MARAD '85

U.S. Department
of Transportation

**Maritime
Administration**

MARAD '85

The Annual Report of the
Maritime Administration
for Fiscal Year 1985

U.S. DEPARTMENT OF TRANSPORTATION
Maritime Administration

JULY 1986

Five tugs owned by Moran Towing & Transportation Co. maneuver a 700-foot-long floating drydock across New York Harbor as part of a move involving a shipyard formerly operated by Todd Shipyards Corp.

THE SECRETARY OF TRANSPORTATION
WASHINGTON, D.C. 20590

The President
The White House
Washington, D.C. 20500

The Honorable George Bush
President of the Senate
Washington, D.C. 20510

The Honorable Thomas P. O'Neill
Speaker of the House
of Representatives
Washington, D.C. 20515

Dear Sirs:

I have the pleasure of forwarding to you the annual report of the Maritime Administration for fiscal year 1985 as required by the Merchant Marine Act, 1936, as amended.

Respectfully,

Elizabeth H. Dole

Elizabeth Hanford Dole

FOREWORD

The Annual Report of the Maritime Administration (MARAD) is submitted in accordance with Section 208 of the Merchant Marine Act, 1936, as amended. It reviews the Agency's activities in administering Federal maritime programs, incorporates certain other reports required by the Congress, and surveys other important maritime developments in the public and private sectors.

Three commercial vessels aggregating 63,549-deadweight-tons and built without construction-differential subsidy were delivered by privately owned U. S. shipyards in this reporting period. Additionally, a $180 million, private contract for domestic construction of three commercial vessels for Alaskan service was awarded in fiscal year 1985.

MARAD continued to experience a number of defaults under its Federal Ship Financing Guarantee (Title XI) Program in this reporting period (see Chapter 1).

In fiscal year 1985, Secretary of Transportation Elizabeth Hanford Dole announced a new rule which permits, for one year, owners of tankers built with construction subsidy to repay the unamortized principal plus compound interest, and thereby become permanently eligible to operate in the domestic trade. By year's end, one owner had repaid $86.5 million covering two very large crude carriers.

MARAD worked closely with the U.S. Navy in acquiring and maintaining cargo vessels and special auxiliaries for logistics support of the Armed Forces. Thirteen U.S. shipyards were awarded contracts in the T-Ship Program totaling more than $3.6 billion for construction of 29 new vessels and major reconstruction of 23 existing merchant ships. Fourteen of the 52 ships were completed in this reporting period.

These and other steps by the Administration in FY 1985 were taken to achieve a singular goal—the revitalization of the American maritime community. This has been and remains our primary objective in maritime affairs.

JOHN A. GAUGHAN
Maritime Administrator

Chapter 1

Shipbuilding

In fiscal year 1985, American shipyards delivered three commercial vessels aggregating 63,549 deadweight tons (dwt.).

Contract Awards

During this reporting period, a $180 million private contract was awarded to a U.S. shipyard for construction of three non-subsidized commercial vessels. Sea-Land Service, Inc., ordered three containerships from Bay Shipbuilding Corp. These vessels, which will be used in Sea-Land's Alaska service, are expected to be delivered between mid-1986 and May 1987. The Maritime Administration (MARAD) has requested no construction-differential subsidy (CDS) funds since FY 1981 and no CDS contracts were awarded in FY 1985. But work on the largest combatant ship program in the U.S. Navy's peacetime history continued. The Navy has committed $55.5 billion to this program in the past 5 years. All new Navy construction continues to be accomplished in the Nation's commercial shipyards. Thirteen U.S. commercial shipyards have been awarded contracts in the U.S. Navy's noncombatant T-Ship Program totaling more than $3.6 billion for the construction of 29 new vessels and major reconstruction of 23 existing merchant ships, as of September 30. Fourteen of the 52 T-ships were completed in FY 1985.

Vessels in this multibillion dollar procurement program include maritime prepositioning ships, fast sealift ships and fleet oilers, auxiliary crane ships, hospital ships, ocean-surveillance vessels, aviation logistics support and surveying ships, a cable repair ship, and a fleet ballistic-missile resupply vessel.

Ships in this program are mission oriented. Some are Government-owned and operated by civilian or Military Sealift Command (MSC) civil service crews, and some are privately owned and chartered to the MSC with union crews.

Vessels on Order

On September 30, 1985, 11 merchant vessels, totaling 588,600-dwt. and valued at $700.8 million were under construction or on order in American shipyards. (See Table 1.) None of these vessels will be built with CDS funds; however, three of the 11 vessels are participating in the Title XI Program.

Ship Deliveries

Three commercial vessels aggregating 63,549 dwt. were delivered by American shipyards in FY 1985. (See Table 2.) None of the vessels was built with CDS.

The vessels delivered were:

- Two 30,000-dwt. product tankers, PAUL BUCK and GUS W. DARNELL, built by Tampa Shipyards, Inc., a subsidiary of American Shipbuilding Co. for Ocean Carriers, Inc., and will be chartered to the Military Sealift Command for use in point-to-point transportation; and
- The 3,549-dwt. tanker, EASTERN SUN, built by Jeffboat, Inc. for Sun Refining and Marketing Co.

Table 3 shows merchant ship deliveries by major shipbuilding nations during calendar year 1984.

Title XI

Title XI of the Merchant Marine Act of 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.

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 Federal Ship Financing Act of 1972 improved the marketability of Title XI guaranteed obligations; it attracted more private debt capital for vessel construction. Instead of insuring a loan or mortgage agreement from an institutional investor (as had been the case before), under the 1972 legislation the full faith and credit of the United States directly guaranteed the payment of principal and interest on obligations sold to individual bondholders.

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

Title XI guarantees of approximately $20.2 million covering two vessels were approved in principle by MARAD during FY 1985. (See Table 4.)

Based on previous Title XI commitments, MARAD issued security agreements covering a total of 264 vessels during FY 1985.

As of September 30, 1985, Title XI guarantees in force amounted to approximately $6.5 billion. Active pending applications on that date represented approximately $99 million in requests for additional guarantees. (See Table 5.)

During FY 1985, 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 use by the Department of Energy in 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 total costs of the MARAD portion of the program, including salaries of the MARAD staff assigned to the merchant ship financing program, are underwritten by fees which are paid by users. These fees go into the Federal Ship Financing Fund, a revolving fund which may be used for payment of any defaults and administrative expenses. During FY 1985, MARAD paid $320.8 million as a result of 19 defaults involving a total of 138 vessels.

During FY 1985, the Federal Ship Financing Fund had a net income of $86.6 million and net expenses of $250.8 million. The year-end balance (cash and investments) was approximately $11.3 million.

During FY 1985 MARAD borrowed $130 million from the U.S. Treasury to meet demands for payments due on defaults under this program.

Table 1: COMMERCIAL SHIP CONSTRUCTION UNDER CONTRACT—SEPTEMBER 30, 1985

Owner	Shipbuilder	Ship Type [1]	No. of Ships	Total Deadweight Tons	Est. Completion Date	Est. Cost (Millions)	Government Participation [2]
New Construction:							
Sea-Land Service, Inc.	Bay Shipbuilding	C	3	63,000	5/87	$ 180.0	CCF [2]
Exxon Shipping Co.	National Steel	COT	2	418,400	2/87	$ 250.0	None
Ocean Carriers, Inc.	Tampa Shipyards	PT	3	90,000	6/86	$ 170.7	[3]
APOLLO Co.	Tacoma Boatbuilding	I	2	12,400	Unk	$ 74.6	MG
Gulf Coast Trailing Co.	Twin City Shipyard	D	1	4,800	11/85	$ 25.5	MG
Total New Construction [4]			**11**	**588,600**		**$700.8**	

[1] C = Containership; COT = Crude Oil Tanker; PT = Product Tanker; I = Incinerator Ship; D = Self-Propelled Dredge.

[2] MG = Title XI mortgage guarantees. CCF = Capital Construction Fund.

[3] Military Sealift Command build and charter contract.

[4] Merchant vessels of 1,000 dwt. and over.

Table 2: NEW COMMERCIAL SHIPS DELIVERED FROM U.S. SHIPYARDS DURING FY 1985

Owner	Builder	Vessel Type	Vessels
Ocean Carriers, Inc.	Tampa Shipyards	Product Tanker	2
Sun Refining & Marketing	Jeffboat, Inc.	Tanker	1
	Total Deliveries		**3**

Table 3: WORLDWIDE SHIP DELIVERIES—CALENDAR YEAR 1984 (TONNAGE IN THOUSANDS)

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 Carriers No.	Bulk Carriers Deadweight Tons	Tankers No.	Tankers Deadweight Tons
Total	**777**	**20,004.0**	**5**	**249.0**	**344**	**4,160.5**	**296**	**12,053.2**	**132**	**3,765.4**
United States	5	230.4	—	—	—	—	—	—	5	230.4
Brazil	14	430.2	—	—	4	13.0	10	417.2	—	—
China (Peoples' Republic)	14	223.5	1	74.0	7	74.5	5	136.7	1	4.9
China (Republic of)	16	1,131.8	—	—	5	213.5	9	758.0	2	133.3
Denmark	25	643.2	—	—	17	236.5	4	252.1	4	154.6
Finland	14	209.8	2	59.0	8	165.6	—	—	4	38.3
German Dem. Republic	10	165.8	—	—	7	104.4	3	61.4	—	—
Germany (Fed. Republic)	36	323.1	—	—	29	250.5	2	51.3	5	21.3
Italy	12	315.6	—	—	4	42.4	3	149.1	5	124.1
Japan	425	10,810.9	—	—	163	1,746.4	203	7,699.0	59	1,365.5
Korea (Republic of)	54	1,736.3	—	—	27	559.9	14	648.0	13	528.4
Poland	8	247.1	—	—	4	66.1	3	135.0	1	46.0
Spain	19	615.1	—	—	10	70.3	7	378.5	2	166.3
Sweden	8	355.0	—	—	3	107.7	3	160.8	2	86.5
U.S.S.R.	10	181.7	—	—	6	30.9	2	54.4	2	96.4
United Kingdom	15	648.9	—	—	4	64.5	9	456.7	2	127.7
Yugoslavia	10	249.7	—	—	2	25.1	2	58.4	6	166.2
All Others	82	1,485.9	2	116.0	44	389.2	17	609.6	19	475.5

Table 4: SHIP FINANCING GUARANTEES—COMMITMENTS APPROVED IN FY 1985

Number	Type	Company	Amount Guaranteed
Ocean:			
1	Barge	American Gulf I, Inc.	$ 2,250,000
Miscellaneous:			
1	Hopper Dredge	Gulf Coast Trailing Co.	$ 18,000,000
2		**Total Vessels**	**$ 20,250,000**

On four occasions prior to 1985, MARAD borrowed from the Treasury to meet obligations under its Ship Financing Guarantee Program.

Over the past three years, Title XI defaults have increased as a result, in part, of a worldwide shipping recession; a reduced demand in domestic waterborne shipping reflecting significant shifts in international trade; and downturns in the offshore drilling industry stemming from erratic fluctuations in the supply, demand and relative price of oil, natural gas and other energy sources.

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 enables operators to build vessels for the U.S. foreign, Great Lakes, noncontiguous domestic trade (e.g., between the West Coast and Hawaii), and the fisheries of the United States. It aids in the construction, reconstruction, or acquisition of a wide variety of vessels, including containerships, tankers, bulk carriers, tugs, barges, supply vessels, ferries, and passenger vessels.

During calendar year 1984, $229 million was deposited in these accounts. Since the program was initiated in 1971, fund holders (shown in Table 6) have deposited $3.9 billion in CCF accounts and withdrawn $3 billion for the modernization and expansion of the U.S. merchant marine.

The value of projects completed or begun by CCF holders since the start of the program totals approximately $5.5 billion. As of September 30, 1985, the 126 fund holders had projected expenditures under this program totaling $4.2 billion. Of this total, $2 billion is projected for vessels operating in the U.S. foreign trade, $1.8 billion for noncontiguous domestic trade, and $453 million for the Great Lakes trade.

Construction Reserve Fund

The Construction Reserve Fund (CRF), like the CCF, encourages upgrading of the American-flag fleet. This program allows eligible parties to deter 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 3 years.

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

The number of companies with CRF balances decreased from nine to eight during FY 1985. (See Table 7.) And total deposits decreased from $6.6 million to $5.8 million in FY 1985.

School Ships and Service Craft

Conversion of the cargo/passenger vessel SANTA MERCEDES, renamed PATRIOT STATE, was completed in this reporting period. The vessel will be used as a training ship by the Massachusetts Maritime Academy. Built in 1964, it was purchased in January 1984 from Prudential Lines, Inc., and will replace the BAY STATE which was severely damaged by fire in 1981.

MARAD also began construction of nine Reserve Fleet Service Craft in FY 1985. The vessels, which are being built by Quality Shipbuilders, Inc. of Moss Point, MS, will be used as utility workboats by National Defense Reserve Fleet personnel.

Shipyard Improvements

During FY 1985, the American shipbuilding and ship repair industry invested over $250 million in facilities modernization and expansion. Plans were underway to spend more than $100 million in FY 1986, mainly to increase vessel conversion, overhaul and repair capabilities.

Since enactment of the Merchant Marine Act of 1970, the U.S. shipbuilding and ship repair industry has invested approximately $3.7 billion in plant modernization and improvements.

Table 5: FEDERAL SHIP FINANCING GUARANTEE (TITLE XI) PROGRAM SUMMARY
(Statutory Limit $9.5 Billion) Principal Liability on September 30, 1985

Vessel Types	Contracts in Force		Pending Applications	
	Vessels Covered	Principal Amount	Vessels Covered	Principal Amount
Deepdraft Vessels:				
Tankers	78	$1,772,118,021	1	$ 37,500,000
Cargo	104	944,683,212	—	0
LNGs	14	1,012,501,000	—	0
Bulk/OBOs	22	362,964,161	—	0
Total	**218**	**$4,092,266,394**	**1**	**$ 37,500,000**
Other Types:				
Drill Rigs/Ships	62	$ 697,646,771	—	$ 0
Tugs/Barges/Drill Service	3,552	1,454,713,888	3	6,941,000
Miscellaneous	23	234,798,797	4	54,800,000
Total	**3,637**	**$ 2,387,159,456**	**7**	**$ 61,741,000**
Total Vessels	**3,855**	**$ 6,479,425,850**	**8**	**$ 99,241,000**
Shipboard Lighters	**1,747**	**$ 39,559,450**	**—**	**$ 0**
Total	**5,602**	**$ 6,518,985,300**	**8**	**$ 99,241,000**

The MV GUS W. DARNELL, is the second of five tankers built by Tampa Shipyards Inc. for Ocean Shipholding. Shown here departing for sea trials, the vessel is to be chartered by the Military Sealift Command.

