of local Port Readiness Committees held with local representatives of MTMC, MSC, USCG, NCSORG, and MARDEZ, as part of the National Port Readiness Network. |
| National Defense Executive Reserve | Continued a program to obtain National Defense Executive Reserve membership for Federal Port Controllers. |
| Contingency Response | Continued to participate as a member of the MTMC's National Contingency Response (CORE) team to promote military mobilization and defense preparedness. |

| Projects Initiated | Description |
|---|---|
| Supplemental Commercial/Military Loading Ports | In cooperation with the USCG, the Office of Emergency Planning and the MTMC, prepared study plan and organized interagency advisory and working groups for surveying potential commercial loading ports as supplements to existing military facilities. |
| Regional Emergency Training | Initiated planning for a series of regional training seminars at the ports of Baltimore, Tampa, New Orleans, and Oakland for emergency planning and operations personnel, including MARAD Federal Port Controllers. |

**Table 17:** NATIONAL DEFENSE RESERVE FLEET--SEPTEMBER 30, 1989

| Fleet Sites | Retention[1] | Special Programs[2] | Non-Retention[3] | Totals |
|---|---|---|---|---|
| James River, VA | 72 | 5 | 25 | 102 |
| Beaumont, TX | 55 | 31 | 5 | 91 |
| Suisun Bay, CA | 53 | 7 | 7 | 67 |
| Outports | 46 | 5 | 1 | 52 |
| Totals: | 226 | 48 | 38 | 312 |

[1] Vessels maintained under the fleet preservation program for emergency activations, including the RRF and Navy mobilization assets.

[2] Title XI vessels in default, vessels undergoing conversion, and vessels under special custody arrangements.

[3] Vessels pending trade-out under Section 510(i) provisions, Navy vessels held for experimental use, and two vessels donated to states for fish reefs.

**Table 18:** NATIONAL DEFENSE RESERVE FLEET, 1945--1989

| Fiscal Year | Ships | Fiscal Year | Ships |
|---|---|---|---|
| 1945 | 5 | 1968 | 1062 |
| 1946 | 1421 | 1969 | 1017 |
| 1947 | 1204 | 1970 | 1027 |
| 1948 | 1675 | 1971 | 860 |
| 1949 | 1934 | 1972 | 673 |
| 1950 | 2277 | 1973 | 541 |
| 1951 | 1767 | 1974 | 487 |
| 1952 | 1853 | 1975 | 419 |
| 1953 | 1932 | 1976 | 348 |
| 1954 | 2067 | 1977 | 333 |
| 1955 | 2068 | 1978 | 306 |
| 1956 | 2061 | 1979 | 317 |
| 1957 | 1889 | 1980 | 303 |
| 1958 | 2074 | 1981 | 317 |
| 1959 | 2060 | 1982 | 303 |
| 1960 | 2000 | 1983 | 304 |
| 1961 | 1923 | 1984 | 386 |
| 1962 | 1862 | 1985 | 300 |
| 1963 | 1819 | 1986 | 299 |
| 1964 | 1739 | 1987 | 326 |
| 1965 | 1594 | 1988 | 320 |
| 1966 | 1327 | 1989 | 312 |
| 1967 | 1152 | | |

**Table 19:** MARINE AND WAR-RISK INSURANCE APPROVED IN FY 1989

| Kind of Insurance | Total Amount | Percentage | |
|---|---|---|---|
| | | American | Foreign |
| Marine Hull & Machinery | $6,216,811,999 | 44 | 56 |
| Marine Protection and Indemnity [1] | | | |
| War-Risk Hull and Machinery | 4,978,110,766 | 37 | 63 |
| War-Risk Protection | 4,978,110,766 | 37 | 63 |

[1] Protection and indemnity insurance coverage is obtained principally from assessable mutual associations managed in the British market and is unlimited, thereby making it impossible to arrive at the total amount or percentage figures for American and foreign participation.

## Chapter 9

# International Activities

During fiscal year 1989, the Maritime Administration (MARAD) continued its efforts to obtain equitable treatment for U.S.-flag carriers' participation in world trade. The Agency conducted bilateral discussions with China, Taiwan, Korea, and Brazil, and took part in several multilateral conferences.

## Negotiations with China

Negotiations on maritime issues with the People's Republic of China culminated in the signing of Agreed Minutes by the Maritime Administrator in October 1988 and a four-year bilateral maritime agreement by the Secretary of Transportation in December 1988.

The Agreed Minutes resolved a number of business facilitation issues affecting U.S. carriers, including recognition of their right to establish branch offices and to establish their own feeder services. The agreement ensures liberalized port access for vessels of both countries and provides liner cargo sharing guarantees. Since negotiation of these arrangements, U.S. carriers have taken steps to implement them.

## Contacts with Taiwan and Korea

MARAD led an interagency working team that assisted in consultations held by the American Institute in Taiwan (AIT) and the Coordination Council for North American Affairs (CCNAA) in Arlington, VA, in September 1989. The discussions addressed Taiwan's restrictions on U.S. carrier operations, including the issues subject to an investigation by the Federal Maritime Commission under the Foreign Shipping Practices Act of 1988 (Title X of the Omnibus Trade and Competitiveness Act). An exchange of letters between AIT and CCNAA summarized results of the consultations.

Extensive contacts with Korea, highlighted by several meetings chaired by the Maritime Administrator, resulted in Korea's fulfillment of its earlier commitment to allow U.S. carriers to establish full-service branch offices. The Korean Government enacted new maritime legislation, issued implementing regulations, and approved branch office applications from two U.S. carriers.