Table 6: CAPITAL CONSTRUCTION FUND HOLDERS—SEPTEMBER 30, 1985

A & A Boats, Inc.
Aeron Marine Shipping Co.
Alaska Riverways, Inc.
Amak Towing Co., Inc.
AMC Boats, Inc.
American Atlantic Shipping, Inc.
American President Lines, Inc.
American Shipping, Inc.
Andover Co., L.P.
Aquarius Marine Co.
Ashland Oil, Inc.
Atlantic Richfield Co.
Atlas Marine Co.
Bankers Trust of New York Corp.
Bethlehem Steel Corp.
Binkley Co., The
Blue Lines, Inc.
Brice Inc.
C & G International, Inc.
C & G Marine Service, Inc.
Cambridge Tankers, Inc.
Campbell Towing Co.
Canonie Offshore, Inc.
Canonie Transportation, Inc.
Cement Transit Co./Medusa Corp.
Central Gulf Lines, Inc.
Citimarlease (Burmah I), Inc.
Citimarlease (Burmah LNG Carrier), Inc.
Citimarlease (Burmah Liquegas), Inc.
Citimarlease (Fulton), Inc.
Citimarlease (Whitney), Inc.
Cleveland-Cliffs Iron Co., The
Crowley Maritime Corp.
CSI Hydrostatic Testers, Inc.
Delta Steamship Lines, Inc.
Dillingham Tug & Barge Corp.
Edison Chouest Boat Rentals, Inc.
Edward E. Gillen Co.
El Paso Arzew Tanker Co.
El Paso Howard Boyd Tanker Co.
El Paso Southern Tanker Co.
Eserman Offshore Service, Inc.
Exxon Shipping Co.
Falcon Alpha Shipping, Inc.
Falcon Capital, Inc.
Falcon Funding, Inc.
Falcon World Shipping, Inc.
Farrell Lines, Inc.
Ford Motor Co.
Foss Alaska Lines, Inc.
Foss Launch and Tug Co.
Fred Devine Diving & Salvage, Inc.
G & B Marine Transportation, Inc.
Garber Bros., Inc.
GATX Corp.
G & B Marine Transportation, Inc.
General Electric Credit and Leasing Corp.
General Electric Credit Corp. of Delaware
General Electric Credit Corp. of Georgia
Gilco Supply Boats, Inc.
Graham Boats, Inc.
Great Lakes Towing Co.
Hannah Brothers
Hannah Marine Corp.
Houston Natural Gas Corp.
Hvide Shipping, Inc.
Inter-Cities Navigation Corp.
Intercontinental Bulktank Corp.
Interstate Marine Transport Co.
Interstate Towing Co.
ITC Towing Co.
John E. Graham & Sons
Kinsman Lines, Inc.
L & L Marine Service, Inc.
Leppaluoto Offshore Marine, Inc.
Luedtke Engineering Co.
Lykes Bros. Steamship Co.
Madeline Island Ferry Lines, Inc.
Matson Navigation Co., Inc.
Middle Rock, Inc.
Miller Boat Line, Inc.
Monticello Tanker Co.
Montpelier Tanker Co.
Moody Offshore, Inc.
Moore McCormack Resources, Inc.
Mount Vernon Tanker Co.
Mount Washington Tanker Co.
National Marine Service, Inc.
Neuman Boat Line, Inc.
Nicor, Inc.
O.L. Schmidt Barge Lines, Inc.
Ocean Carriers, Inc.
Offshore Marine, Inc.
Ogden Corp.
Oglebay Norton Co.
Overseas Bulktank Corp.
Pacific Hawaiian Lines, Inc.
Pacific Shipping, Inc.
Petro-Boats, Inc.
Petrolane Inc.
Powers-Carr Equipment Co.
Prudential Lines, Inc.
Reynolds Leasing Corp.
Ritchie Transportation Co.
Seabulk Tankers, Ltd.
Sea Savage, Inc.
Smith Lighterage Co., Inc.
State Boat Corp.
Steel Style Marine
Sun Co., Inc.
Tidewater Inc.
Totem Resources Corp.
Transway International Corp.
Tug Alaska Mariner, Inc.
Tug Western Mariner, Inc.
Union Oil Co. of California
United States Cruises, Inc.
United States Lines, Inc.
Waterman Steamship Corp.
Western Pioneer, Inc.
Windjammer Cruises, Inc.
Worth Oil Transport Co.
Young Brothers, Ltd.
Zidell, Inc.

Table 7: CONSTRUCTION RESERVE FUND HOLDERS—SEPTEMBER 30, 1985

Arrrow Tankers, Inc.
Cargo Carriers, Inc.
Central Gulf Steamship, Inc.
Joan Turecamo, Inc.
Ingram Industries, Inc.
Keystone Shipping Co.
Kurz Marine
Mobil Oil Corp.

Chapter 2

Ship Operations

U.S. Fleet Profile

On September 30, 1985, the U.S.-flag privately owned, deep-draft merchant fleet (including the Great Lakes fleet listed in Table 16) totaled 611 vessels with an aggregate carrying capacity of 22.9 million deadweight tons (dwt.).

The oceangoing segment of the privately owned fleet consisted of 491 vessels of 21.4 million dwt., of which 393 ships of 16.6 million dwt. were active. The latter comprised 41 breakbulk cargo ships, 139 intermodal vessels (containerships, barge-carrying vessels, and roll-on/roll-off vanships known as RO/ROs), 2 combination passenger-cargo ships, 191 tankers (including liquefied natural gas carriers), and 20 bulk carriers. (See Table 8).

Of the 98 inactive vessels, 10 were temporarily inactive, either awaiting cargoes or undergoing repairs, and 88 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 9.

As of September 30, 1985, the privately owned American-flag fleet ranked 8th in the world on a dwt. basis and 14th on the basis of number of ships. (See Table 10).

Commercial cargoes carried by ships of all flags in the U.S. oceanborne foreign trade totaled 676.8 million tons in calendar year 1984. U.S.-flag tonnage decreased from 36.7 million to 29.4 million, tons and the U.S.-flag share of total tonnage decreased to 4.3 percent compared to 5.8 percent in the previous year.

Commercial cargoes transported in U.S. oceanborne trade from 1975 through calendar year 1984 are shown in Table 11. The table shows the portion carried by U.S.-flag vessels by tonnage and value.

Operating-Differential Subsidy

Qualified U.S.-flag vessels which operate in essential foreign trades are eligible for operating-differential subsidy (ODS) which is administered by MARAD. This subsidy is designed to offset certain lower ship operating costs of foreign-flag competitors. Net subsidy outlays during FY 1985 amounted to $351.7 million.

Approximately $3.8 million in subsidy was paid to one liner company for voyages in the Great Lakes trade

Secretary of Transportation Elizabeth Hanford Dole receiving the first repayment of construction-differential subsidy (CDS) under a new DOT CDS payback rule from Lodwrick Cook, president of Atlantic Richfield Co. for the ARCO INDEPENDENCE and ARCO SPIRIT.

in fiscal year 1985. ODS accruals and expenditures from January 1, 1937, through September 30, 1985, are summarized in Table 12. Accruals and outlays by shipping lines for the same period are shown in Table 13.

At the end of fiscal year 1985, 22 operators (7 liner and 15 bulk) held 25 ODS contracts with MARAD and operated 118 subsidized vessels. (See Table 14.)

On that same date, the nonsubsidized oceangoing fleet comprised 356 vessels and 191 companies.

Total ODS and construction-differential subsidy (CDS) outlays since the program's inception are shown in Appendix I.

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 except those pertaining to operation in the domestic trade. During FY 1985 five companies operated under suspended ODS agreements:

- Equity Carriers, I, Inc., suspended its ODS contract on the PRIDE OF TEXAS effective September 21, 1981.
- Asco-Falcon II Shipping Co. suspended its ODS agreement on the STAR OF TEXAS effective December 4, 1981.
- Aries Marine Shipping Co. suspended its ODS agreement on the ULTRAMAR effective April 10, 1982, and on the ULTRASEA effective December 10, 1982.
- Equity Carriers III, Inc., suspended its ODS contract on the SPIRIT OF TEXAS effective December 29, 1982.
- Aeron Marine Shipping Co. suspended its ODS contract on the GOLDEN ENDEAVOR effective November 20, 1984.

Table 8: U.S. OCEANGOING MERCHANT MARINE—OCTOBER 1, 1985 [1]

Vessel Type	Privately Owned		MARAD Owned		Total	
	Number Ships	Deadweight Tons (000)	Number Ships	Deadweight Tons (000)	Number Ships	Deadweight Tons (000)
Active Fleet:						
Passenger/Passenger-Cargo	2	14	5	41	7	55
General Cargo	41	648	3	26	44	674
Intermodal	139	3,713	0	0	139	3,713
Bulk Carriers (Incl. TB)	20	772	0	0	20	772
Tankers (Incl. TKB & LNG)	191	11,460	2	21	193	11,481
Total Active Fleet	**393**	**16,607**	**10 [2]**	**88**	**403**	**16,695**
Inactive Fleet:						
Passenger/Passenger-Cargo	5	44	24	184	29	228
General Cargo	15	197	195	2,217	210	2,414
Intermodal	26	498	7	130	33	628
Bulk Carriers (Incl. TB)	3	308	0	0	3	308
Tankers (Incl. TKB & LNG)	49	3,734	21	432	70	4,166
Total Inactive Fleet	**98**	**4,781**	**247**	**2,963**	**345**	**7,744**
Total Active and Inactive:						
Passenger/Passenger-Cargo	7	58	29	225	36	283
General Cargo	56	845	198	2,243	254	3,088
Intermodal	165	4,211	7	130	172	4,341
Bulk Carriers (Incl. TB)	23	1,080	0	0	23	1,080
Tankers (Incl. TKB & LNG)	240	15,194	23	453	263	15,647
Total American Flag	**491**	**21,388**	**257 [3]**	**3,051**	**748**	**24,439**

[1] Vessels of 1,000 gross tons and over, excluding privately owned tugs, barges, etc.

[2] Includes 5 vessels in custody of other agencies.

[3] Includes National Defense Reserve Fleet which consists of 246 ships, of which 7 are scrap candidates; No vessels are in bareboat charter.

NOTE: Tonnage figures may not add due to rounding.

Subsidy Rates

The Subsidy Index System, which provides for payment of seafaring wage subsidies in per diem amounts, was established by the Merchant Marine Act of 1970. 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.

In addition to the wage category, ODS rates are calculated for subsistence (for passenger vessels only), maintenance and repairs, hull and machinery insurance, and protection and indemnity insurance for both premiums and deductibles.

MARAD is modifying its procedures for determining ODS so that final subsidy payments can be maintained on a current basis. The Agency has completed, on an ad hoc basis, 1985 single per diem subsidy rates for all items of expense for liner operators; 1984 subsidy rates for wages and 1982 subsidy rates for all other eligible expenses for bulk operators also have been substantially completed.

Passenger/Cruise Service

As of September 30, 1985, U.S.-flag oceangoing passenger service was provided by the cruise liners INDEPENDENCE and CONSTITUTION. These vessels are operated by American Hawaii Cruises, Inc. in the Hawaiian inter-island trade.

On the inland waterways, two traditionally styled steamboats operated by Delta Queen Steamboat Co. provided a variety of cruises on the Mississippi and Ohio Rivers. Additionally, the Padelford Packet Boat

Table 9: EMPLOYMENT OF U.S.-FLAG OCEANGOING FLEET—OCTOBER 1, 1985 [1]

Status and Area of Employment	Total		Vessel Type: Passenger Pass./Cargo		General Cargo		Intermodal		Bulk Carriers[1]		Tankers	
	No.	Deadweight Tons (000)	No.	Deadweight Tons (000)	No.	Deadweight Tons (000)	No.	Deadweight Tons (000)	No.	Deadweight Tons (000)	No.	Deadweight Tons (000)
Grand Total	**748**	**24,439**	**36**	**283**	**254**	**3,088**	**172**	**4,341**	**23**	**1,080**	**263**	**15,647**
Active Vessels	**403**	**16,695**	**7**	**55**	**44**	**674**	**139**	**3,713**	**20**	**772**	**193**	**11,481**
Foreign Trade	147	4,766	—	—	26	401	88	2,620	9	492	24	1,253
Nearby Foreign [2]	2	76	—	—	—	—	—	—	—	—	2	76
Great Lakes-Seaway Foreign	—	—	—	—	—	—	—	—	—	—	—	—
Overseas Foreign	145	4,690	—	—	26	401	88	2,620	9	492	22	1,177
Foreign to Foreign	14	682	—	—	—	—	6	110	—	—	8	572
Domestic Trade	171	9,568	2	14	—	—	25	416	9	229	135	8,909
Coastwise	28	1,136	—	—	—	—	—	—	4	108	24	1,028
Intercoastal	61	2,389	—	—	—	—	—	—	2	42	59	2,347
Noncontiguous	82	6,043	2	14	—	—	25	416	3	79	52	5,534
Other U.S. Agency Operations	71	1,679	5	41	18	273	20	567	2	51	26	747
MSC Charter	61	1,591	—	—	15	247	20	567	2	51	24	726
B. B. Charter & Other Custody	10	88	5	41	3	26	—	—	—	—	2	21
Inactive Vessels	**345**	**7,744**	**29**	**228**	**210**	**2,414**	**33**	**628**	**3**	**308**	**70**	**4,166**
Temporarily Inactive	10	551	—	—	2	26	2	62	1	52	5	411
Laid-Up (Privately Owned)	79	4,048	5	44	6	75	22	350	2	256	44	3,323
Laid-Up (Privately Owned/NDRF)	9	182	—	—	7	96	2	86	—	—	—	—
Laid-Up (MarAd-Owned)												
Pending Disposition [3]	10	146	2	15	5	59	2	48	—	—	1	24
National Defense Reserve Fleet	237	2,817	22	169	190	2,158	5	82	—	—	20	408

[1] Excludes vessels operating exclusively on the inland waterways and Great Lakes, those owned by the U.S. Army and Navy, and special types such as tugs, cable ships, etc.

[2] Nearby foreign trade includes Canada, Mexico, Central America, West Indies, and North Coast of South America.

[3] Other than vessels in the National Defense Reserve Fleet.

Co. offered cruises on the Upper Mississippi River and along the Gulf Coast.

Five operators provided local coastwise service with vessels carrying 100 or fewer passengers. American Canadian Line served the New England Coast, Great Lakes, Saguenay River of Canada, and the Caribbean; American Cruise Lines served the Atlantic Coast; Clipper Cruise Line and Coastal Cruise Line served the Atlantic Coast and Caribbean; and Exploration Cruise Lines operated on the U.S. and Canadian Pacific Coasts, including Alaska.

MARAD received one new Title XI application in FY 1985 for a 600-passenger luxury cruise ship which would serve the U.S. West Coast ports. The domestic cruise fleet was expanded by the addition of one coastwise vessel, the NANTUCKET CLIPPER (100 passengers) and one riverboat, the NEW ORLEANS (140 passengers).

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, as an 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.

On November 30, 1984, the Maritime Administration waived provisions of section 804 to allow United States Lines, Inc. (USL) to charter and operate 13 foreign-flag ships and certain space charters as feeder vessels in USL's Jumbo Econship service for a period of 2 years.

Corporate/Service Changes

In January 1985, United States Lines (S.A.) Inc. acquired 14 vessels, 549 LASH barges and subsidized service rights to South America and Africa from Delta Steamship Lines, Inc. USL (S.A.) (formerly Moore McCormack Lines, Inc.) had been serving separate routes in the same general area.

Foreign Transfers

MARAD approved the transfer of 73 ships of 1,000 gross tons and over, to foreign firms in FY 1985. Thirty-six of these vessels were sold for scrapping abroad. (See Table 15).

Permission also was granted for the foreign transfer of 289 vessels of less than 1,000 gross tons during the fiscal year, including 150 commercial and 139 pleasure craft. In addition,

Table 10: MAJOR MERCHANT FLEETS OF THE WORLD—JULY 1, 1985

Country	No. of Ships [1]	Rank by No. of Ships	Deadweight Tons	Rank by Deadweight Tonnage
Liberia	1,874	4	121,250,000	1
Panama	3,563	1	65,638,000	2
Greece	1,978	3	60,538,000	3
Japan	1,580	5	59,361,000	4
Norway	475	13	26,479,000	5
U.S.S.R.	2,544	2	24,147,000	6
United Kingdom	561	9	21,043,000	7
United States (Privately Owned) [2]	484	12	20,912,000	8
China (People's Republic of)	976	6	14,551,000	9
British Colonies	409	14	14,313,000	10
France	285	15	14,265,000	11
Italy	570	8	13,816,000	12
Cyprus	656	7	13,488,000	13
Singapore	494	11	11,661,000	14
Korea (Republic of)	495	10	10,947;000	15
All Others [3]	8,529		163,846,000	
Total	**25,473**	**656,255,000**		

[1] Oceangoing merchant ships of 1,000 gross tons and over.

[2] As noted elsewhere in this report, on October 1, 1985, the privately owned U.S. fleet totaled 491 vessels of 21,388,000 dwt.

[3] Includes 256 United States Government-Owned Ships of 3,030,000 dwt.

MARAD approved two contracts of affreightment and the charter to aliens of 57 U.S.-owned ships of over 1,000 gross tons, plus 202 smaller vessels.

Pursuant to Public Law 89-346 and 46 CFR 221.21-221.30, the Agency approved the retention of 46 banks on the Roster of Approved Trustees. Two new banks were approved as trustees.

During the fiscal year there were 93 foreign sale violations reported involving privately-owned ships, and 104 violations were mitigated or settled.

User charges for filing applications for foreign transfers and similar actions totaled $165,560 in this reporting period, including $1,950 in fees filed pursuant to outstanding MARAD contracts reflecting prior foreign transfers.

MARAD's approval of the transfer 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). There are presently 66 vessels subject to these terms and conditions, which accompany titles to the ship and remain in effect for the period of their remaining economic lives.

Asbestos Control

During FY 1985, MARAD continued implementation of its *Action Plan for the Control of Asbestos Exposures and Uses in MARAD Programs.* The Agency's policy is to prevent or stringently limit personnel exposure to airborne asbestos fibers.

The action plan is dedicated to elimination of asbestos materials from MARAD programs, repair or replacement of asbestos materials already installed, modified work procedures and employee training, and medical surveillance of selected MARAD employees. (See Safety Program in Chapter 10.)

Table 11: U.S. OCEANBORNE FOREIGN TRADE/COMMERCIAL CARGO CARRIED

Tonnage (Millions)

Calendar Year	1975	1976	1977	1978	1979	1980	1981	1982	1983	*1984
Total Tons	615.6	698.8	775.3	775.6	823.1	772.2	760.0	675.5	630.4	677.3
U.S.-Flag Tons	31.4	33.8	34.8	32.1	35.0	28.2	34.2	31.1	36.7	29.4
U.S. Percent of Total	5.1	4.8	4.5	4.1	4.2	3.7	4.5	4.6	5.8	4.3
Liner Total Tons	44.3	49.8	47.8	56.5	57.0	59.3	60.0	54.5	56.8	64.5
Liner U.S.-Flag Tons	13.6	15.4	14.4	16.0	15.7	16.2	16.5	14.3	14.0	13.8
Liner U.S. Percent	30.7	30.9	30.2	28.3	27.5	27.3	27.6	26.2	24.6	21.5
Non-Liner Total Tons	275.3	289.6	289.0	308.8	342.7	356.7	365.6	335.8	317.7	345.4
Non-Liner U.S.-Flag Tons	3.8	4.9	4.9	4.5	3.6	4.1	4.5	3.3	4.8	5.1
Non-Liner U.S. Percent	1.4	1.7	1.7	1.5	1.0	1.2	1.2	1.0	1.5	1.5
Tanker Total Tons	296.0	359.4	359.4	410.3	423.4	356.3	334.4	285.3	256.0	267.4
Tanker U.S.-Flag Tons	14.0	13.6	13.6	11.6	15.7	7.9	13.2	13.5	17.9	10.5
Tanker U.S. Percent	4.7	3.8	3.8	2.8	3.7	2.2	3.9	4.7	7.0	3.9
Value ($ Billions)										
Total Value	127.5	148.4	171.2	195.8	242.1	294.3	315.4	281.2	267.4	323.5
U.S.-Flag Value	22.4	26.4	28.0	30.7	35.7	42.3	47.0	43.5	43.0	44.8
U.S. Percent of Total	17.5	17.8	16.4	15.7	14.7	14.4	14.9	15.5	16.1	13.9
Liner Total Value	64.0	75.8	82.3	99.9	117.6	136.9	148.0	140.6	139.6	182.7
Liner U.S.-Flag Value	20.0	23.9	24.2	28.6	32.5	39.2	41.7	39.1	37.9	41.5
Liner U.S. Percent	31.2	31.6	30.7	28.6	27.6	28.7	28.1	27.8	27.2	22.7
Non-Liner Total Value	36.6	38.2	42.7	52.5	62.0	74.1	81.0	72.0	69.8	80.7
Non-Liner U.S.-Flag Value	1.0	1.1	1.2	1.0	1.1	1.3	1.9	1.2	1.2	1.1
Non-Liner U.S. Percent	2.8	2.8	2.8	1.8	1.7	1.8	2.3	1.7	1.7	1.4
Tanker Total Value	26.9	34.4	46.3	43.4	62.6	83.6	86.4	68.5	58.0	60.1
Tanker U.S.-Flag Value	1.4	1.4	1.6	1.1	2.1	1.8	3.4	3.2	4.0	2.2
Tanker U.S. Percent	5.1	4.2	3.5	2.7	63.4	2.1	3.9	4.7	6.8	3.7

* Preliminary data.

Note: Table includes Government-sponsored cargo; excludes U.S./Canada translakes cargoes and certain Department of Defense cargoes.

Table 12: ODS ACCRUALS AND OUTLAYS—JANUARY 1, 1937, TO SEPTEMBER 30, 1985

Calendar Year of Operation	Accruals			Outlays		
	Subsidies	Recapture	Subsidy Accrual	Paid In FY 1985	Total Amount of Net Accrual Paid	Net Accrual Liability
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	385,399,792	–0–	385,399,792	–0–	385,399,792	–0–
1981	350,299,767	–0–	350,299,767	–0–	350,299,767	–0–
1982	364,833,552	–0–	364,833,552	–0–	364,833,552	–0–
1983	275,821,894	–0–	275,821,894	7,228,301	273,482,232	2,339,662
1984	346,847,000	–0–	346,847,000	17,399,988	340,082,675	6,764,325
1985	329,999,207	–0–	329,999,207	327,102,353	327,102,353	2,896,854
Total Regular ODS	$7,766,804,532	$238,186,435	$7,528,618,097	$351,730,642	$7,516,617,256	$12,000,841
Soviet Grain Programs	$147,132,626	–0–	$147,132,626	–0–	$147,132,626	–0–
Total ODS	**$7,913,937,158**	**$238,186,435**	**$7,675,750,723**	**$351,730,642**	**$7,663,749,882**	**$12,000,841**

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Table 13: OPERATING-DIFFERENTIAL SUBSIDY ACCRUALS AND OUTLAYS BY LINES—JANUARY 1, 1937, TO SEPTEMBER 30, 1985

Lines	Accruals			ODS Paid	Net Accrued Liability
	ODS	Recapture	Net Accrual		
Aeron Marine Shipping	$ 26,022,370	$ –0–	$ 26,022,370	$ 26,013,769	$ 8,601
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	150,815,837	150,815,837	–0–
American President Lines [3]	1,035,405,793	17,676,493	1,017,729,300	1,013,325,171	4,404,129
American Shipping	17,989,289	–0–	17,989,289	17,599,400	389,889
American Steamship	76,462	–0–	76,462	76,462	–0–
Aquarius Marine Co.	21,778,980	–0–	21,778,980	21,762,132	16,848
Aries Marine Shipping	25,249,168	–0–	25,249,168	25,249,168	–0–
Atlantic & Caribbean S/N [1]	63,209	45,496	17,713	17,713	–0–
Atlas Marine Co.	21,194,041	–0–	21,194,041	20,732,988	461,053
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.	39,018,593	–0–	39,018,593	38,385,569	633,024
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–
Farrell Lines	558,516,628	1,855,375	556,661,253	556,480,134	181,119
Prudential Lines [4]	632,640,863	24,223,564	608,417,299	608,331,996	85,303
Gulf & South American Steamship [5]	34,471,780	5,226,214	29,245,566	29,245,566	–0–
Lykes Bros. Steamship	1,344,094,118	52,050,598	1,292,043,520	1,292,034,190	9,330
Margate Shipping	66,177,256	–0–	66,177,256	66,020,434	156,822
Moore McCormack Bulk Transport	48,441,934	–0–	48,441,934	48,088,575	353,359
Moore McCormack Lines [8]	702,978,870	17,762,445	685,216,425	685,035,005	181,420
N.Y. & Cuba Mail Steamship	8,090,108	1,207,331	6,882,777	6,882,777	–0–
Oceanic Steamship [5]	113,947,681	1,171,756	112,775,925	112,775,925	–0–
Ocean Carriers	31,897,564	–0–	31,897,564	31,796,860	100,704
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.	18,965,039	–0–	18,965,039	18,322,900	642,139
Prudential Steamship [1]	26,352,954	1,680,796	24,672,158	24,672,158	–0–
Sea Shipping [1]	25,819,800	2,429,102	23,390,698	23,390,698	–0–
States Steamship	231,997,100	5,110,997	226,886,103	226,886,103	–0–
United States Lines [7]	717,909,470	54,958,689	662,950,781	662,481,122	469,659
Waterman Steamship	240,514,347	–0–	240,514,347	237,461,540	3,052,807
Worth Oil Transport	17,168,742	–0–	17,268,742	17,251,195	17,547
South Atlantic Steamship [1]	96,374	84,692	11,682	11,682	–0–
Seabulk Transmarine I & II, Inc.	16,636,565	–0–	16,636,565	15,799,477	837,088
Equity	629,504	–0–	629,504	629,504	–0–
Total Regular ODS	$7,766,804,532	$238,186,435	$7,528,618,097	$7,516,617,256	$12,000,841
Soviet Grain Programs [9]	$147,132,626		$147,132,626	$147,132,626	$–0–
Total ODS	**$7,913,937,158**	**$238,186,435**	**$7,675,750,723**	**$7,663,749,882**	**$12,000,841**

[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.

Table 14: ODS CONTRACTS IN FORCE—SEPTEMBER 30, 1985

A. Liner Trades:

Operator and Contract No.	Contract Duration	Number of Subsidized Ships	Service (Trade Route/Area)	Annual Sailings Minimum	Annual Sailings Maximum	
American President Lines, Ltd. MA/MSB-417	1-01-78 to 12-31-97	23	Transpacific Services: [1]	72	108	
			California/Far East Line A (TR 29)			
			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	—	
Farrell Lines, Inc. MA/MSB-352	1-01-76 to 12-31-95	2	U.S. Atlantic/West Africa (TR 14-1)	20	38	
Farrell Lines, Inc. MA/MSB-482	1-01-81 to 12-31-2000	3	U.S. Atlantic/Mediterranean Service (TRs 10, 13)[5]	44	66	
Lykes Bros. Steamship Co., Inc. MA/MSB-451	1-01-79 to 12-31-98	29	U.S. Gulf/U.K.-Continent (TR 21) [6]	36	60	Overall maximum not to exceed 330
			U.S. Gulf & S. Atlantic/ Mediterranean (TR 13)	42	48	
			U.S. Gulf/Far East (TR 22) [7, 8, 10]	36	60	
			U.S. Gulf/South & East Africa (TR 15-B) [7]	18	24	
			U.S. Gulf/West Coast South America (TR 31) [9]	24	48	
			Great Lakes/Mediterranean-India (Trade Area 4)	3	10	
			U.S. Pacific/Far East, North (TR 29) [10]	20	80	
			U.S. Pacific/Far East, South (TR 17/29) [10]	20		
Prudential Lines, Inc. MA/MSB-421	1-01-78 to 12-31-97	3	U.S. North Atlantic/Mediterranean (TR 10)	24	36	
United States Lines, Inc. MA/MSB-483	6-29-82 to 6-29-87	4	U.S. North Atlantic/Western Europe (TR 5, 7, 8, 9/11) [11]		105	
		11	U.S. Atlantic and Pacific/Far East (TR 12/29)	70	53	
Addendum 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) [12]	16	21	
United States Lines (S.A.) Inc. MA/MSB-338 (formerly Moore-McCormack Lines, Inc.)	1-01-75 to 12-31-94	9	U.S. Atlantic/East Coast South America (TR 1) [14]	40	70	
			U.S. Atlantic/South & East Africa (TR 15-A)	22	36	
MA/MSB-353 (formerly Delta Steamship Lines, Inc.)	1-01-76 to 12-31-95	3	U.S. Gulf/East Coast South America (TR 20)	26	53	
MA/MSB-425 (formerly Delta Steamship Lines, Inc.)	6-17-78 to 12-31-97	5	U.S. Atlantic/Caribbean (TR 4) [14]	22	33	

Table 14: (Continued)

Operator and Contract No.	Contract Duration	Number of 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	3[15]	U.S. Atlantic-Gulf/India, Persian Gulf & Red Sea, Indonesia, Malaysia, Singapore, Brunei (TRs 18, 17) [13]	30	40
Waterman Steamship Corp. MA/MSB-378	10-26-76 to 10-25-96	0[16]	U.S. Atlantic-Gulf/Far East, Indonesia, Malaysia, Singapore, Brunei (TRs 12, 22, 17) [13]	8	12
Waterman Steamship Corp. MA/MSB-450	11-21-78 to 11-20-98	0[17]	U.S. Gulf/Western Europe (TR 21)	24	35
Total Liner Trades		**95**			

[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 required 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] In addition, Farrell owns two LASH vessels: AUSTRAL RAINBOW.

[6] Principally, Lykes operates Sea Barge Carriers on TR–21. Each sailing of a Sea Barge Carrier counts as two sailings toward the contractual minimum/maximum of 36/60; thus, actual sailing min/max for Sea Barge Carriers is 18/30.

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

[8] Subject to stipulation that a minimum of 12 and a maximum of 30 sailings per annum shall include ports in the following described area: Indonesia and Malaysia (including Singapore).

[9] 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.

[10] Except on TR 29 and TR 17/29, one sailing by a C7-S-95a in any service of the operator shall count as 1¼ sailings against the contractually required minimum and maximum in such services. Dual service privileges provide that sailings made by vessels calling at both U.S. Gulf and U.S. Pacific ports count toward the minimum and maximum sailings on TR 22 and on TR 12/29.

[11] No more than 8 vessels may be operated with subsidy on TR 5-7-8-9/11 at any one time and no more than 11 vessels may be operated with subsidy on TR 12/29 at any one time, except when the exercise of interchange and transfer privilege creates a temporary overlap of subsidized voyages. One sailing by a C8-S-85c/d vessel on TR 5-7-8-9-/11 shall count as two sailings against the contractually required minimum and maximum sailings on such service and each such vessel operated with subsidy on TR 5-7-8-9/11 shall count as two vessels towards the limitation of eight vessels to be operated at any one time on the service. Operation in 1985 is with four C8 vessels.

[12] Subsidized service with no more than 4 vessels may commence at any time after one year after execution of contract addendum adding the TR 16 service, until a reasonable period of time after delivery of the operator's twelfth Jumbo Econship (Sept. 1985).

[13] 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.

[14] Vessels of the operator may provide dual service on TR 1 and TR 4 services; a vessel calling at ports on both services counts toward minimum sailings specified for each service.

[15] Between March and July 1984, Waterman sub-bareboat chartered three of the six vessels assigned to the contract back to Central Gulf Lines, from which they had been bareboat chartered.

[16] Both vessels which had previously been assigned to the contract were turned in to MARAD under custodial agreements, and are currently at NDRF Beaumont.

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

Table 14: (Continued)

B. Bulk Trades:

Operator and Contract No.	ODS Agreements: Contract Effective Date	ODS Agreements: Contract Termination Date	Number of Subsidized Ships 9/30/85	Service	Annual Sailings: Minimum No. of Days
Aeron Marine Shipping Co. MA/MSB-166	10-10-74	10-09-94	1	Worldwide Bulk Trade	335
American Shipping, Inc. MA/MSB-272	4-14-76	4-13-96	1	Worldwide Bulk Trade	335
Aquarius Marine Co. MA/MSB-309	10-15-75	10-14-95	1	Worldwide Bulk Trade	335
Aries Marine Shipping Co. MA/MSB-129	8-09-73	8-08-93	2	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
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-296	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
Pacific Shipping, Inc. MA/MSB-273	7-24-76	7-23-96	0	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			**23**		

Table 15: FOREIGN TRANSFER APPROVALS—FY 1985

	Pursuant to Section 9, Shipping Act of 1916 (U.S. owned and U.S. documented)		
	No. of Vessels	Gross Tons	Average Age
Tankers	13	243,757	29
Cargo	23	230,275	47
Miscellaneous	37	123,126	13
Total	**73**	**597,158**	

Sales to Aliens By Nationality:	Number	Gross Tons
British	1	1,255
Canadian	1	1,804
Cayman Islands	3	8,441
Liberian	1	7,734
Mexican	8	8,948
Panamanian	18	83,019
Singapore	1	1,255
Vanuatu	2	6,280
Venezuelan	1	1,499
Total	**36**	**120,235**
Sale to Domestic Alien-Controlled Corporation	1	1,174
Sale to Alien for Scrapping	36	475,749
Total	**37**	**476,923**
GRAND TOTAL	**73**	**597,158**

Chapter 3

Domestic Operations

About one billion tons of cargo is moved each year in the domestic waterborne commerce of the United States. This segment of the American merchant marine includes the Great Lakes, inland waterways and noncontiguous oceans, intercoastal and coastwise trades.

Great Lakes

The number of U.S. Great Lakes vessels declined during the year, from 139 to 120 vessels, of which 54 were active as of September 30, 1985. The decline in the dry bulk trade resulted in the scrapping of 19 vessels which had an average age of 58 years.

The 1985 navigation season began on an optimistic note. Domestic iron ore shipments through May were 2 percent above the previous season and further increases in tonnages and operating vessels were projected.

The 36 million net tons of iron ore hauled in FY 1985 was 2 million net tons below tonnage carried in 1984, but significantly higher than the 31 million net tons carried in 1983.

As a result of the extensive coal stockpiles built in mid-1984 as a hedge against a possible coal miners' strike, which did not occur, shipments through U.S. ports declined to 24 million net tons in fiscal year 1985 compared to 27.3 million in FY 1984.

Additionally, the decline in domestic steelmaking has had a direct impact on the number of active U.S. Great Lakes vessels which domestic lake carriers attribute to displacement of domestic steel by imported steel.

Deregulation of inland waterway and ocean operators created new opportunities for through-transportation rates and services. Some rates and service became contract agreements between the shipper and carriers to far reaching origins and destinations beyond the surrounding Great Lakes States.

The sale of two major railroads in the region impacted on intermodal-traffic routing. The bankrupt Milwaukee Road, which is directly connected with overland routes through Canada to Canadian Atlantic Ocean ports, was sold to Soo Line, a subsidiary of the Canadian Pacific Railroad.

The sale of a portion of the Conrail track in Ontario, Canada and the Detroit River Railroad Tunnel to a joint Canadian Pacific-Canadian National ownership complemented the Soo Line/Milwaukee Road merger. This combination in the United States created a strong competitive intermodal corridor from the upper-midwest industrial area via Canada to St. Lawrence River ports of Montreal and Quebec as well as Halifax on the Canadian Atlantic Coast.