## Consultations with Brazil

MARAD chaired a U.S. delegation which held maritime discussions with Brazil in Washington in September 1989. The Brazil delegation proposed extending the bilateral equal access agreement. The U.S. delegation stressed its desire for a reduction in the scope of Government-controlled cargo in the context of a continued equal access agreement. A number of other shipping issues were also discussed, including coffee and cocoa requirements, laws and regulations affecting commercial practices, and cargo statistics.

## General Agreement on Tariffs and Trade (GATT)

During 1989, MARAD participated on the U.S. delegation to the Group on Negotiations on Services in Geneva which has the responsibility of drafting a multilateral trade agreement for liberalizing trade in services which are not covered by the GATT. The services negotiations are part of a four-year round of negotiations to liberalize trade. Known as the Uruguay Round, the negotiations began in 1986.

## Organization for Economic Cooperation and Development (OECD)

Throughout fiscal year 1989, MARAD continued to be part of the U.S. delegation to the OECD's Maritime Transport Committee (MTC). The Agency also participated in the final meeting of the Joint Working Group of the MTC and the Committee on Capital Movements and Invisible Transactions. The major topics of discussion at these meetings were the impact of shipping policies of OECD member countries, especially those in the European Community.

## UNCTAD Liner Code Review Conference

MARAD was part of the U.S. delegation to the Liner Code Review Conference that was held in Geneva, Switzerland, in November 1988. The U.N. Code of Conduct for Liner Conferences provides that such a conference was to be held five years after

adoption of the Code. However, the conference became deadlocked on the key issue of voting rights for non-signatory countries, such as the United States.

## Other International Activities

In FY 1989, MARAD provided technical assistance to foreign organizations interested in U.S. maritime policy and port planning and development. For example, in cooperation with the International Maritime Organization's (IMO) World Maritime University, the Agency provided on-the-job training at its offices and U.S. ports for representatives from Korea, Indonesia, and Turkey. The Agency also co-authored, with industry representatives, a technical paper on coastal offshore floating port structures for presentation at the next meeting of the Permanent International Association of Navigation Congresses, which will be held in Osaka, Japan, in May 1990. The Agency also cost-shared with the Organization of American States (OAS) an assessment of port training needs in Latin America and the Caribbean.

As chairman of the OAS port training committee, MARAD is developing with other national and international organizations a strategy to implement the recommended training program for mid-level and senior port personnel in the region. Additionally, the agency participated in the first IMO Seminar on Environmental Impact Assessments of Port Development by presenting a technical paper on the short- and long-term environmental challenges facing U.S. ports.


Two firefighting instructors from MARAD's Fire Training Center conducted a 3-week course in Riyadi, Saudi Arabia on controlling fires aboard ship for 16 security officers from the Arab League countries.

## Chapter 10

# Administration

The administrative actions taken in support of the mission and programs of the Maritime Administration (MARAD) in fiscal year 1989 are summarized below.

## Maritime Subsidy Board

The Maritime Subsidy Board (MSB), by delegation from the Secretary of Transportation, principally awards, amends, and terminates contracts subsidizing the construction and operation of U.S.-flag vessels in the foreign commerce of the United States. To perform its functions, the MSB holds public hearings, conducts fact-finding investigations, and compiles and analyzes trade statistics and cost data. MSB decisions, opinions, orders, rulings, and reports are final unless the Secretary of Transportation undertakes reviews of these actions.

The MSB is composed of the Maritime Administrator, who acts as Chairman of the Board, the Deputy Administrator, and the Agency's Chief Counsel. The Secretary of MARAD acts as an alternate member in the absence of any one of the three permanent Board members.

The MSB met 45 times in FY 1989. It considered and acted on 42 items and issued 10 formal opinions, rulings, and orders. MARAD also published 62 notices in the *Federal Register* relating to required statutory hearings and to the development and adoption of rules and regulations in the implementation of the Merchant Marine Act, 1936, as amended. The Secretary of MARAD, as Freedom of Information Officer, received and processed approximately 267 Freedom of Information Act requests.

During FY 1989, the MSB took a number of administrative actions to help strengthen the U.S. merchant marine. Of significance was approval of the acquisition of Waterman Steamship Corp. by International Shipholding Corp. This decision was based, among other things, on the likelihood of increasing the financial strength and resources of Waterman as well as possible future fleet expansion.

The MSB also acted to remove regulation of subsidized bulk vessels when carrying dry bulk preference cargoes without subsidy. This action eliminated minimum-parcel size requirements, providing the opportunity for the most suitable types of vessels to be fully employed for preference cargo on an unsubsidized basis.

## Legal Services, Legislation, and Litigation

MARAD's Chief Counsel provides assistance on Department-level legal issues which relate to MARAD programs. It also provides legal support services for the contracting, procurement, and personnel activities conducted by MARAD Headquarters, regional offices, and the U.S. Merchant Marine Academy. There also has been significant legal support provided in administration of the cargo preference laws and provisions of the Merchant Marine Act, 1936.

Litigation support is provided to the Department of Justice in admiralty and maritime cases arising from the operation and administration of MARAD's past and present programs. Bankruptcies and Title XI defaults in various sectors of the maritime industry continued to generate substantial litigation to protect the Government's interests in foreclosure proceedings. MARAD prevailed in several challenges to its administration of the cargo preference laws and citizenship requirements during FY 1989. In this area, MARAD's positions regarding the application of cargo preference with respect to the allocation of certain shipments on the Great Lakes and with respect to ships owned by an instrumentality of the Government of Puerto Rico, were reaffirmed.