Inland Waterways

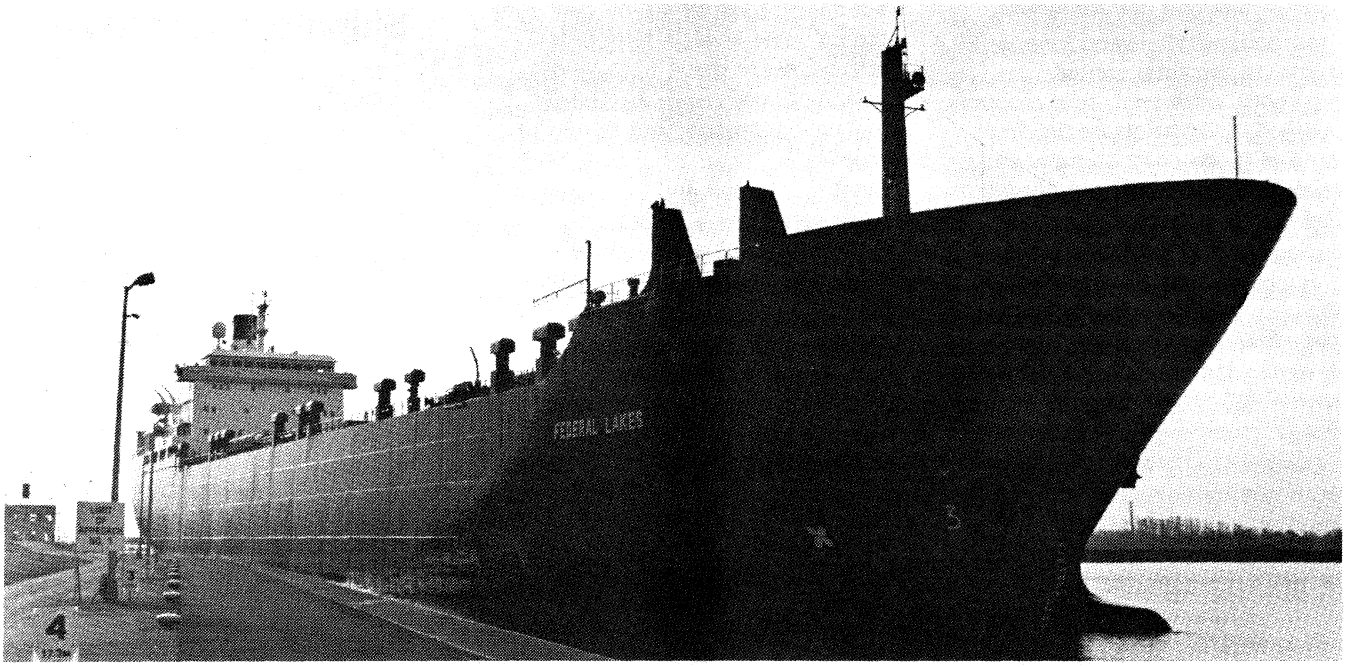
In calendar year 1984 (the last year for which statistics are available) 619.6 million short tons of traffic moved on the inland waterways of the United States, compared with 560.3 millions tons in 1983. The

Table 16: U.S. GREAT LAKES FLEET—SEPTEMBER 30, 1985

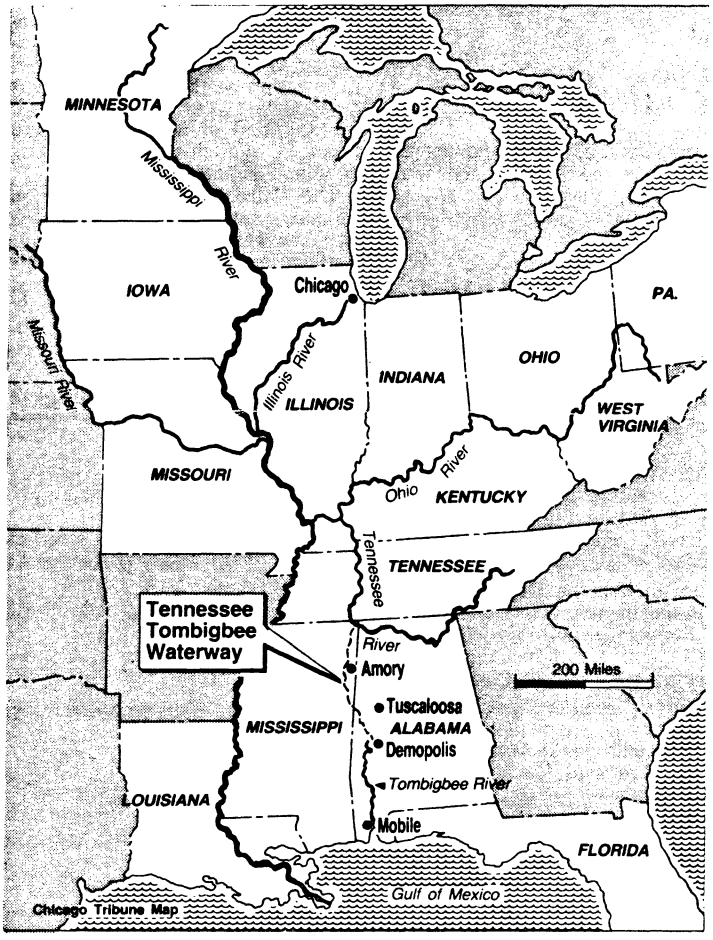
	Vessels	Gross Registered Tons	Estimated Deadweight Tons
Total	**120**	**1,503,342**	**2,752,168**
Bulk Carriers	105	1,434,041	2,710,715
Active	54	864,140	1,687,765
Temporarily Inactive	14	200,897	373,275
Laid-Up Inactive	37	369,004	649,675
Tankers	6	29,326	41,453
Active	3	14,022	20,578
Temporarily Inactive	3	15,304	20,875
Others[1]	9	39,975	[2]
Active	1	3,968	
Temporarily Inactive	1	4,244	
Laid-Up Inactive (more than 12 months)	7	31,763	

[1] Includes railroad car ferries, auto ferries.

[2] Not available.



The 682-foot, roll-on/roll-off cargo vessel FEDERAL LAKES, owned by Fednav Lake Services, a newly formed U.S.-flag ocean steamship line, passes through the St. Lawrence Seaway's Eisenhower Lock inbound for Toledo.



The first towboat and barges moving 7,700 tons of petroleum products from Mobile to Sheffield (AL) through the newly opened Tennessee-Tombigbee Waterway. The Tennessee-Tombigbee Waterway, opened on January 10, 1985, is the constructed link joining the Tennessee River with the Black Warrior-Tombigbee Waterway. The waterway incorporates 10 locks and 5 dams and provides total lift of 341 feet.

cargo consisted primarily of bulk commodities and raw materials.

More than 312 million tons, or 50.4 percent of the total annual shipments, were coal, coal products, crude oil, and petroleum products. Some of these cargoes moved to power plants which could not otherwise have been supplied.

Shipments of chemicals and allied products totaled approximately 90 million tons or 14.5 percent of the inland waterways total. Farm products for either domestic or export markets provided 66 million tons or 10.7 percent of inland waterways cargoes.

Overtonnaging was a serious problem in the barge industry during this reporting period. A large portion of the inland fleet was inactive. During FY 1985, however, there were some signs of economic turnaround in inland waterway commerce. Shipments of chemicals and allied products increased significantly and barge rates for grain began to show a slight upturn as the 1984 harvest was completed.

Domestic Ocean Trades

On September 30, 1985, there were 171 large, self-propelled merchant vessels with a combined carrying capacity of 9.6 million deadweight tons (dwt.) operating in the U.S. coastwise, intercoastal, and domestic offshore trades. This activity level represents a net decrease of 27 vessels and 400,000 dwt. from FY 1984 totals.

During this reporting period, one new vessel was added to the domestic ocean fleet: the 3,550-dwt. product tanker EASTERN SUN.

Sea-Land Service, Inc. contracted for the construction of three new diesel-powered replacement containerships. Scheduled for delivery in 1986 and 1987, the vessels will each have a capacity of more than 700 40-foot containers, which will increase Sea-Land's cargo capacity in the Alaska trade by about 40 percent.

The Alaskan North Slope crude oil trade saw 52 U.S.-flag and 8 foreign-flag tankers carrying 91 million long tons during the year, an increase of 4.2 million tons, or 4.8 percent over the FY 1984 level. A total of 863 voyages were made from Valdez.

Ports in the Lower 48 States, Alaska and Hawaii, and Puerto Armuelles in Panama (for transshipment to the Gulf and East Coasts) were served by U.S.-flag vessels. Foreign-flag ships served the U.S. Virgin Islands (a refining point) and St. Lucia (a storage point) via Cape Horn.

A temporary shortage of domestic trade tankers of suitable size available for service in the North Slope crude trade was found to exist in the early months of FY 1985. Accordingly, MARAD authorized very large crude carriers (VLCCs) built with the aid of construction-differential subsidy (CDS) to enter the domestic trade on a short-term basis. Federal regulations permit transfer of a CDS-built large tanker to the Alaskan oil trade under certain conditions for up to 6 months of any 12-month period. A pro rata payback to the Government of CDS for the time spent in domestic service is required.

In FY 1985, Secretary of Transportation Elizabeth Hanford Dole announced a new rule which, during a one-year period, permits owners of tankers built with CDS to repay the unamortized construction subsidy, with compound interest. Such repayments make the vessels permanently eligible to operate in the domestic trade. By year's end, one owner had repaid $86.5 million covering two VLCCs, the ARCO INDEPENDENCE and ARCO SPIRIT, and several other payback proposals were pending.

The Caribbean terminal of the Trans-Panama Pipeline at Chiriqui Grande, Panama, handled shipments by 35 U.S.-flag tankers. The vessels made 458 voyages to assorted U.S. Gulf and Atlantic ports, carrying a total of 30.3 million tons.

In FY 1985, the average daily flow rate of the pipeline was just over 600,000 barrels; the maximum design rate is 800,000 barrels per day. Thirty-four U.S.-flag tankers garnered 57 percent of the market in the Virgin Islands refined products trade for FY 1985, an increase of 13 percent over FY 1984.

Other Domestic Shipping Activities

In other domestic shipping activities during fiscal year 1985:

- MARAD worked with Department of Energy (DOE), the Customs Service, and industry representatives to devise a means of assuring adequacy of U.S.-flag shipping for the distribution of any crude oil drawn down from the Strategic Petroleum Reserve (SPR).
- The Agency continued to support domestic shipping governed by the Jones Act and related coastwise laws, particularly in the area of Outer Continental Shelf exploration and production. Advice also was provided to the Customs Service on three requested waivers, involving use of foreign-built vessels.
- In cooperation with several other DOT agencies and the Federal Emergency Management Agency, MARAD began development of a Departmental National Transportation Network Model to aid assessment of economic and policy impacts on U.S. transportation.

Charter Market Activity

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 1985.

Tanker surpluses in the handy-sized range were partially offset by MSC charters to transport oil for the Strategic Petroleum Reserve. Thirty-five tankers of 2 million deadweight tons remained in lay-up for most of the fiscal year. As noted earlier, the Alaskan oil trade provided employment for much of the remaining domestic tanker fleet.

The U.S. Gulf to East Coast tanker trades remained slow in FY 1985. This was primarily due to increased crude and refined petroleum imports and, secondarily, to increased pipeline throughput and reduced inventories.

At the close of this reporting period, freight rates in the Jones Act tanker trades were essentially unchanged from levels of 1984. Although the majority of the tankers in-

volved 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.

Offshore Drilling

At the close of FY 1985, U.S. drilling contractors owned 421 offshore, mobile exploratory drilling rigs. Also on September 30, 1985, 264 rigs, of which 246 are U.S.-owned, were located in U.S. waters. (Two-hundred forty of the U.S.-owned rigs were located in the U.S. Gulf of Mexico.)

Over 1,000 large (150-feet length overall or greater) U.S.-flag offshore service vessels are available to service these rigs. An estimated 86 percent are supply or combination tug/supply vessels. Approximately 1,000 crew, utility and multiservice vessels less than 150 feet in length overall also are used to transport supplies and personnel to U.S.-based offshore drilling-rigs and production platforms.

During calendar year 1984, the utilization of floating and bottom-supported rigs based within the U.S. Gulf of Mexico climbed steadily. In February 1985, however, this market recovery came to an abrupt end. From February through September 1985 the utilization of bottom-supported rigs within the Gulf declined to an average 65 percent—almost equal to the average for all of 1983, when the U.S. offshore industry and related support industries suffered through the worst slump in their 32-year history.

While the utilization of jackup rigs has declined significantly since September 1984, the utilization rate for floating semisubmersibles has remained relatively constant at between 75 and 80 percent. The higher utilization rate for semisubmersibles is due to drilling on deepwater tracts acquired in the 1983-84 area-wide Outer Continental Shelf lease sales held by the U.S. Department of Interior.

During this 2-year period the acreage under lease in the Gulf nearly tripled. Over 40 percent of the tracts leased are in waters over 300 feet deep. A combination of factors, including restructuring within the U.S. petroleum industry and concern over continued instability in prices for crude oil and natural gas, has resulted in a cutback in exploration expenditures and in the demand for offshore rigs and support vessels.

Continued low utilization for U.S.-owned rigs and service craft has resulted in few new orders for such vessels.

Chapter 4

Market Development

MARAD engages in comprehensive marketing programs designed to increase U.S.-flag participation in the Nation's oceanborne foreign commerce. The programs concentrate on market research and marketing assistance to U.S.-flag operators, improvement of communications between these carriers and shippers, and direct 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 1985 trade specialists assigned to regional and area offices consulted with the transportation policymakers of more than 1,100 firms engaged in foreign commerce to encourage the utilization of U.S.-flag vessels for the carriage of their oceanborne commerce.

Voluntary reports from carriers and shippers indicate that some $5.4 million in ocean freight revenues for U.S.-flag vessels resulted from these policy consultations. Over the last 5 years in excess of $115 million in additional revenue for U.S.-flag carriers has been credited as resulting from this program.

During FY 1985, U.S.-flag operators continued their utilization of the MARAD resources which are available to them to strengthen and reinforce their own competitive marketing ability. Under the Market Lead System, eight reports providing market intelligence from private and Government sources, were distributed to vessel operators in FY 1985. These letters identified over 300 individual business opportunities having cargo potential for U.S.-flag carriers.

MARAD was an active participant in 44 U.S. seminars, forums, workshops, and other meetings on ocean shipping during FY 1985. Attended by shippers, carriers, and other maritime interests, these meetings provided an opportunity to discuss and exchange views on numerous topics of concern to the users of ocean transportation. These meetings also enabled the Agency to alert more than 1,000 executives of firms involved in foreign trade of the U.S.-flag services available to them.

Market Analysis and Planning

MARAD's Market Analysis and Planning Program is a primary area of research aimed at enhancing the U.S.-flag fleet's competitiveness, revenues, and profitability. It also assists in the development of Agency policy on major issues that can have market impacts and in gauging the state of the industry as well as guiding the development of effective maritime marketing programs.

During this reporting period MARAD initiated a study to analyze the emerging shipping policies of developing South East Asian nations and to assess their impact on U.S. trade and shipping.

The Agency also released a study on "U.S. Imports and Exports Transshipped Via Canadian Ports," issued monthly reports detailing individual carriers' competitive performances on the trade routes they served, and prepared and released a comprehensive paper on "double-stack" container trains which was presented to the Traffic Club of Chicago and published in major trade journals.

Bilateral Cargo Monitoring

MARAD continued to monitor cargo movements between the United States and its trading partners. Eleven countries received special attention due to changing trade practices or the existence of bilateral trade agreements. MARAD monitoring activity was stepped up in FY 1985 as a result of unilateral actions by many countries.

In anticipation of the increasing requirement and longstanding need for quick access to current data, MARAD continued the development of information procedures, initiated in 1984, that would provide information reflecting cargo movements between U.S. and foreign ports within 45 to 60 days after the movement.

Liner cargo moving between the United States and the People's Republic of China (PRC) was closely monitored due to the prior existence of a bilateral agreement covering that trade. In calendar year 1984, U.S.-flag liner vessels carried 171,646 long tons, or 3 percent of the bilateral trade between the two countries, while PRC-flag vessels carried 447,661 long tons, representing 9 percent of the trade. The value of the U.S.-flag share was $643 million, while the value of the PRC share was $960 million. Partial figures for the first nine months of CY 1985 indicate that the U.S.-flag carriage exceeds PRC-flag carriage in both tonnage and dollar value.

Preference Cargoes

MARAD is responsible for monitoring compliance with the cargo preference laws of the United States and encouraging Federal agencies to maximize the use of U.S.-flag vessels in that trade. There are three principal cargo preference laws:

- The Military Transportation Act of 1904, which requires all items procured for or owned by the military departments to be carried exclusively on U.S.-flag vessels; (Note: MARAD's oversight responsibilities under the Shipping Act of 1970 (P.L. 91-469) encompass all of Department of Defense's (DOD's) 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 P.L. 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

Table 17: GOVERNMENT-SPONSORED CARGOES—CALENDAR YEAR 1984 [1] [2]

Public Law 664 Cargoes:

Shipper	U.S.-Flag Revenue ($1,000)	Total Metric Tons	U.S.-Flag Metric Tons	Percentage U.S.-Flag Tonnage
Agency for International Development (AID):				
Loans and Grants	77,200	1,611,454	916,961	57
P.L. 480—Title II	118,864	2,011,132	1,177,378	58
Section 416	8,715	109,557	55,395	51
Department of Agriculture:				
P.L. 480—Title I	141,642	4,507,224	2,296,547	51
CCC African Food Assistance Program	0	49,057	0	0[3]
Other USDA Programs	21	27	14	52
Department of Commerce:				
Agencies	296	1,225	334	27[4]
Department of Defense:				
Foreign Military Sales Credit and MAP/Merger Programs	43,276	139,716	99,821	71[2]
Department of Energy:				
Bonneville Power Administration	224	5,423	1,487	27[4]
Strategic Petroleum Reserve	58,013	10,177,291	4,392,175	43[5]
Hydroelectric Program	58	609	106	17[4]
Department of Health and Human Services	50	52	31	60
Department of Interior:				
Bureau of Reclamation	380	2,794	1,721	62
Other Agencies	—	—	—	—
Department of Justice:				
Federal Bureau of Investigation	136	68	68	100
General Accounting Office	11	14	14	100
National Aeronautics and Space Administration	106	143	111	78
National Science Foundation	21	26	19	73
Tennessee Valley Authority	74	933	471	50
General Services Administration:				
Stockpile	6,278	765,949	371,192	49[4]
Other Agencies	39	40	33	83
Department of Transportation:				
Urban Mass Transportation Administration	5,431	13,039	8,453	65[2]
Other Agencies	—	—	—	—
Coast Guard	48	455	450	99
U.S. Information Agency	203	747	704	94
Department of State:				
Foreign Building Office	396	1,600	1,344	84
Defense Attache Office	16	30	12	40[4]
Other Agencies (not including AID)	—	—	—	—
Other Agencies	31	62	30	48[4] [6]

Public Resolution 17 Cargoes:

	Total Freight Revenue	U.S.-Flag Freight Revenue	Percentage U.S.-Flag
Export-Import Bank	$23,626,000	$16,707,000	70.7 [7]

	U.S.-Flag Revenue	Total Metric Tons	U.S.-Flag Metric Tons	Percentage U.S.-Flag Tonnage
Agency for International Development (AID)/Israeli Agreement-Cash Transfer Program	$26,152,454	1,638,310	695,760	42.5 [8]
DOD Contracting Activities [9]	$21,015,000	39,586	37,945	96.9

[1] 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 Military Sealift Command are not included in this report.

[2] Several agencies' tonnages are reflected in metric tons for uniformity only. Cargo preference compliance for those programs involving high cube/low density cargoes, 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.

[3] 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.

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

[5] MARAD accounts for the SPR program on the basis of long-ton miles (LTM). In CY 1984, this program provided a total of 52.7 billion LTM of which U.S.-flag carriers derived 26.9 billion LTM or 51 percent.

[6] Cargo of government and private agencies that generated less than 100 metric tons of cargo in 1984. The agencies which reported in 1984 are: Action; Agriculture Marketing Service; Agriculture Research Service; American Battle Monuments Commission; Animal, Plant Health Inspection Service; Center for Disease Control; Defense Accounting Office; Drug Enforcement Administration; Federal Aviation Administration, Foreign Agricultural Service; Federal Bureau of Investigation; Federal Highway Administration, General Accounting Office; Geological Survey; Health and Human Services; Immigration and Naturalization Service; International Exchange Service, Labor Department; Library of Congress; Narcotics, Assistance Unit; National Oceanic and Atmospheric Administration; National Park Service; National Science Foundation; Peace Corps; Smithsonian Institute; Soil Conservation Service; Treasury Department; U.S. Customs Services; U.S. Trade Representatives; and Veterans Administration.

[7] Compliance based on Freight Revenue only.

[8] While statistics are shown for CY 1984 shipments, Israeli cash transfer program is maintained on a fiscal basis. This reflects the terms of the side letter executed each year between the Government of Israel (GOI) and AID. On a fiscal year (1984) basis, GOI 50.5 percent on U.S.-flag vessels: Total tons FY 1984 1,701,017 U.S.-flag tons 858,924 and U.S.-flag revenue of $34,775,203.

[9] DOD's contracting activities are subject to the Military Transportation Act of 1904 (10 USC 2631). P.L. 664 impacts 10 USC 2631 by 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 contractor's 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. Data reflects only a partial listing of DOD's contracting activities for the year due to the delayed involvement of MARAD in these contracting activities.

- 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.

To assure that all cargo preference laws are followed, MARAD monitors the shipping activities of 54 Federal agencies, independent establishments, and Government corporations. (See Table 17.) With the exception of the Eximbank, for which records are maintained over the life of a loan or guarantee, statistics for such programs are maintained on a calendar-year (CY) basis.

A computerized reporting system enabled MARAD to process 14,240 bills of lading for CY 1984. These documents covered civilian agencies, some DOD contractor shipments, Eximbank, and most Foreign Military Sales Credit program (FMSC) cargoes. The equivalent of 7,960 bills of lading covering Military Assistance Program (MAP) and FMSC shipments also were processed.

In 1984, the Congress appropriated $90 million for a special African Food Assistance program, P.L. 98-248, to be administered by the Department of Agriculture (USDA). USDA incorporated appropriate U.S.-flag provisions in the sales agreements executed under this program. However, the program participants did not meet the 50 percent U.S.-flag requirement during the calendar year. MARAD's analysis indicated that sufficient U.S.-flag vessels were available but not used.

On April 1, 1984, the Federal Acquisition Regulation (FAR) became effective. It superseded both the Federal Procurement Regulation (FPR) and the Defense Acquisition Regulation (DAR), which were applicable to the commercial contracting activities of civilian agencies and DOD, respectively.

During the FAR project, which spanned 8 years, MARAD ensured that it included appropriate U.S.-flag shipping and reporting requirements applicable to all U.S.-Government sponsored commercial contracts generating international ocean shipments.

The implementation of the FAR program by Federal departments and agencies provides U.S.-flag carriers with the opportunity to participate in cargoes generated by federally sponsored programs which previously had

been denied to them because of inconsistencies in regulations.

Subsequent to FAR's establishment, MARAD inaugurated an intensive program to ensure that Federal agencies implemented the U.S.-flag shipping provisions of the FAR in their programs. This effort resulted in the creation of cooperative working agreements between MARAD and six DOD agencies.

Department of Defense

MARAD executed agreements with the Defense Security Assistance Agency (DSAA) for the MAP/Merger Program, and the Departments of Army, Navy, and Air Force, the Corps of Engineers, and the Defense Logistics Agency, covering their contracting activities in 1984 and 1985.

Under these agreements, MARAD will assist DOD and its commercial contractors and suppliers in securing appropriate U.S.-flag shipping service. The calendar year 1984 statistics shown in Table 17 include some commercial contract cargoes generated by these agencies which moved on U.S.-flag vessels as a result of the new FAR contract requirements. These statistics do not reflect any of the troop-support tonnage carried by U.S.-flag vessels in which cargoes are processed by the Military Traffic Management Command (MTMC) or the Military Sealift Command (MSC).

MARAD's agreement with DSAA concerning the MAP/Merger Program ensures that U.S.-flag carriers will be able to participate in this newly reconstituted MAP program. Previously the majority of MAP shipments were handled by MSC, but under the MAP/Merger Program recipient nations are allowed to control the ocean transportation of equipment purchased with program funds.

The MARAD/DSAA agreement provides for implementation of monitoring procedures and the infrastructure to assure contractual commitments regarding the use of U.S.-flag vessels from program recipients. This report reflects that approximately 20 percent of MAP/Merger Program cargo was handled by MSC or MTMC, but that percentage is expected to decrease significantly in future years. MAP/Merger Program statistics have been included with the FMSC figures since the merger.

The U.S. Army, Navy, Air Force, and the Corps of Engineers failed to achieve 100 percent U.S.-flag participation in their commercial contracting activities during CY 1984. A small amount of foreign-flag participation resulted because U.S.-flag vessels were not available. However, the primary reason was the inconsistencies previously existing under provisions of the Defense Acquisition Regulation (DAR), which now have been resolved. The new FAR clearly states that DOD cargoes are covered by the Military Transportation Act of 1904, and subject to a 100 percent U.S.-flag requirement.

Strategic Petroleum Reserve

The U.S. Government announced its intention to store 750 million barrels of crude oil in salt domes along the U.S. Gulf Coast as a Strategic Petroleum Reserve (SPR) in 1977. At the end of calendar year 1984, 450.5 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/miles formula would be used to determine compliance, rather than total tonnage carried.

In calendar year 1984, U.S.-flag tankers carried SPR cargo which resulted in 26.9 billion long ton/miles (51 percent). This carriage generated $58 million in revenue. All shipments in calendar year 1984 were from foreign sources.

Eximbank

In the Eximbank program, total ocean freight revenues decreased from $40 million in calendar year 1983 to $23.6 million in 1984. During 1984 U.S.-flag operators earned $16.7 million representing 70.7 percent of the total ocean freight revenues.

The downturn in the Eximbank program was attributed to the worldwide recession and the resulting reluctance of countries to make large purchases abroad or initiate long-range development projects.

Chapter 5

Port and Intermodal Development

In fiscal year 1985, the Maritime Administration (MARAD) continued to provide research and technical assistance in the management areas of port and intermodal planning and operations to State and local port authorities and private industry. It also continued to develop contingency plans for the utilization of ports and port facilities to meet defense needs in times of war.

Annual Report on Ports

Public Law 96-371 requires the Secretary of Transportation to submit an annual report to Congress on the status of public ports of the United States. The report for fiscal year 1984 examined the composition of the port industry, highlighted the issues and problems which affect it, and reviewed the importance of U.S. ports to the Nation's economy and military security. It was being reviewed at the end of this reporting period.

Port and Waterway Development

During the fiscal year, MARAD continued to support efforts to reduce constraints on maintenance dredging and channel improvement projects. It participated in developing appropriate data bases and analytical systems required to estimate the costs of dredging and maintaining our Nation's navigable channels.

This assessment provides a means to evaluate various proposed user charges and measure their direct impact on individual U.S. ports and waterways. Working closely with the Office of the Assistant Secretary of the Army for Civil Works, the Agency brought together industry and Government officials to assure that all parties understand each other's positions on water development and, thereby, improve the prospects for consensus.

Technical and Research Assistance with Ports

MARAD provided technical and research assistance through a number of programs and projects dedicated to strengthening the role of U.S. ports in national defense and economic development. This required the development of analytical research tools and techniques for improving planning, productivity, and the general efficiency of port management and terminal operations. All of these projects were funded on a cost-sharing basis between the appropriate State.or local port authority or private sector organization.

For example, the Agency completed a Decision Support System (DSS) for Port Planning Management in FY 1985. This system enables U.S. ports to evaluate and rank proposed sites for port development. The DSS is designed to assist a port manager's selection process by identifying those projects or sites which optimize land use and maximize economic returns.

MARAD's research and development effort related to port marketing activity continued with interaction through regional and national port industry organizations. In one case, the objective was to produce a broad generic methodology, based on the port-marketing study cost-shared by the Golden Gate Ports Association, which will be adaptable to the specific needs of various regions of the United States.

Continuing its efforts to provide the U.S. port industry with data and information in the port finance area, the Agency completed the first in a proposed series of reports that addresses the funding techniques and broad issues of public-port financing in the United States. These reports focus on landside developments, expansions, modernizations, and rehabilitations. Efforts to update reports on capital expenditures at principal U.S. ports and on expenditures related to Federal statutes were also underway at the end of FY 1985.

During the reporting period, the Agency signed a cooperative agreement with the American Association of Port Authorities (AAPA) to develop the design for a port financial-management information system. The project will produce an automated modules design, adaptable to the specific requirements of individual ports.

During FY 1985, the Agency continued its research to produce an automated methodology to determine port pricing of its facilities-usage cost based on the existing MARAD formula. This will enable port managers to assess a wide spectrum of pricing alternatives resulting in optimum pricing strategy when completed.

MARAD continued developing new port-oriented data systems in FY 1985. The Agency, in conjunction with the Office of the Secretary of Transportation, initiated the creation of a new mainframe/microcomputer-based information system. This system will generate the foreign trade and transport data needed for international trade negotiations and assist in efforts to increase the utilization of the Nation's ports and the U.S.-flag fleet.

Additionally, six of 14 data modules were completed in the Inland Port Information System which will provide U.S. inland ports with valuable data to assist in making decisions such as capital budgeting and land use.

Planning Program

MARAD continued its cost-shared port and intermodal planning programs during FY '85. These efforts included cooperative port-development studies with local, State, and regional port agencies and associations; port-planning and management-information systems, including data base development; and financial and economic-impact analyses projects. Projects under this program which were completed, continued or initiated in FY 1985 are listed below:

Projects Completed	Description
Public Port Financing in the United States	Completed in-house report with the AAPA. It identifies broad financial information and data reflecting the climate under which the U.S. port industry operated between 1973-1982 and makes projections through 1989. (Updates original 1974 study.)
Port Economic Impact Kit	Completed development of the revised Kit which is designed to assist small-and medium-sized ports with limited resources and personnel to quantify their importance to the local community.
Port Characteristic System	Completed update of the port characteristic system which will enable quick storage and retrieval of key summary port commodity and economic data.
Port Facility Inventory System	Completed update of Great Lakes range and river facilities on the Upper Mississippi River and its tributaries and developed new procedures to update the database.
Information Resource Plan	Completed a management plan which documents the status of current port-data systems and identified the hardware and software requirements needed by the Agency to support the port program for the next 5 years.

Ongoing Projects	Description
Inland Waterway Port Management System	Continued development of cost-shared project with the City of St. Louis Port Authority. St. Louis serves as a demonstration site for the development and operation of an automated port-management information system suitable for use on the U.S. inland waterways.
Automation of the MARAD Port-Pricing Formula	Continued development of the automated port-pricing formula which will increase port managers' ability to determine benchmark prices by examining the impact on revenues of various pricing alternatives.
Feasibility of Stimulating Exports from Inland States Through Transportation	Continued development of an export-marketing program to identify target markets for potential exports and examine ways of reducing transportation costs through more effective and innovative use of the U.S. port and waterway system.
Facilities System Update	Obtained new data-processing hardware to be used with the Port Facility Inventory System software.

Projects Begun	Description
Port Financial-Management Information System	Signed a cost-shared cooperative agreement with the AAPA to develop the design for a port financial-management information system for the U.S. port industry.
U.S. Port Development Expenditure Survey	Began updating with AAPA an analysis of capital expenditures for marine terminal facilities in the principal ports of the United States during the years 1979-1985, with projections through 1991.
Laminar Flow/Boundary Air Technology	Based on a positive assessment report produced by MARAD, undertook an economic study of capital and operating costs of this innovative technology which could reduce the transfer costs on large scale movements of food grains to less developed countries.
Upper Mississippi River Transportation Economics Study	Initiated discussions with Missouri, Iowa, Minnesota, Wisconsin and Illinois (organized as a consortium under the leadership of Iowa's Department of Transportation) concerning their proposal for an economic analysis of river transport practices and the development of efficiency measures.
Enhancement of National/ Regional Input/Output Models	Entered discussion with the Delaware River Port Authority concerning the review, modification, and enhancement of the existing national and regional input/output models in conjunction with the generalization of the Great Lakes commodity-flow model.
Use of Computers by Ports	Initiated planning actions with the AAPA concerning a joint study of the types, extent, size, and uses of computers in their planning, operations and administrative functions.

Port Operations Program

This cost-shared program helps improve productivity in the operation of facilities, equipment, and waterways, and in planning for emergency operating conditions during crisis or war.