During the year, legislation was enacted clarifying and codifying statutory provisions for ship mortgages and vessel liens.

Regulatory initiatives included publication of interim final rules implementing significant statutory changes in the Ship Mortgage Act of 1920, proposed regulations implementing statutory changes to the Capital Construction Fund, and proposed regulations regarding requirements and procedures for conducting vessel condition surveys and administering ship maintenance and repair subsidies.

## Management Initiatives

During FY 1989, one major organizational change occurred. A new Division of Financing Guarantees in the Office of Ship Financing was established to permit more effective management of ship financing guarantee functions. This new division replaced the Division of Domestic Financing Guarantees and the Division of Foreign Financing Guarantees. It is responsible for administering all applications and related matters under Title XI of the Merchant Marine Act, 1936, as amended.

## Audits

In FY 1989, the Department of Transportation's Office of the Inspector General submitted the following final principal internal audit reports to MARAD:

- *Report on the Protective Audit of the Suisun Bay National Defense Reserve Fleet, MARAD, Western Region.*
- *Audit of Procurement Practices for Spare Parts Inventory and Management Information System for the Ready Reserve Force.*
- *Departmentwide Audit of the A-76 Program.*
- *Audit of the Guaranteed Loan Program in MARAD.*
- *Audit of Administrative Areas, MARAD, North Atlantic Region.*
- *Audit of Imprest Fund, U.S. Merchant Marine Academy.*

The General Accounting Office also issued a final audit report, with MARAD's assistance, to Congressman Thomas M. Foglietta, a member of the House Merchant Marine and Fisheries Committee. The report was entitled *Administration of Tariffs on Foreign Repairs to United States Flag Vessels.*

## Information Management

In 1989, MARAD expanded its use of information resource management technology to meet an increased need for information products and processing. The number of microcomputer terminals installed in the Agency increased and are now used by virtually all program and administrative offices. Use of the local area network capability was also expanded significantly and many offices are now linked via the network. This permits shared information and results in expedited preparation and review of data and reports.

The Maritime Statistical Information System was implemented in this reporting period. This system permits many offices to use and share maritime trade and other information contained in Agency microcomputer files and on the mainframe computer in the Transportation Computer Center. A major portion of an automated Title XI Covenant Monitoring System was implemented, making it usable by several offices involved in the Title XI approval process.

Work continued toward improving and upgrading information resources management services provided for maintenance of the Ready Reserve Force and other national defense initiatives.

## Personnel

MARAD's employment totaled 1,074 at the end of FY 1989. The percentage of MARAD's female and minority employees and their representation in supervisory positions remained relatively stable during the period, as did the percentage of handicapped employees.

Three upward mobility positions were established during FY 1989.

Twenty-three employees received high honors in FY 1989. Four Silver Medals, 14 Bronze Medals, and 4 Secretary's Awards for Excellence were approved. Agency employees also received 40 Quality Step Increases, and 85 Special Achievement Awards during the year.

## Safety Program

MARAD established a Safety Shoe Program at the Beaumont, James River, and Suisun Bay National Defense Reserve Fleets (NDRF's). The program, at MARAD's expense, provides protective toe guard and non-slip sole safety shoes to employees assigned to foot hazardous areas and operations in the performance of their duties. This program is intended to provide foot protection against falling objects and loss of footing and to reduce the number of employee injuries and compensation claims.

During the year, the Agency also continued its action plan for the prevention of asbestos exposures and uses in MARAD

programs. MARAD policy is to prohibit or stringently limit personnel exposure to airborne asbestos fibers.

The action plan is geared to the elimination of asbestos materials from MARAD programs. It encompasses the repair or replacement of such materials already installed, modified work procedures, and employee training.

MARAD's Asbestos Medical Surveillance Program provides preplacement, periodic, and preseparation medical examinations to designated MARAD employees exposed or potentially exposed to hazardous substances or conditions. Employees assigned to MARAD headquarters; the Beaumont, James River, and Suisun Bay NDRF's; the South Atlantic, North Atlantic, Central, and Western Region Offices; and the U.S. Merchant Marine Academy, Kings Point, NY, were provided occupational medical examinations.

## Installations and Logistics

### Real Property

On September 30, 1989, MARAD's real property included NDRF sites at Suisun Bay, CA, Beaumont, TX, and James River, VA, and the U.S. Merchant Marine Academy at Kings Point, NY. MARAD's Kearny, NJ warehouse, previously declared excess property, was disposed of by the General Services Administration during fiscal year 1989. Facilities for training maritime firefighters were operated at Earle, NJ, and Treasure Island, CA, under MARAD agreements with the U.S. Navy, and in New Orleans, LA, under agreement with Delgado College. MARAD operates the Toledo, OH, marine fire training facility.

Regional headquarters offices were maintained in New York, NY; Norfolk, VA; New Orleans, LA; Des Plaines, IL, and San Francisco, CA. Maritime Development Offices were maintained in Cleveland, OH; Long Beach, CA; Seattle, WA; Houston, TX; Portland, OR, and at the five regional headquarters. In addition to those located at Region Headquarters offices, Ship Management offices were also maintained in New York, NY, and Port Arthur, TX.

During FY 1989, Marine Safety International of New York, NY, continued to manage and operate the Agency's Computer-Aided Operations Research Facility at Kings Point, NY, under a cooperative agreement.

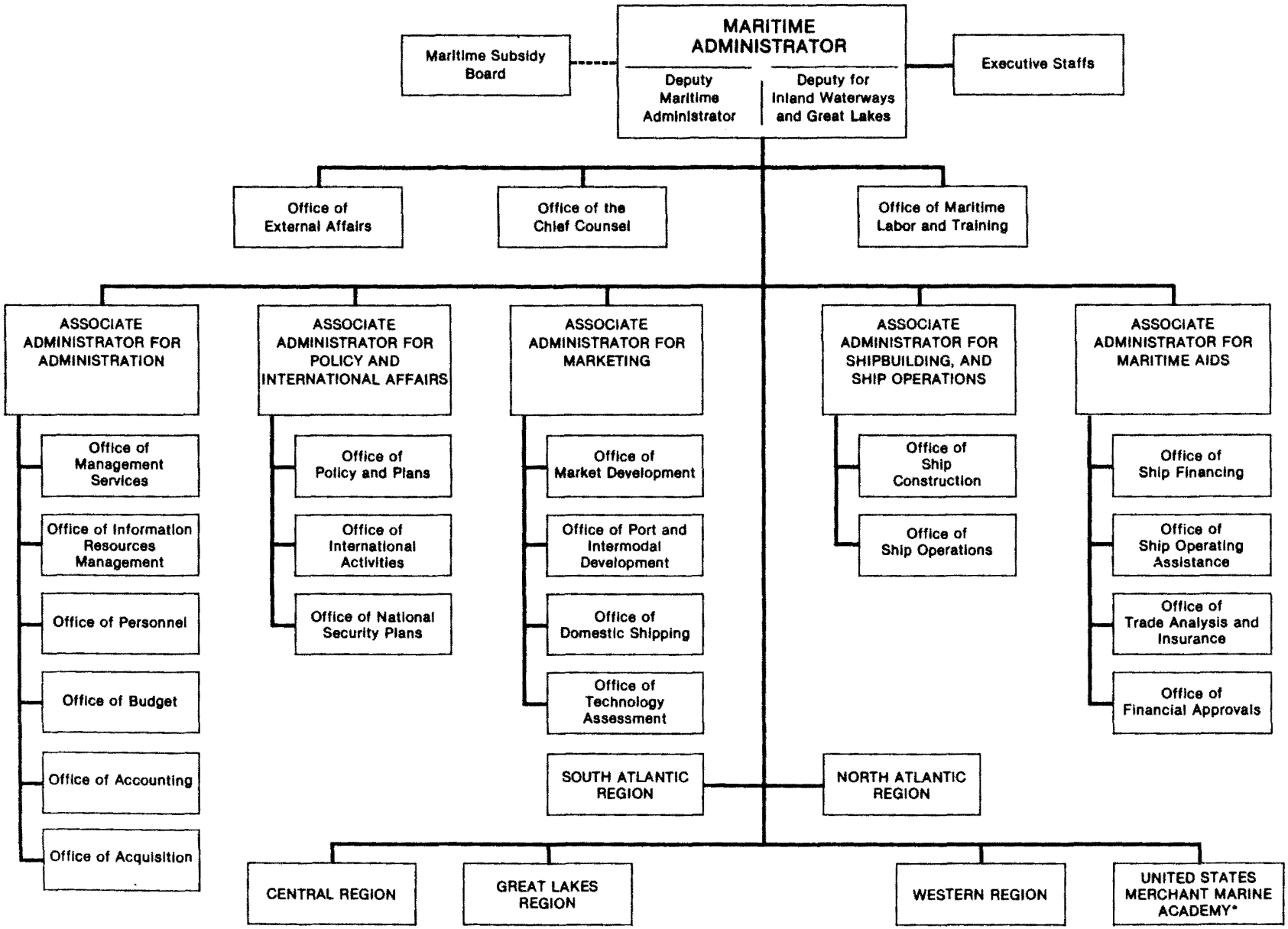
## Accounting

MARAD's accounts are maintained on an accrual basis in conformity with generally accepted principles and standards, and related requirements prescribed by the Comptroller General.

The net cost of MARAD's FY 1989 operations totaled $399.5 million. This included $264.2 million in operating and ocean freight differential subsidies; administrative expenses of $55.5 million; $48.2 million for maintenance and preservation of reserve fleet vessels, and $26.1 million for financial assistance to State Maritime Academies. MARAD incurred $362.8 million in other operating income, net of expenses.

Financial statements of MARAD appear as Exhibits 1 and 2.

# MARITIME ADMINISTRATION




Kings Point, N.Y.