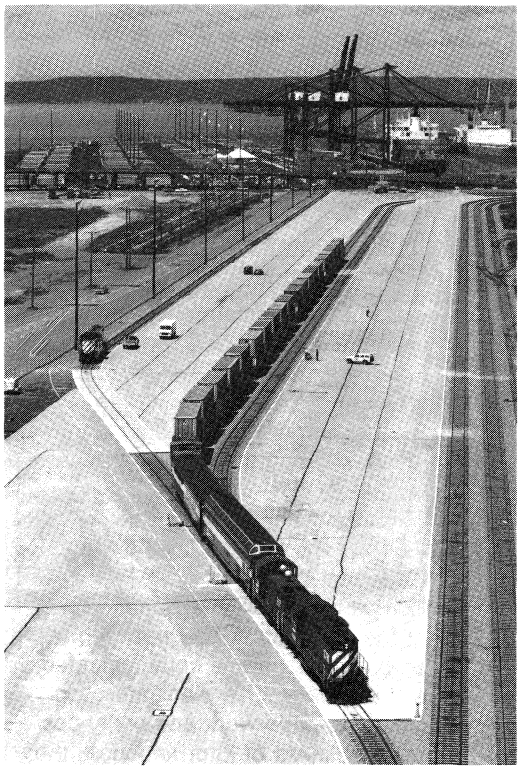
Projects completed or ongoing in this program in FY 1985 are described below.

Projects Completed	Description
Planning Regulations for Ports During Emergencies	Defense agencies were provided new or revised procedures to assure that port facilities will be available for emergency. Peacetime planning processes are in place to assure that port operators and defense agencies are reasonably aware of emergency requirements and limitations.
Memorandum of Understanding (MOU) on Emergency Port Readiness	Developed with the U.S. Coast Guard, the Military Sealift Command, the Military Traffic Management Command, the Naval Control of Shipping Organization, and the Corps of Engineers a MOU on port readiness which facilitates future interagency activities.
Barge-Fleeting Management	Published and distributed the three-volume report, "Lower Mississippi River Regional Barge-Fleeting Assessment, Plan and Handbook Guide," which was cost-shared by MARAD and the State of Louisiana through St. Bernard Port, Harbor, and Terminal District.
Inventory of American Intermodal Equipment 1985	To meet Department of Defense requirements, updated quantitative database on commercial U.S. intermodal assets.
MARAD-Corps of Engineers	Completed the terms, development, and language of a Memorandum of Understanding concerning cooperation in marine transportation systems technology, port and waterway development, joint research and development and applied engineering.
A Comparative Assessment of Technology Utilization and Productivity at Selected U.S. and Foreign Ports	The Marine Board of the National Academy of Sciences implemented a MARAD requested study of technology utilization and operating productivity at selected world ports.
Multipurpose Harbor Service-Craft Evaluation	Completed the technical evaluation of the City of Tacoma's Multipurpose Harbor-Service Craft. Final results of the sea trials, maneuvering and performance trials of the craft under real-time conditions were presented to major U.S. port cities at a conference held in the Port of New York.
Dredging, Dredge Disposal and the London Dumping Convention	Cost-shared a second research report with AAPA on the chemical behavior of Annex I toxic chemicals in various types of common, harbor-bottom sediments.

At the end of the fiscal year, work was continuing on the following projects:

Ongoing Projects	Descriptions
User Fees for Port Maintenance and Improvement	Continued work on the port-development user-charge issue by assisting in the development of an efficient database and analytical model.
Automated Commercial System Linkage	Extensive discussions and negotiations were initiated between MARAD, U.S. Customs, and many ports to develop a cooperative agreement to research necessary linkages between port authorities, Customs, and the other system users.
Port Emergency Planning	Continued progress in the area of port emergency planning. By year's end 30 Federal Port Controller contracts had been signed by selected port authorities.
Lightweight Firefighting Module Evaluation	Continued testing and evaluating the lightweight firefighting module with the U.S. Navy and NASA.

Projects Begun	Description
Barge Fleeting Conference	Began preparations for a 2-day conference to provide greater industry awareness of the potential gains accruing from the applications of the technical findings of the "Lower Mississippi River Regional Barge-Fleeting Assessment, Plan and Handbook Guide." The conference, sponsored by MARAD and Inland River Ports and Terminals, Inc., is scheduled to be held in Memphis, TN in April 1986.
Analysis of Regional Responses to Oil and Chemical Spills and Development of a Computer-based Information System	Initiated the second-phase report on the development of an automated, port-information system which would assist regional response teams in efforts to contain oil and chemical spills with the U.S. Coast Guard.



Sea-Land Service's double stacked train leaves Tacoma facility after picking up loaded containers. Below right containers being unloaded from a double-stack train for transfer to ship.

Chapter 6

Research and Development

The Maritime Administration's (MARAD's) research program is designed to assist the major sectors of the American maritime industry in becoming more competitive. (For a list of research and development (R&D) contracts and cooperative agreements awarded in FY 1985 see Appendix III.)

Continuing the practices of the past decade, emphasis on cooperative agreements and industry cost-sharing remained hallmarks of the program.

Shipbuilding

In fiscal year 1985, the National Shipbuilding Research Program continued technical research encompassing all ship construction processes. The 10 technical areas involved are facilities/environmental effects; production aids; design/production integration; human resources innovation; standards; welding; industrial engineering; education and training; flexible automation; and surface preparation and coatings.

Government cost-sharing support in this program was authorized in FY 1985 for 47 research projects.

Participation continued at a high level throughout the American shipbuilding industry.

One of the projects, a study on planning and implementation for flexible automation, will provide a comprehensive review of robotics and automation technology leading to strategies for shipyard applications.

A number of research reports were published in FY 1985. These included *Pre-Contract Negotiation of Technical Matters,* which provides guidance on important technical items to be clarified and/or incorporated in contract specifications to avoid costly conflicts during production. Another project, *Product Oriented Material Management,* identifies the initial planning, implementation, control, and execution of material design, control, and procurement based on the high productivity concepts of zone-oriented ship construction techniques.

Through the efforts of university participants, significant steps were taken to transfer shipbuilding technology. Microfiche libraries of completed shipbuilding research reports were produced and distributed throughout the industry. Publication of the quarterly *Journal of Ship Production,* which presents the results of technical research relevant to the shipbuilding industry, was begun during the year.

The first National Shipbuilding Research Program (NSRP) Annual Technical Symposium also was held in FY 1985. More than 30 technical papers were delivered and approximately 300 shipbuilding executives attended.

In addition, FY 1985 marked the third year in which the U.S. Navy was a co-sponsor of the NSRP's Manufacturing Technology Program. From a total investment of $6.7 million, a Navy study concluded the NSRP has resulted in savings of $74.9 million to date. The Navy projects total savings of $224.9 million once the shipyards fully implement this advanced shipbuilding research.

Ship Machinery

MARAD's Ship Machinery and Outfitting Program has assisted the maritime industry in developing and implementing the technology necessary for improving ship construction and operating productivity. Major emphasis has been placed on research in advanced propulsion machinery and equipment which reduces installation manhours, fuel costs, manning, and maintenance.

During FY 1985, MARAD completed the first phase of a series of tests to determine the feasibility of using ceramic-coated combustion components, originally developed for gas turbines, in high-speed diesel engines, and to determine the benefits due to improved engine performance and use of lower-cost blended fuels.

In cooperation with the U.S. Coast Guard, MARAD completed sub-scale testing to determine the mechanism of spontaneous combustion of coal aboard ship. This safety-related project seeks to define acceptable shipboard procedures, and the required equipment, to permit crews to handle problems associated with spontaneous combustion while at-sea.

Fleet Management Technology

The application of computer and communications technology to the operations and management of U.S. shipping companies was the major thrust of the Fleet Management Technology Program in fiscal year 1985.

One of the major projects concluded during the year was the Automated Carrier Interface project—a joint effort with the Military Traffic Management Command, Military Sealift Command, Council of American-Flag Ship Operators (CASO) and two of CASO's member companies, United States Lines and Lykes Bros. Steamship Company. Under this project, much of the information flow between shippers and carriers is communicated electronically. This eliminates considerable paperwork and enhances the timeliness of information on the status of cargo in transit.

The use of interactive video technology also was evaluated in this reporting period, specifically as it applies to the training of Great Lakes river pilots. It was found to be very successful. The video technique enables pilots to acquire experience equivalent to that which could be gained on-board and thereby reduces the time and cost of pilot certification on the rivers connecting the lakes.

Several projects to develop computer software systems for use on the IBM-PC microcomputer were completed and work continued during the year on other microcomputer-based systems for shipboard and shoreside applications.

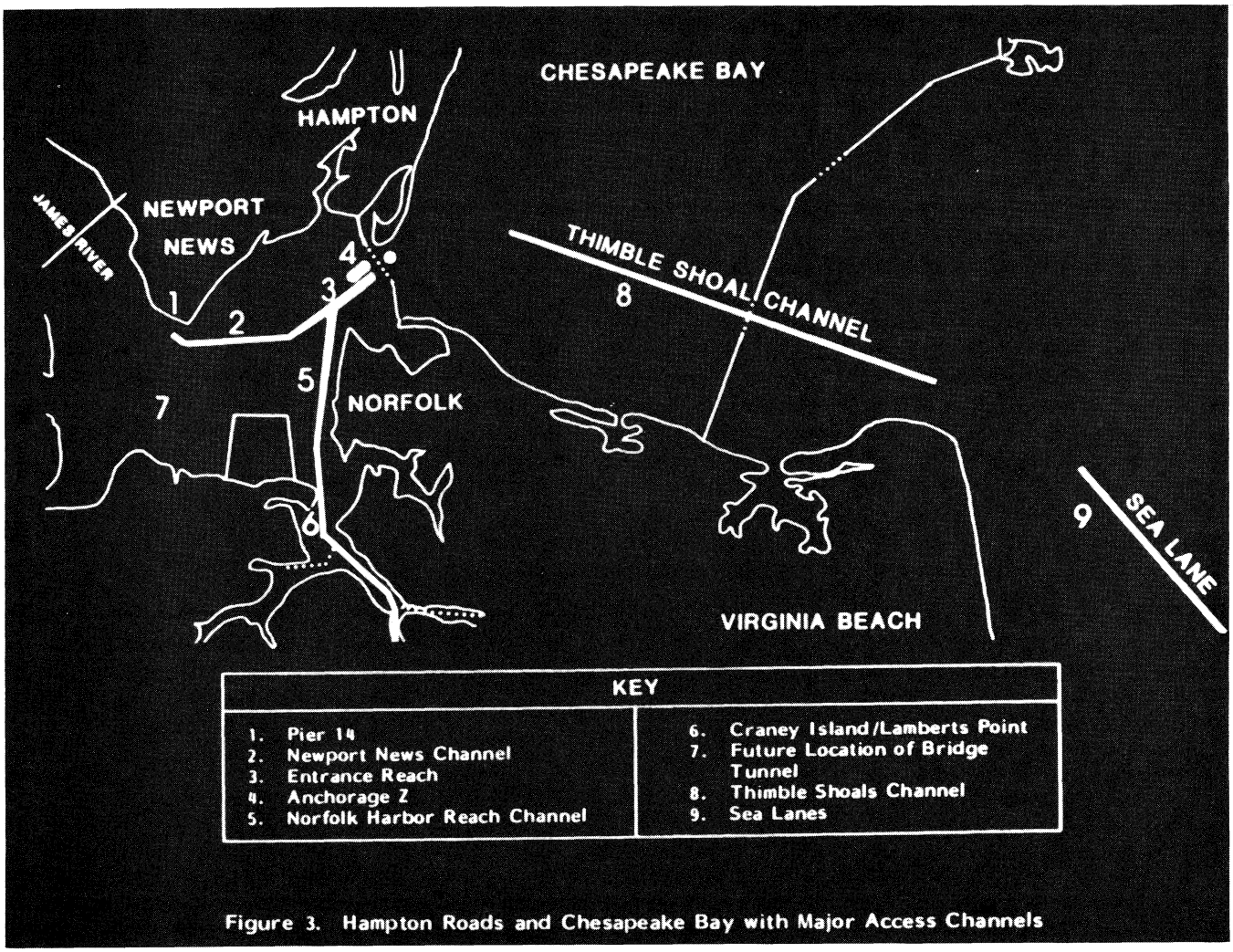


Figure 3. Hampton Roads and Chesapeake Bay with Major Access Channels

A MARAD project to determine channel design requirements for Hamptons Roads, Va, the largest coal exporting area in this country. The study will determine navigability of deep draft vessels of 100,000-deadweight-tons and over in existing channels.

Ship Performance and Safety

During FY 1985, work progressed to develop a Voyage Monitoring System (VMS). This technology would allow ships to obtain timely and accurate measures of fuel consumption attributable to hull roughness and fouling, propeller roughness, ship's ballasting and trim, navigation and steering, high winds and heavy seas.

During the year the VMS design was completed, the system was implemented and installed aboard ship, and a preliminary checkout was made at sea.

In the Effective Manning Program, MARAD awarded cooperative agreements to two U.S.-flag ship owners, seeking to restructure the shore and ship-shore management scheme, and to conduct other labor-management experiments directed toward improving labor productivity and the quality of life in the workplace.

Cargo System

Under MARAD's Cargo Handling Cooperative Program (CHCP), five U.S.-flag carriers, with MARAD assistance, continued research and development projects aimed at improving productivity.

Systems which automatically read an equipment identification number encoded in a microchip were installed for testing at Matson Terminals, Oakland, CA, and at a Puerto Rico Marine Management, Inc., terminal at Port Elizabeth, NJ.

Additionally, United States Lines, Inc., installed and began testing a system which allows direct computer input of container yard inventory data via radio transmission at its Savannah, GA, terminal.

A simulation model also was developed to assist terminal management in making critical decisions in day-to-day operations.

To improve containership loading and discharging, analyses of crane cycle times were made at terminals of Sea-Land Service, Inc., American President Lines, Ltd., and Matson Terminals, Inc. These indicated several areas where productivity can be increased. The Sea-Shed project,

a cooperative effort between MARAD and the U.S. Navy, was successfully concluded, with all engineering drawings for a universal adapter delivered to the Navy for future fabrication. Sea-Sheds are large frameworks with hinged floors which, when stacked in container cells aboard a containership, give a 'tween deck capability. The project has demonstrated conclusively that containerships, when outfitted with Sea-Sheds, can meet military sealift requirements.

Also in FY 1985, MARAD investigated and found promising the feasibility of using a pneumatic conveying system to facilitate the loading, discharging, and transfer of dry bulk commodities in marine transportation.

CAORF

The Computer-Aided Operations Research Facility (CAORF), operated by MARAD at Kings Point, NY, is a highly sophisticated ship maneuvering research simulator, dedicated exclusively to solving maritime problems. CAORF realistically simulates vessel operations in port or at-sea in real time using a full-scale mock-up of a ship's bridge and a full-color projected image on a 60-foot diameter screen providing 240 degrees of visibility. A wide variety of safety-related problems can be studied. These include ship control and navigation, bridge layout, collision-avoidance procedures, the design of equipment and harbor and restricted waterways configurations, including the placement of navigational aids. The U.S. Navy reimburses MARAD for research in the area of shiphandler training and the U.S. Army Corps of Engineers supports numerous U.S. port development projects.

During FY 1985, the major program effort was in harbor and waterway development, including channel design and waterway improvements to identify optimal dimensions which will permit safe ship transit while minimizing dredging and maintenance.

CAORF was employed in such projects as the Panama Canal Widening Study sponsored by the Panama Canal Commission, a Norfolk Harbor study for the Norfolk District of the Corps of Engineers (COE), the Mississippi River Gulf Outlet sponsored by the New Orleans District COE and New Orleans Dock Board, a project in Portsmouth Harbor, NH, for the New England Division COE and a Mobile Harbor project for the Mobile District COE and Alabama State Docks.

Evaluations of proposed alternative turning basin designs for TRIDENT submarines were also initiated at CAORF for the Navy's Strategic Systems Program Office during this reporting period. The MARAD operations research facility will continue work on simulating TRIDENT submarine operations to determine tug assist requirements for the Navy.

CAORF simulator training research continued in FY 1985 with the MARAD/Sonat Marine/Crowley Marine program for tugboat operators. This ongoing program includes the application of CAORF tug/barge simulation training and the use of evaluation forms to measure the effectiveness of training tug/barge operators in vessel handling, collision avoidance, emergencies, master/pilot interface, and watch relief.

Advanced Systems and Technology

During the fiscal year, MARAD completed work on a study of a phosphoric acid fuel-cell configuration which could be used for shipboard testing of fuel cells as auxiliary power systems. Overall, the fuel cell concept was found to be feasible. However, the project determined that fuel cells are expensive and questions were raised about the ability to utilize methanol as a marine fuel. These concerns related to the toxicity, flash point, and corrosive effects of methanol on some materials.

In the area of advanced systems and technology, work also continued on a navigation/communications research project for inland waterways sponsored jointly with the Department of Transportation's Transportation Systems Center (TSC). The areas selected as representative of difficult navigation problems included the Saint Lawrence River and the inter-lake passages of the Great Lakes.

Marine Science

The goal of MARAD's Marine Science Program has been to improve ship hydrodynamics, structures, and propulsion. Ship maneuvering has been a major concern for several years.