## FINANCIAL STATEMENTS

### U.S. Department of Transportation--Maritime Administration

**Exhibit 1. Statement of Financial Condition**
**September 30, 1988, and September 30, 1989**

| ASSETS | September 30 1989 | September 30 1988 |
|---|---|---|
| Selected Current Assets | | |
| Funded Balances with Treasury: | | |
| Budget Funds | $ 157,591,239 | $ 236,402,633 |
| Deposit Funds | 562,515 | 561,048 |
| Budget Clearing Accounts | 7,162 | 4,472 |
| | 158,160,916 | 236,968,153 |
| Federal Security Holdings | 419,105,000 | 15,455,000 |
| Accounts Receivable: | | |
| Government Agencies | 35,406,014 | 86,672,769 |
| The Public | 43,819,059 | 41,474,526 |
| Allowances (-) | (581,380) | (3,085,012) |
| | 78,643,693 | 125,062,283 |
| Advances To: | | |
| Government Agencies | | |
| The Public | 15,721 | 249,894 |
| | 15,721 | 249,894 |
| **Total Selected Current Assets** | **$ 655,925,330** | **$ 377,735,330** |
| Loans Receivable: | | |
| Repayment in Dollars | 1,099,283,568 | 1,294,446,636 |
| Allowances (-) | (483,193,846) | (804,942,842) |
| | 616,089,722 | 489,503,794 |
| Real Property and Equipment: | | |
| Land | 7,695,000 | 7,749,000 |
| Structures and Facilities | 284,897,760 | 230,316,585 |
| Equipment and Vessels | 721,694,146 | 1,303,023,997 |
| Leasehold Improvements | 172,175 | 172,175 |
| Allowances (-) | (336,673,446) | (1,184,838,047) |
| | 677,785,635 | 356,423,710 |
| Other Assets: | | |
| Works-in-Process--Other | 18,969,471 | 18,969,491 |
| Material and Supplies | 3,440,187 | 1,034,000 |
| | 22,409,658 | 20,003,471 |
| **Total Assets** | **$1,972,210,345** | **$1,243,666,305** |

The Notes to Financial Statements are an integral part of this statement.

## U.S. Department of Transportation--Maritime Administration

| LIABILITIES | September 30 1989 | 1988 |
|---|---|---|
| Selected Current Liabilities (Note 2) | | |
| Accounts Payable (Including Funded Accrued Liabilities): | | |
| Government Agencies | $ 3,014,872 | $ 28,234,975 |
| The Public | 49,284,825 | 61,496,914 |
| | 52,299,697 | 89,731,889 |
| **Total Selected Current Liabilities** | **52,299,697** | **89,731,889** |
| Deposit Fund Liabilities | 562,515 | 561,048 |
| Unfunded Liabilities: | | |
| Accrued Annual Leave | 6,719,450 | 2,311,170 |
| Debt issued under Borrowing Authority: | | |
| Borrowing from Treasury | 0 | 515,000,000 |
| Other Liabilities: | | |
| Vessel Trade-in Allowance and Other Accrued Liabilities | 29,114,575 | 5,925,729 |
| **Total Liabilities** | **$ 88,696,237** | **$ 613,529,836** |
| Government Equity | | |
| Unexpended Budget Authority: | | |
| Unobligated | 485,442,539 | 285,046,785 |
| Undelivered Orders | 1,928,390,524 | 2,158,958,684 |
| | 2,413,833,063 | 2,444,005,469 |
| Unfinanced Budget Authority (-) | | |
| Unfilled Customer Orders | (68,523,520) | (130,952,389) |
| Contract Authority | (1,762,155,000) | (2,044,362,000) |
| | (1,830,678,520) | (2,175,314,389) |
| Invested Capital | 1,300,359,565 | 361,445,389 |
| **Total Government Equity** | **$1,883,514,108** | **$ 630,136,469** |
| **Total Liabilities and Government Equity** | **$1,972,210,345** | **$1,243,666,305** |

The Notes to Financial Statements are an integral part of this statement.

U.S. Department of Transportation--Maritime Administration

**Exhibit 2. Statement of Operations**

| | Years Ended September 30 | |
|---|---|---|
| | **1989** | **1988** |
| **OPERATIONS OF THE MARITIME ADMINISTRATION** | | |
| Net Costs of Operating Activities | | |
| Reserve Fleet: | | |
| Maintenance and Preservation | $ 48,190,748 | $ 17,927,657 |
| Direct Subsidies and National Defense Costs | | |
| Operating-Differential | 220,409,000 | 221,368,940 |
| Construction-Differential | 0 | 1,252,250 |
| Ocean Freight Differential | 43,776,389 | 40,605,435 |
| | 264,185,389 | 263,226,625 |
| Administrative | 55,535,249 | 31,874,512 |
| Research and Development | 2,281,887 | 466,894 |
| Financial Assistance to State Marine Schools | 26,062,000 | 7,961,000 |
| | 83,879,136 | 40,302,406 |
| Other Operating Income Net of Expenses | (3,261,508) | (144,476) |
| **Net Cost of Maritime Administration Operations** | **$ 399,516,781** | **$ 321,312,212** |
| **OPERATIONS OF REVOLVING FUNDS (-Income):** | | |
| Vessel Operations Revolving Fund | (53,465,922) | 88,717,396 |
| War-Risk Revolving Fund | (1,012,017) | (111,537) |
| Federal Ship Financing Fund | (313,822,189) | 195,070,357 |
| | (368,300,128) | 283,676,216 |
| **Net Cost of Combined Operations** | **$ 31,216,653** | **$ 604,988,428** |

The Notes to Financial Statements are an integral part of this statement.

## Notes to Financial Statements--September 30, 1989, and September 30, 1988

1. The preceding financial statements include the assets, liabilities, income, and expenses of the Maritime Administration (MARAD); the Vessel Operations Revolving Fund, the War-Risk Insurance Revolving Fund, and the Federal Ship Financing Fund.

2. MARAD was contingently liable under agreements guaranteeing obligations or insuring mortgages and construction loans payable to holders or lenders totaling $3,602,312,119 on September 30, 1989, and $3,863,993,195 on September 30, 1988. The Agency had no commitments to guarantee additional obligations on September 30, 1989. Commitments to guarantee additional obligations on September 30, 1988, amounted to $8,962,000.

MARAD held no cash or securities on September 30, 1989, in escrow in connection with the guarantee of obligations or the insurance of loans and mortgages which were financed by the sale of bonds in the securities market. There were no conditional liabilities for prelaunching War-Risk Builder's Insurance on September 30, 1989.