In FY 1985, an instrumentation package known as the Maritime Coefficient Identification System (MARCIS) underwent further tests and upgrading and is nearing completion.

This system will enable naval architects to determine the coefficients of maneuvering response equations directly from ship trials. It is expected to increase the level of confidence in model test predictions for new design, and provide better insight into design features which improve ship maneuverability.

Arctic Shipping

Tests to analyze Arctic shipping conditions and to develop design and operating criteria for ships operating in the Arctic continued in FY 1985.

These tests were coordinated by MARAD, performed on a U.S. Coast Guard Polar Class icebreaker, and supported by other U.S. Government agencies, the State of Alaska, the Canadian Government and American shipping companies.

In January 1985, maneuvering and icebreaking dynamics tests were conducted on the icebreaker POLAR STAR. In September 1985, instruments on the bow and deck of the POLAR SEA measured the structural loads imposed by the ice during operations in the Beaufort Sea.

Over the past 7 years, this program has produced extensive information on ice conditions over potential Arctic tanker routes and their effects on ships' hulls and performance. Its long range goals include developing design and operating criteria for ships engaged in the year-round transportation of Alaskan natural resources and developing environmental, safety, and marine transportation data to

enable the Government to make rational decisions concerning expanding Arctic activities.

University Research

MARAD solicits research proposals each year from the U.S. academic community to bring new perspectives to the problems of the maritime industry and provide new dimensions to its research program.

In this reporting period, among other things, projects were undertaken on the ultimate strength of ship hulls, machinery requirements and ice resistance for Arctic transportation, container transportation, ship maneuvering, liquid sloshing in cargo tanks, decision support for operating personnel, and accuracy control in ship construction.

Chapter 7

Maritime Labor and Training

The Maritime Administration (MARAD) continued its program supporting the training of merchant marine officers and supplemental training related to safety in U.S. waterborne commerce in fiscal year 1985. The Agency also continued to monitor maritime labor policies with national and international organizations and to promote sound 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.

All graduates receive U.S. Coast Guard licenses as deck or engineering officers, or both, and Bachelor of Science degrees. They also are obligated to apply for commissions as ensigns in the U.S. Naval Reserve.

The Class of 1985 comprised 101 third mates, 113 third assistant engineers, and 19 graduates who completed the dual deck/engine program. There were 20 women among the graduates. Within 90 days following commencement, approximately 85 percent of the 233 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.

Average enrollment at the Academy during the year was 1,010.

At the beginning of the 1985-86 school year, the regiment of midshipmen included 91 women—25 of whom are scheduled to graduate in June 1986.

Kings Point's 1985 Commencement Exercise being addressed by W.J. Amoss, president of Lykes Bros. Steamship Co., Inc.

Hats soar at the close of the 1985 Commencement Exercises at the U.S. Merchant Marine Academy.

Members of Congress nominated 2,011 constituents for the Class of 1989. A total of 290 appointments were made in FY 1985.

All classes of the Academy are now under mandatory service obligation contracts to serve 5-years in the U.S. merchant marine, maintain a Naval Reserve commission for 8-years, and renew the 5-year U.S. Coast Guard licenses at least once after graduation.

The Middle States Association of Colleges and Schools has accredited the Academy for another 10-year period and the Accreditation Board of Engineering and Technology (ABET) has reaccredited for 3 years the Academy's Marine Engineering Systems curriculum.

State Maritime Academies

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

Graduates from the six academies in 1985 totaled 635.

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) and, if qualified, are commissioned as ensigns in the U.S. Naval Reserve.

After graduation, 67 percent of the graduates found employment in the maritime industry aboard ship or ashore, or were serving on active duty in the Navy or Coast Guard.

A cooperative effort between the Northwestern Michigan College began with Cleveland Community College during this reporting period. This 3-year program includes basic college subjects along with summer duty and marine indoctrination at the Great Lakes Maritime Academy.

Public Law (P.L.) 96-453 provides for a mandatory 3-year service obligation in the U.S. merchant marine for any subsidized student as a condition to receiving annual Federal student incentive payments of $1,200 each for all graduating classes entering after April 1982.

Under P.L. 96-453 MARAD also provides training vessels to each of the five salt-water academies. The cargo-passenger vessel SANTA MERCEDES was purchased from Delta Steamship Lines, Inc., in FY 1984. Conversion work was completed and the vessel was turned over to the Massachusetts Maritime Academy for use as a training ship in this reporting period. The 1964-built vessel has been renamed the TV PATRIOT STATE and replaces the TS BAY STATE which was severely damaged by fire in 1981.

Supplemental Training

MARAD's supplemental training program provides classroom instruction and hands-on fire-fighting, damage control, and diesel engines.

During FY 1985, MARAD trained 1,728 maritime personnel in ship and barge fire-fighting. Participants were largely U.S. seafarers, but included others concerned with maritime fire safety such as Coast Guard personnel and port professional, firefighters.

MARAD-sponsored basic fire-fighting 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.

A contract was awarded to the California Maritime Academy to develop an advanced ship fire-fighting curriculum which meets a United Nations International Maritime Organization (IMO) Resolution on Firefighting Training. When developed, the course will be distributed to key maritime training schools to provide ships' officers with the ability to better deal with shipboard fire emergencies.

The Agency's Marine Diesel Continuing Education Program located at Kings Point, NY, provided 107 industry personnel with technical courses in diesel engines, with emphasis on slow-speed diesels, in this reporting period. Slow-speed diesel-engine training is a critical element in MARAD's program to promote greater use of such engines in U.S.-flag commercial vessels as replacements for less economical and less efficient steam-propulsion systems.

In cooperation with the U.S. Navy's Strategic Sealift Division, initiatives were developed by the Agency to provide a better defense-related training program for American seafarers. Plans include a 2-week course for radio officers, a 1-week course for shipmasters, and a special ship-type familiarization program designed to establish a pool of seafarers qualified to operate ships of the Ready Reserve Force. Concurrently, 44 shipmasters attended a prototype "Master Mariners Readiness Training Course" funded by MARAD and conducted at the U.S. Merchant Marine Academy during fiscal year 1985.

Labor Relations

Longshore

The International Longshoremen's Association, during this reporting period, pressed for early negotiations for another 3-year labor contract extending to 1989. The present contract covering Atlantic and Gulf Coast ports expires in September 1986.

On the Pacific Coast, the International Longshoremen's and Warehousemen's Union agreement, reached in July 1984, extends to July 1987.

In FY 1985, the surge in Pacific Rim cargo flowing through Pacific Coast ports caused a longshore labor shortage severe enough to delay ships. The Los Angeles/Long Beach area had serious longshore and clerk shortages. Management and labor of-

ficials responded to this shortage through a cooperative effort and joint action to increase the size of the Los Angeles work force. This resulted in major registration and training of longshoremen and clerks in the area, with special consideration being given to female applicants.

Seafaring

Collective bargaining agreements covering the major seafaring unions negotiated in 1984 will not expire until June 1987. Most of the agreements contain no major wage increases and job security remains the major concern due to declining employment opportunities. The International Organization of Masters, Mates, & Pilots (MMP) lost a significant number of ships from the fleet covered by its collective bargaining agreements. A number of tanker companies declined to negotiate new labor contracts with the MMP for the companies' Masters and deck officers who the companies contended were supervisory personnel.

The U.S. Department of Labor has filed suit in the U.S. District Court of Baltimore to overturn the elections held in the Fall of 1984 by both the MMP and its affiliate the American Radio Association. The Labor Department also has asked that the Court order a new election.

Shipyard

There was no impact on commercial shipbuilding resulting from work stoppages or strikes by shipyard labor. The 4,500 shipyard workers at Bath (Maine) Iron Works staged a 99-day walkout which ended with acceptance of a 3-year contract that freezes wages. The contract also calls for reduced insurance benefits and introduction of a wage plan under which new employees would temporarily earn less. The yard currently is working on Navy shipbuilding contracts.

Labor Data

During FY 1985, average monthly U.S. seafaring employment in all sectors (private, Government contract, and Great Lakes) decreased from 19,193 to 17,887, off 6.8 percent from FY 1984. (See Table 18.) Meanwhile, the total workforce in selected U.S. commercial shipyards decreased from 105,072 to 103,329, and average longshore employment declined from 32,116 to 29,759, down 7.3 percent.

Merchant Marine Awards

The Merchant Marine Medals Act of 1956 authorizes the Secretary of Commerce and Secretary of Transportation to grant medals and decorations for outstanding and meritorious service or participation in national defense action.

During this reporting period, Letters of Commendation were approved by the Acting Deputy Maritime Administrator for the captain and crew of the integrated tug-barge NEW YORK operated by the Apex Marine Corp. They were cited for their expertise in extinguishing a fire onboard the vessel on June 7, 1984, as it was bound for St. Croix, the Virgin Islands.

Able Seaman Jose Alicea and Chief Mate Douglas Ruhl of the Tug MOBIL 1 received Distinguished Service Medals in recognition of their efforts in saving the life of a crane operator. The crane operator was rescued from the freezing waters of Perth Amboy, NJ, on January 12, 1984, after the crane he was operating toppled over.

In addition, gallant ship awards have been approved for presentation to the M/V ENTERPRISE, M/V LIBERATOR and M/V STARLIGHT. The Gallant Ship plaque is awarded to any vessel cited for saving lives or property through outstanding or gallant action in marine disasters or other emergencies.

The ENTERPRISE, LIBERATOR and STARLIGHT were cited for their major role in the sea rescue of survivors of the sinking tanker AMERICAN EAGLE in the Gulf of Mexico on February 26, 1984. Merchant Marine Meritorious Service Medals are to be presented to the respective masters of the vessels and Letters of Commendation are to be presented to the vessel's crew personnel.

Table 18: MARITIME WORKFORCE AVERAGE MONTHLY EMPLOYMENT

	Average Monthly Employment in Fiscal Year:	
	1984	1985
Seafaring Shipboard Jobs:	**19,193**	**17,887**
Shipyards[1]:	**105,072**	**103,329**
Production Workers	82,976	81,752
Management and Clerical	22,096	21,577
Longshore:	**32,116**	**29,759**

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

Chapter 8

National Security

The Maritime Administration (MARAD) maintains the National Defense Reserve Fleet (NDRF) as a ready source of vessels for use during national emergencies and assists the U.S. maritime industry in fulfilling its traditional role as the Nation's fourth arm of defense in logistically supporting the military when needed.

Reserve Fleet

The NDRF serves as an inactive reserve source of ships that would be activated to meet the shipping requirements of the United States during national emergencies. These vessels, which include merchant ships and naval auxiliaries, are available for use in both military and nonmilitary emergencies, such as commercial shipping crises. Because of the decrease in the number of ships in the active U.S. merchant marine and the increase in specialized cargo carriers that are not conducive to military sealift, the NDRF is the most efficient source of U.S.-flag surge shipping capacity.

On September 30, 1985, the NDRF consisted of 300 ships berthed in three different locations—James River, VA; Beaumont, TX; and Suisun Bay, CA (see Tables 19 and 20). The number of ships in the Fleet Preservation Program, which involves conventional preservation, dehumidification, and cathodic protection, is 269, compared with last year's total of 244 ships.

The SS JEREMIAH O'BRIEN, the last unaltered Liberty ship in operating condition, participated in a ceremony held in San Francisco Bay on August 14, 1985, commemorating the 40th anniversary of the end of World War II. At the invitation of the Secretary of the Navy, the O'BRIEN joined U.S. Navy and Coast Guard vessels as they passed in review before the aircraft carrier USS ENTERPRISE, on which the ceremonies were conducted.

The SS JEREMIAH O'BRIEN, which has been declared a national monument, is berthed at Pier 3, Fort Mason, San Francisco, and is open to the public.

The SSs AMERICAN and HATTIESBURG VICTORY, which had been inactive in the NDRF for 15 years, were successfully reactivated in FY 1985. This congressionally mandated and funded project demonstrated that MARAD's NDRF preservation program is successful.

Also in FY 1985, MARAD procured and successfully demonstrated, with assistance from the Navy, a prototype Offshore Petroleum Discharge System. The system consists of a specially modified tanker, 4 miles of flexible pipe and a single-point single anchor moor. It pumps within 48 hours from a spread moored tanker to a beach manifold at the rate of 1.2 million gallons per day. The military is procuring additional systems based on MARAD's prototype.

Ready Reserve Force

The Ready Reserve Force (RRF) is a joint program of MARAD and the U.S. Navy. It is a select component of the NDRF consisting of vessels which can be activated for sealift operations on 5 to 10 days' notice. Other NDRF vessels require an average of 30 to 60 days for activation.

As of September 30, 1985, the RRF consisted of 65 ships, with a planned expansion to 116 ships. Its procurement and deployment requirements are being diversified.

Pursuant to a 1982 Memorandum of Understanding with the Navy, MARAD, early in FY 1985, purchased five U.S.-flag breakbulk vessels and one LASH barge carrier, with 73 LASH barges, from two U.S.-flag operators. The vessels are being placed in the RRF and are being retained in a 5-day readiness status.

Subsequently, the U.S. Navy provided guidance to MARAD for the selection of additional ships to be procured for the RRF. A priority requirement was indicated for the acquisition of roll-on/roll-off (RO/RO) vessels which have high military utility, none of which existed in the RRF. After extensive review of the proposals, five former foreign-flag RO/RO ships were purchased for $55 million and renamed the CAPE DECISION, CAPE DIAMOND, CAPE DOMINGO, CAPE DOUGLAS, and CAPE DU CATO. Modifications and repairs on the ships were performed by Bethlehem Steel Corp.'s Sparrows Point, MD shipyard. They were scheduled to join the RRF 5-day fleet in late 1985.

As a result of the growth in the RRF, the Secretary of the Navy has approved a MARAD/Navy RRF outporting plan whereby certain RRF vessels will be berthed at or near activation sites and expected load-out ports. As of September 30, 1985, 22 ships had been designated to layberths on the East Coast and 16 ships to layberths on the West Coast. Gulf Coast ships will be added to the plan next fiscal year.

In a test of MARAD's ability to activate these vessels, the Chief of Naval Operations ordered the simultaneous activation of the CALIFORNIA, NORTHERN LIGHT, and PRESIDENT from the Suisun Bay Reserve Fleet in January 1985. Subsequent to the activation of the ships, CALIFORNIA and NORTHERN LIGHT carried Department of Defense cargo and ammunition to U.S. forces based in Japan, Korea, and the Philippines.

The RRF vessel SOUTHERN CROSS was also ordered activated by the Chief of Naval Operations in February 1985 to participate in a test of the capability of a civilian merchant mariner crew to transfer cargo at-sea to a U.S. Navy ship. The crew of the SOUTHERN CROSS underwent a brief indoctrination and a week's training with a U.S. Navy vessel, both in-port and at-sea. Following loading of Navy cargo, it proceeded to rendezvous with U.S. Navy forces in the Mediterranean Sea where successful joint operations "MEDLOGEX '85" were conducted.

Under a General Agency Agreement, Crowley Maritime Corp. has three T-1 tankers outported abroad under 10-day readiness status. The USNS NODAWAY is laid up in Pearl

Table 19: NATIONAL DEFENSE RESERVE FLEET—SEPTEMBER 30, 1985

Fleet Sites	Retention[1]	Scrap Candidates	Special Programs	Totals
James River, VA	127	7	17	151
Beaumont, TX	57	0	4	61
Suisun Bay, CA	85	0	3	88
Totals:	**269**	**7**	**24**	**300**

[1] Vessels maintained for emergency activation under the fleet preservation program.