3. On September 30, 1989, the U.S. Government held $90,000 in securities which had been accepted from vessel owners, charterers, subsidized operators, and other contractors as collateral for their performance under contracts.

4. The Federal Ship Financing Fund, a revolving fund, is currently self-supporting. As of September 30, 1989, the fund had investments (U.S. Treasury Securities) of $402 million. Also, during fiscal year 1989, the fund incurred no defaults. A supplemental appropriation was received July 28, 1989; subsequently all borrowings from U.S. Treasury have been liquidated.

5. The Maritime Administration wrote off loans receivable of $22.9 million for the Title XI Program during FY 1989.

6. MARAD adjusted its liabilities to $1,762,155,000 as of September 30, 1989, recognizing the estimated total of contractual liability outstanding on the current Operating Differential Subsidy contracts.

**Appendix I:** MARITIME SUBSIDY OUTLAYS--1936-1989

| Fiscal Year | CDS | Reconstruction CDS | CDS | ODS | Total ODS & CDS |
|---|---|---|---|---|---|
| 1936-1955 | $ 248,320,942* | $ 3,286,888 | $ 251,607,830 | $ 341,109,987 | $ 592,717,817 |
| 1956-1960 | 129,806,005 | 34,881,409 | 164,687,414 | 644,115,146 | 808,802,560 |
| 1961 | 100,145,654 | 1,215,432 | 101,361,086 | 150,142,575 | 251,503,661 |
| 1962 | 134,552,647 | 4,160,591 | 138,713,238 | 181,918,756 | 320,631,994 |
| 1963 | 89,235,895 | 4,181,314 | 93,417,209 | 220,676,685 | 314,093,894 |
| 1964 | 76,608,323 | 1,665,087 | 78,273,410 | 203,036,844 | 281,310,254 |
| 1965 | 86,096,872 | 38,138 | 86,135,010 | 213,334,409 | 299,469,419 |
| 1966 | 69,446,510 | 2,571,566 | 72,018,076 | 186,628,357 | 258,646,433 |
| 1967 | 80,155,452 | 932,114 | 81,087,566 | 175,631,860 | 256,719,426 |
| 1968 | 95,989,586 | 96,707 | 96,086,293 | 200,129,670 | 296,215,963 |
| 1969 | 93,952,849 | 57,329 | 94,010,178 | 194,702,569 | 288,712,747 |
| 1970 | 73,528,904 | 21,723,343 | 95,252,247 | 205,731,711 | 300,983,958 |
| 1971 | 107,637,353 | 27,450,968 | 135,088,321 | 268,021,097 | 403,109,418 |
| 1972 | 111,950,403 | 29,748,076 | 141,698,479 | 235,666,830 | 377,365,310 |
| 1973 | 168,183,937 | 17,384,604 | 185,568,541 | 226,710,926 | 412,279,467 |
| 1974 | 185,060,501 | 13,844,951 | 198,905,452 | 257,919,080 | 456,824,532 |
| 1975 | 237,895,092 | 1,900,571 | 239,795,663 | 243,152,340 | 482,948,003 |
| 1976** | 233,826,424 | 9,886,024 | 243,712,448 | 386,433,994 | 630,146,442 |
| 1977 | 203,479,571 | 15,052,072 | 218,531,643 | 343,875,521 | 562,407,164 |
| 1978 | 148,690,842 | 7,318,705 | 156,009,547 | 303,193,575 | 459,203,122 |
| 1979 | 198,518,437 | 2,258,492 | 200,776,929 | 300,521,683 | 501,298,612 |
| 1980 | 262,727,122 | 2,352,744 | 265,079,866 | 341,368,236 | 606,448,102 |
| 1981 | 196,446,211 | 11,666,978 | 208,113,192 | 334,853,670 | 542,966,862 |
| 1982 | 140,774,519 | 43,710,698 | 184,485,217 | 400,689,713 | 585,174,930 |
| 1983 | 76,991,138 | 7,519,881 | 84,511,019 | 368,194,331 | 452,705,350 |
| 1984 | 13,694,523 | -0- | 13,694,523 | 384,259,674 | 397,954,197 |
| 1985 | 4,692,013 | -0- | 4,692,013 | 351,730,642 | 356,422,655 |
| 1986 | -416,673 | -0- | -416,673 | 287,760,640 | 287,343,867 |
| 1987 | 420,700 | -0- | 420,700 | 227,426,103 | 227,846,803 |
| 1988 | 1,236,379 | -0- | 1,236,679 | 230,188,400 | 231,425,079 |
| 1989 | -0- | -0- | -0- | 212,294,812 | 212,294,812 |
| **Total** | **$3,569,648,434** | **$264,904,682** | **$3,834,553,116** | **$8,621,419,737** | **$12,455,972,853** |

* Includes $131.5 million CDS adjustments covering the World War II period, $105.8 million equivalent to CDS allowances which were made in connection with the Mariner Ship Construction Program, and $10.8 million for CDS in fiscal year 1954 to 1955.

** Includes totals for FY 1976 and the Transition Quarter ending September 30, 1976.

## Appendix II: Combined Financial Statements of Companies With Operating-Differential Subsidy Contracts

### Statement A--Balance Sheet for Fiscal Years Ending in 1989 and 19886

| | 1988 | 1987 |
|---|---|---|
| | (stated in thousands) | |
| **ASSETS** | | |
| Current Assets: | | |
| Cash | $90,641 | $50,122 |
| Marketable Securities | 43,159 | 67,470 |
| Notes Receivable | 17 | 1,963 |
| Accounts Receivable | 319,755 | 265,882 |
| Estimated Allowance for Doubtful Receivables | (4,440) | (4,089) |
| Other Current Assets | 82,140 | 86,821 |
| Total Current Assets | $531,272 | $468,169 |
| Non-Current Assets: | | |
| Restricted Funds | $16,299 | $12,990 |
| Investments | 9,421 | 7,654 |
| Property and Equipment (net of depreciation) | 1,322,463 | 1,254,093 |
| Other Assets | 129,720 | 146,721 |
| Deferred Charges | 22,578 | 11,556 |
| Goodwill and Other Intangible Assets | 8,431 | 8,198 |
| Total Non-Current Assets | $1,508,912 | $1,441,212 |
| **TOTAL ASSETS** | **$2,040,184** | **$1,909,381** |
| **LIABILITIES & EQUITY** | | |
| Current Liabilities: | | |
| Notes Payable | $80,795 | $56,954 |
| Accounts Payable | 142,346 | 107,660 |
| Accrued Liabilities | 253,541 | 272,331 |
| Other Current Liabilities | 26,837 | 13,476 |
| Advance Payments/Deposits | 1,718 | 1,216 |
| Total Non-Current Liabilities | 505,237 | $451,637 |
| Non-Current Liabilities: | | |
| Long Term Debt | $873,718 | $753,878 |
| Other Liabilities | 105,766 | 216,797 |
| Deferred Credits | 90,978 | 64,850 |
| Total Non-Current Liabilities | $1,070,462 | $1,035,525 |
| Total Liabilities | $1,575,699 | $1,487,162 |
| Owner's Equity: | | |
| Invested Capital | $150,379 | $165,074 |
| Treasury Stock | 2,451 | 2,451 |
| Retained Earnings | 316,557 | 259,596 |
| Total Owners' Equity | $464,485 | $422,219 |
| **TOTAL LIABILITIES AND OWNERS' EQUITY** | **$2,040,184** | **$1,909,381** |

Appendix II: (continued)
Statement B--Income Statement for Fiscal Years Ending in 1988 and 1987

| | 1988 | 1987 |
|---|---|---|
| | (stated in thousands) | |
| Shipping Revenue | $2,093,429 | $1,867,588 |
| Operating-Differential Subsidy | 214,432 | 223,509 |
| Other Shipping Operations Revenue | 101,387 | 106,927 |
| Total Revenue from Shipping Operations | 2,409,248 | $2,198,024 |
| Shipping Expense | $653,958 | $574,206 |
| Shipping Port Call Expense | 81,457 | 68,535 |
| Cargo Handling Expense | 1,066,425 | 974,466 |
| Inactive Vessel Expense | 3,862 | 6,096 |
| Other Shipping Operations Expense | 64,343 | 79,262 |
| Total Expense of Shipping Operations | $1,870,045 | $1,702,565 |
| Gross Income from Shipping Operations | $539,203 | $495,459 |
| Other Revenue | 39,199 | 33,867 |
| Other Expense | 9,697 | (1,615) |
| General and Administrative Expense | 310,615 | 275,307 |
| Depreciation and Amortization Expense | 71,538 | 75,815 |
| Interest Expense | 82,355 | 80,477 |
| Net Income Before Income Taxes | $104,197 | $99,342 |
| Provision for Income Taxes | 33,334 | 53,110 |
| Net Income After Income Taxes | $70,863 | $46,232 |
| Effect of Change in Accounting Policy | (1,187) | 0 |
| Income or Loss from Extraordinary Items | (3,823) | (30,826) |
| **NET INCOME** | **$65,853** | **$15,406** |

(Data from Forms MA-172 filed by 17 subsidized companies.)

Appendix III: TECHNICAL AND PROGRAM STUDIES PLAN–FISCAL YEAR 1989

| Project | Task | Vendor | Contract Number | Amount |
|---|---|---|---|---|
| **Marine Science:** | | | | |
| Ship Structure Committee | MARAD's share to participate in the Ship Structures Committee FY 89 Program. | U.S. Coast Guard Washington, DC | MA-9-A56 | $ 75,000* |
| **Military Sealift:** | | | | |
| 35+ Knot Fast Sealift Ship (FSS) Phase I - Hull Form and Propulsor Analyses | Perform computer simulation analyses to define: hull form, ship dimensions, maximum attainable speed and power requirements, economical commercial speeds and power requirements, propulsor configurations and arrangements and sizes, etc., for a FSS having the maximum possible degree of commercial viability. | David Taylor Research Center Carderock, MD | MA-9-A60 | $ 60,000 |
| Development and Analysis of Alternatives for Expanding U.S. Ship Repair Capability to Support National Defense Mobilization Requirements | This study will determine the requirements for expanding existing and acquiring new ship repair facilities in time of mobilization. A conceptual design of a rapidly expandable "green field" repair facility will be developed. Site acquisition and construction costs will be developed and a number of Government support options examined. | Southwest Marine Inc. San Diego, CA | 89-90035 | $ 98,345 |
| National Defense Features and Their Commercial Applicability to Intermodal Equipment | This study will evaluate a variety of alternatives to the stockpiling of national defense features and examine ways in which Government transportation needs and requirements can be met across the spectrum of intermodal operations. | Presearch, Inc. Arlington, VA | 89-90033 | $ 63,086 |
| Development and Evaluation of Solutions for Mobilization Manpower Requirements | This study will examine, determine, and evaluate a variety of methods and approaches for achieving adequate manning of merchant vessels for defense related needs during a mobilization. | Presearch, Inc. Arlington, VA | 89-90032 | $ 83,365 |
| Familiarization Training Videotape for RRF Vessels | This effort will result in the production of audio-visual materials (VCR tapes) for the indoctrination and training of experienced engineering officers in the operation of equipment and machinery unique to selected classes of RRF vessels. | Q-TIME by Bryan, Inc. Chesapeake, VA | 89-90034 | $ 55,481 |

*Cost Shared
+ Reimbursable

Appendix III: Continued

| Project | Task | Vendor | Contract Number | Amount |
|---|---|---|---|---|
| Survey of Potential Technologies and Related M&R Strategies and Procedures to Improve the Material Condition and Readiness of Main Propulsion Boilers and Main/Auxiliary Diesels in RRF Ships | This study will identify and evaluate recommended and/or alterative: boiler and engine preventative and/or predictive monitoring; testing and inspection technologies; M&R methodologies, techniques, practices, and procedures; all of which will be matched to the appropriate RRF ship acquisition, lay-up, retention, and activation cycles/phases. | Seaworthy Systems, Inc. Essex, CT | 89-90004 | $ 58,291 |
| **Ship Performance:** | | | | |
| Shipboard Evaluation of a Piloting Expert System - Phase II | Design, develop, test, install, and evaluate an operational shipboard piloting expert system for decision support in restricted waters. | Rensselaer Polytechnic Institute Troy, NY | 89-90031 | $277,540* |
| **Ship & Cargo Operations:** | | | | |
| Cargo Handling Cooperative Program | Carry out research, development, test and evaluation of new technologies, systems, and methods directed at increasing the cargo handling productivity of U.S.-flag carriers. | American President Lines, Ltd. Matson Terminals Inc. Sea-Land Service Crowley Maritime | MA-11715 | $200,000 |
| **Fleet Management:** | | | | |
| Expert Diesel Engine Maintenance System | Design, develop, install, and test an expert system to assist shipboard engineers in diagnosing failures before they occur. | American President Lines Oakland, CA | MA-12096 | $108,980 |
| **Waterway Development:** | | | | |
| Baldwin Ship Channel, Phase III | The U.S. Army Corps of Engineers, requested CAORF services to conduct ship maneuvering simulation studies related to port and waterway development in the Baldwin Ship Channel. | Marine Safety International Kings Point, NY | 88-80024 Task Order 1 | $354,295** |
| EXXON VALDEZ Simulation Study | The National Transportation Safety Board requested CAORF services to conduct off-line ship maneuvering simulation studies for the EXXON VALDEZ near the place and at the time of its grounding. | Marine Safety International Kings Point, NY | 88-80024 Task Order 2 | $ 13,178** |

*Cost Shared
**Cost Reimbursable

Appendix III: Continued

| Project | Task | Vendor | Contract Number | Amount |
|---|---|---|---|---|
| **Maritime Technology Analysis:** | | | | |
| Marine Board FY 89 | To continue support of the Marine Board of the National Academy of Sciences during FY 89. | Dept. of Interior Washington, DC | MA-9-A07 | $100,000 |
| Deregulation & Technology Innovation in Container Shipping | Conduct a historical and analytical assessment of the relationship between deregulation and technological innovation in the intermodal container shipping industry. | Transportation Research Board Washington, DC | MA-CA-90017 | $100,000 |
| **Technology Transfer:** | | | | |
| Maritime Technical Information Facility (MTIF) | To provide support for the operation of the MTIF in FY 89. | Seatrack Great Neck, NY | 89-90002 | $199,000 |
| **Port and Intermodal:** | | | | |
| Interrelationship Analysis of MARAD Port Planning Tools | Assess various in-house and external models and databases (cargo flow, marine terminals, economic impact) used by the Office of Port and Intermodal Development in port analyses to develop compatibility of outputs and inputs. | DRI Washington, DC | 89-91401 | $ 10,500 |
| Regional Input/Output Model | Develop in-house capability to derive maritime industry economic impact data by selected regions consistent with national and local port levels. | Temple, Barker & Sloane Lexington, MA | MA-CA-80106 | $ 84,942 |

*Cost Shared
**Cost Reimbursable

## Appendix IV: STUDIES AND REPORTS RELEASED IN FY 1989

The following major studies or reports were released by the Maritime Administration (MARAD) during fiscal year 1989.

A limited number of copies of publications marked [MARAD] are available from the Agency's Office of External Affairs. Those labelled [NTIS] may be purchased from the National Technical Information Service (NTIS), 5285 Port Royal Rd., Springfield, VA 22161.

*MARAD 1988* (The Annual Report of the Maritime Administration for Fiscal Year 1988) 75pp [MARAD].

*A Report to the Congress on the Status of the Public Ports of the United States 1986-1987*, prepared by the Maritime Administration, September 1988, 119pp [MARAD].

*Vessel Inventory Report, January 1, 1989*, prepared by the Maritime Administration, 64pp [MARAD].

*National Defense Reserve Fleet Berthing Analysis for Surface Effect Fast Sealift Ships (SLS) and Notional SL7s* [NTIS].

PB89-208458/AS $15.95

*The Selection of an Optimum Propeller for Commercial Ships* [NTIS].

PB89-163307 $15.95

*Prototype Expert System for Containership Stowage Planning* [NTIS].

| | | |
|---|---|---|
| User's Manual | PB89-136113/AS | $15.95 |
| Technical Report | PB89-136105/AS | 6.95 |

Note: Reports prepared or issued by the Maritime Administration in previous years are listed in *MARAD PUBLICATIONS*, which is available upon request from headquarters and field offices of the Agency.