Table 20: NATIONAL DEFENSE RESERVE FLEET, 1945–1985

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

Table 21: MARINE AND WAR-RISK INSURANCE APPROVED IN FY 1985

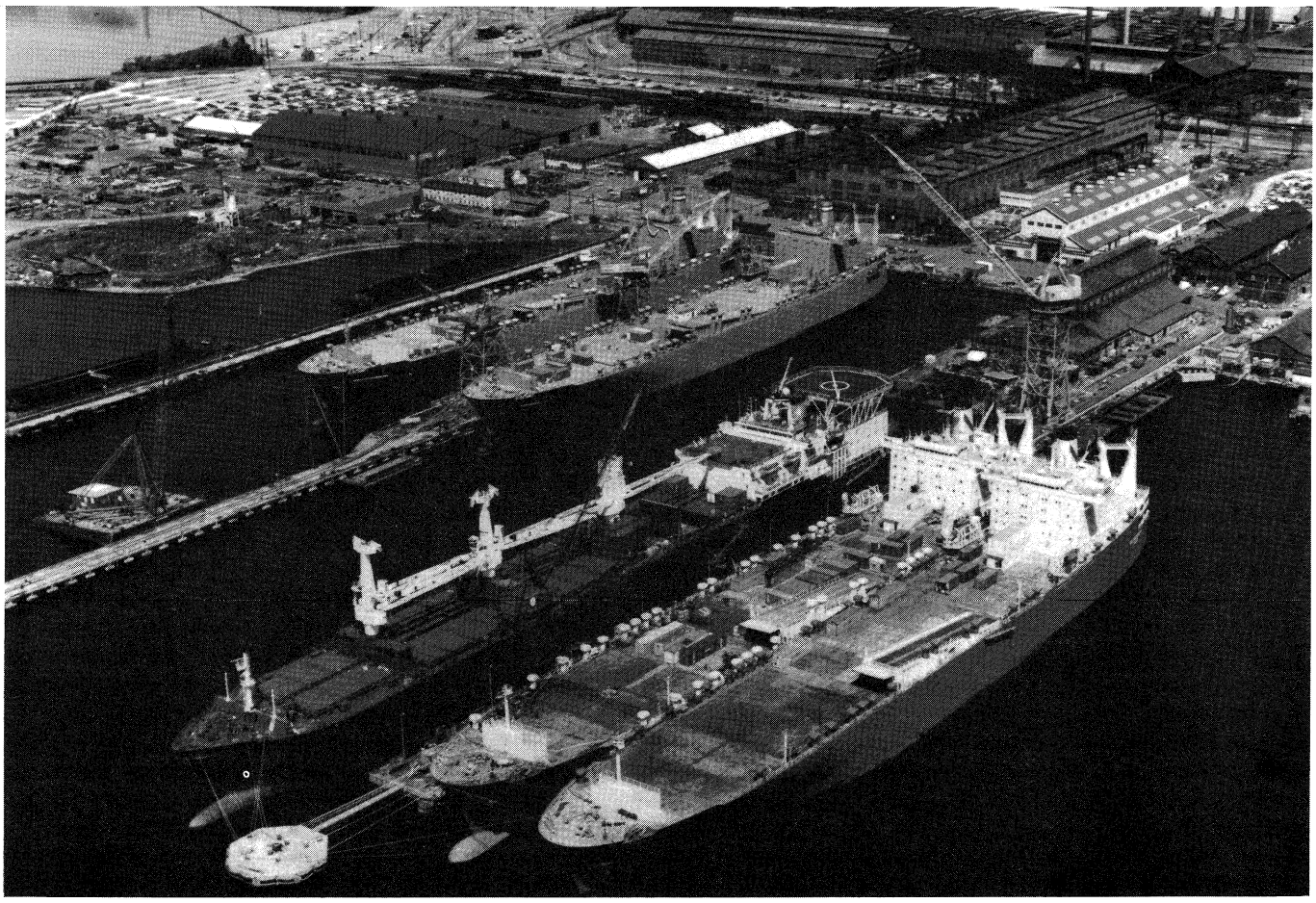
Kind of Insurance	Total Amount	Percentage	
		American	Foreign
Marine Hull and Machinery	$12,544,958,877	53	47
Marine Protection and Indemnity	[1]		
War-Risk Hull and Machinery	9,570,414,289	48	52
War-Risk Protection and Indemnity	9,570,414,289	48	52

[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.

Harbor, HI, and the USNS ALATNA and USNS CHATTAHOOCHEE are laid-up in Yokohoma, Japan. The latter were the only RRF vessels being maintained outside of the continental United States during this reporting period. The vessels furnish the Navy with the shallow-draft capability needed to transport petroleum products to many areas in the Far East and Mid-Pacific.

In August 1985, the first auxiliary crane ship (T-ACS), KEYSTONE STATE, commenced a 5-day breakout and activation for the U.S. Army-sponsored exercise "RISKY BEACH." This Logistics Over-the-Shore (LOTS) training exercise for U.S. Army personnel involved movement of cargo over an undeveloped beach near Fort Story, VA.

In September 1985, the KEYSTONE STATE also successfully performed various DOD maneuvers in the joint Armed Services exercise "BOLD EAGLE" at Santa Rosa Island adjacent to Pensacola, FL.



Five vessels being outfitted for the Ready Reserve Force at Bethlehem Steel's Sparrows Point (Md.) shipyard.

Ship Design and Engineering

In FY 1985, on behalf of the Navy, MARAD substantially completed conversion and reactivation of the GEM STATE (ex-PRESIDENT MONROE)—second in a series of 12 auxiliary crane ships (T-ACS). The vessel was redelivered to MARAD on October 31, 1985, and a conversion contract for the third crane ship was awarded on September 13, 1985. An Invitation for Bids (IFB) has also been issued for manufacture of cargo cranes to be installed on the fourth through sixth vessels.

T-ACS are self-sustaining, container off-loading vessels. Each is being equipped with twin-boom pedestal cranes with an outreach capable of unloading containerships lacking cargo-handling gear. They will be utilized in military situations in forward areas where cargo-handling facilities are limited, such as in underdeveloped ports or ports damaged by hostilities. The T-ACS program is one of MARAD's most successful RRF endeavors to date.

Also during FY 1985, MARAD:

- Contracted for construction of nine Reserve Fleet Service Craft which will be used as utility workboats by the NDRF. The construction is being performed at Quality Shipbuilders, Inc., of Moss Point, MS.
- Initiated design of a self-propelled crane barge for use by the NDRF. Funding for the first of three of these vessels is expected in FY 1987.
- Commenced upgrading communications on RRF ships with high-frequency radio teletype and satellite communications equipment. Systems had been installed on 52 of the 65 RRF ships as of September 30. A plan has been initiated for assigned general agents to complete this project in FY 1986.
- Successfully procured and tested for the Navy a flexible steel pipeline and single-point mooring system for the rapid, off-shore deployment of petroleum products to support expeditionary forces of all military services. The system is capable of mooring and discharging a 70,000-deadweight ton (dwt.) tanker.

Exchanges for Scrap

Pursuant to Section 510(i) [as amended by Public Law (P.L.) 95-177, approved November 15, 1977] of the Merchant Marine Act, 1936, as amended, five cargo vessels and one tanker were traded in to the Government in return for 20 NDRF vessels, all of which have been sold for scrapping. The value of the traded-out vessels exceeded the value of the trade-in vessels by $209,182.64.

Ship Sales

No Government-owned vessels were sold during the year for scrap or nontransportation purposes.

From 1958 through 1984 a total of 2,318 vessels were sold for scrap or nontransportation purposes for a total return to the Government of $202.9 million.

War Risk Insurance

MARAD is authorized by Title XII of the Merchant Marine Act, 1936, as amended, to administer the war-risk insurance program. The program insures operators and mariners against losses resulting from war or war-like actions during periods when commercial insurance is not available on reasonable terms and conditions.

On July 3, 1985, President Reagan signed P.L. 99-59, reinstating the Secretary's authority to provide war-risk insurance. This authority had lapsed on September 30, 1984. The Title XII program is being revived so that binders can be issued for war-risk hull and machinery insurance, for war-risk protection and indemnity insurance, and for second seamen's war-risk insurance. These binders will be effective for 30 days following automatic termination of commercial insurance.

From the program's inception in 1952 through September 30, 1985, binder fees totaled $1.45 million, while program expenses totaled $2.58 million. Income from war-risk builder's risk insurance totaled $3.5 million and investment income as provided for in Section 1208(a) of the Act amounted to $10.6 million. Also on September 30, assets of the war-risk revolving fund totaled $13.4 million.

Marine Insurance

MARAD continued to act as the claim agent for Government-owned vessels during FY 1985. On September 30, 1985, there were 28 protection and indemnity claims outstanding, 14 of which were in litigation. Total settlement value of all cases is estimated to be $900,000.

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 21 shows marine and war-risk insurance approved in FY 1985.

Emergency Operations

During fiscal year 1985, MARAD published a new rule (46 CFR Part 340) which applies priority and allocation authority under Title I of the Defense Production Act of 1950, to emergency defense requirements for port facilities, shipping services, and containers. The new procedures ensure prompt response to defense needs in crisis and war with the least possible interference with commercial transportation operations.

MARAD joined with other Federal agencies in preparing a Memorandum of Understanding on Emergency Port Operations. The object is to promote coordination of emergency activities in ocean ports on the basis of mutual understanding among the agencies which have emergency functions and responsibilities in ports.

The MARAD Advisory System was used as a successful method of bringing the plight of "boat people" refugees in the South China Sea to the attention of U.S.-flag ship

operators and masters of U.S.-flag vessels in this reporting period. MARAD Advisory 85-5 "Rescue of Refugees at Sea" was issued in cooperation with the State Department and the United Nations High Commissioner for Refugees. Both of those organizations have directly attributed a significant increase in the number of rescues made to MARAD's efforts in publicizing the situation.

The system was also used to warn U.S.-flag vessels of the increase of hostilities in the Persian Gulf when the Iranian Navy began stopping and boarding merchant vessels at the Strait of Homuz and issued procedures for contacting U.S. Naval Forces when necessary.

MARAD also published a brochure for ship masters setting out prudent measures to be considered when operating where piracy and maritime terrorism threats may exist. This action was an outcome of interagency coordination initiated in FY 1984.

The Allied Naval Control of Shipping Manual, "Guide to Masters (ATP-2 Volume II)" was issued to U.S. merchant ships and all NATO flag ships as a readiness measure in FY 1985.

Agency support of Joint Chiefs of Staff and NATO readiness exercise programs continued in FY 1985. During a major national and international military/civil exercise in the Spring of 1985, MARAD hosted the first large-scale test of revised plans for operation of the NATO wartime shipping pool.

"BREAKOUT '85" was successfully completed. This project tested procedures and communications used to activate the RRF involving MARAD's regional offices, NDRF sites and outports, general agents, maritime labor unions, shipyards, tugboat operators and other agencies including the U.S. Coast Guard and Federal Communications Commission. It contributed to MARAD's overall readiness to respond to national emergencies.

Chapter 9

International Activities

In FY 1985 the Maritime Administration (MARAD) participated in bilateral maritime discussions with Brazil, Japan and Iceland, as well as a variety of multilateral conferences. The Agency continued to assist American maritime and trade interests abroad through its representatives in London, Athens, Rio de Janeiro and Tokyo.

Maritime Discussions with Brazil

In June 1985, a MARAD official co-chaired an interagency fact-finding mission to Brazil to discuss issues associated with bilateral maritime relationship between the two countries. The mission was particularly concerned with the U.S./Brazil Equal Access Agreement scheduled to expire December 31, 1985.

Maritime Consultations with Japan

Agency officials also participated in an interagency delegation which held maritime consultations with Japan in Washington in January 1985. This session continued the dialogue on multilateral and bilateral shipping issues, including Japan's position on the U.N. Code of Conduct for Liner Conferences and access of U.S. crosstraders to its non-U.S. liner trades. Constraints on U.S. carriers' operations in Japan were also discussed. (Several months before this meeting the Japanese Government announced liberalization of its policies regarding the use of large-sized, "high-cube" containers and the carriage of U.S.-origin tobacco.)

Maritime Discussions with Iceland

MARAD was also represented on an interagency team which held talks with the Icelandic Government in May and July 1985 on bilateral shipping matters. The meetings dealt with issues arising from the carriage of military cargo by a U.S.-flag carrier between the two countries.

Other International Conferences

The Maritime Administration is also involved in NATO's Planning Board for Ocean Shipping (PBOS) and its various subgroups. During the year Agency personnel participated in meetings of PBOS and its subgroups in England. In FY 1985, MARAD also participated in the United Nations Conference of Plenipotentiaries on the Conditions for Registration of Ships in Geneva, Switzerland. The conference is scheduled to resume in Geneva in January 1986 to consider the adoption of an international agreement concerning the conditions upon which nations may accept vessels on their national registers.

An Agency official also was a member of the U.S. delegation to the eleventh meeting of the Committee on Shipping, a standing committee of the United Nations Conference on Trade and Development (UNCTAD).

Additionally, MARAD was part of the U.S. delegation to the regularly scheduled meetings of the Maritime Transport Committee (and its subordinate bodies) of the Organization for Economic Cooperation and Development (OECD) in Paris. The meetings pursued two principal themes in FY 1985: coordination of developed country positions for meeting within UNCTAD and development of a common statement of OECD members' shipping policy vis-a-vis non-members (developing countries and state trading countries), as well as reevaluation and restatement of intra-OECD shipping policy.

During the fiscal year, MARAD continued to represent the U.S. Government on the Permanent Technical Committee on Ports (PTCP) of the Organization of American States (OAS). A MARAD official serves as Chairman of the PTCP Committee III on Port Training.

During the year, the Agency hosted a delegation from the People's Republic of China responsible for the development of the Port of Qinhuangdao, the leading coal port. MARAD coordinated a meeting with Federal agencies and port industry representatives and experts in the field of coal port development as a part of an overall tour of major coal ports on the U.S. East Coast.

The Agency also provided technical assistance to the U.S. Coast Guard in the promulgation and implementation of the rules governing the establishment of waste reception facilities in U.S. ports as called for under the International Convention on the Prevention of Marine Pollution from Ships.

Also in the area of international port activities MARAD:

- Published a technical paper on Developing Ports in Less Developed Nations: An Alaskan Perspective, in the report of the 26th Congress of the Permanent International Association of Navigation Congresses.
- Continued support of work on the Presidential Caribbean Basin Initiatives.
- Participated in surveys of the transport and distribution infrastructures in Ghana and Mauritania. The visiting U.S. team assessed the capabilities of those nations to receive large tonnages of feed grains at their ports and move them expeditiously to inland distribution points in the Sahelian countries facing emergency drought conditions.
- A staff member also was assigned to the Logistics Group, Task Force for African Food Emergency, a multiagency program under the U.S. Agency for International Development (AID). The group visited nine West African nations to assess the capabilities of ports, cargo-handling methods, port off-take, and inland rail and truck transport to deliver food and other supplies to the Sahelian region.

Another MARAD official served as a member of a team sent to Southeast Asia to meet with officials of the Economic and Social Commission for Asia and the Pacific. The mission sought to ascertain what assistance the U.S. Government might be able to provide to improve waterway systems in that area.

Consultative Shipping Group

During FY 1985, MARAD representatives served as members of a negotiating team which met with the Consultative Shipping Group (CSG), consisting of government representatives of the principal European maritime nations and Japan. The discussions attempted to develop the framework of a U.S./CSG agreement to preserve competitive access to cargo in liner trades once the U.N. Liner Code comes widely into use. As of September 30, 1985, the participants had not reconciled the differing competitive and regulatory regimes represented.

Chapter 10

Administration

The administrative actions taken in support of the mission and programs of the Maritime Administration (MARAD) in fiscal year 1985 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 subject to review by the Secretary of Transportation.

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

The MSB met 23 times in FY 1985. It considered and acted on 91 items and issued 7 formal opinions, rulings, and orders. MARAD also published 19 notices in the *Federal Register* on such matters as required statutory hearings and 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 Act Officer and Privacy Act Officer, received and processed approximately 375 requests for access to records pursuant to those acts.

On January 11, 1985, the MSB approved the sale of 11 vessels and transfer of two operating-differential subsidy (ODS) agreements from Delta Steamship Lines, Inc. to United States Lines (S.A.), Inc. The transaction will improve ocean shipping service to the East Coast of South America with, among others, three new Sea Wolf class vessels. U.S. Lines was also granted a short grace period to begin service on other routes acquired from Delta, but was unsuccessful and forfeited those rights.

The MSB approved the total repayment of construction-differential subsidy on two tankers owned by the Atlantic Richfield Company, the ARCO INDEPENDENCE and the ARCO SPIRIT on July 26, 1985. By returning more than $86 million to the Government, Atlantic Richfield was allowed to operate the vessels in the domestic trade. Atlantic Richfield was the first company to take advantage of the new rulemaking (46 CFR 276.3) allowing such repayment. (See Chapter 3.)

The MSB also issued a Tentative Opinion and Order in Docket Nos. S-755, Sub. 1, and S-764 on September 26, 1985. These consolidated dockets concerned the requests by subsidized operators for amendment of their respective ODS agreements to allow carriage of dry-bulk cargo subject to U.S. cargo preference on an unsubsidized basis. It is anticipated that as a result of approving these requests, operational flexibility and competition will increase; costs to the Government for shipping preference cargo will be reduced; and savings in ODS payments will be realized.

Legal Services, Legislation, and Litigation

MARAD provides assistance to the Department's General Counsel on legal issues addressed at the Department level, which relate to or impact on MARAD programs. The Agency also provides legal support services for the procurement, personnel and public information activities conducted by MARAD headquarters, its regional offices and the U.S. Merchant Marine Academy. Additionally, assistance in the procurement and conversion of commercial vessels for the Navy and other Federal and State agencies is provided, as is assistance to the Department of Justice on maritime-related litigation.

Additional efforts were focused on responding to Congressional scrutiny of the cargo preference and the Title XI programs in FY 1985.

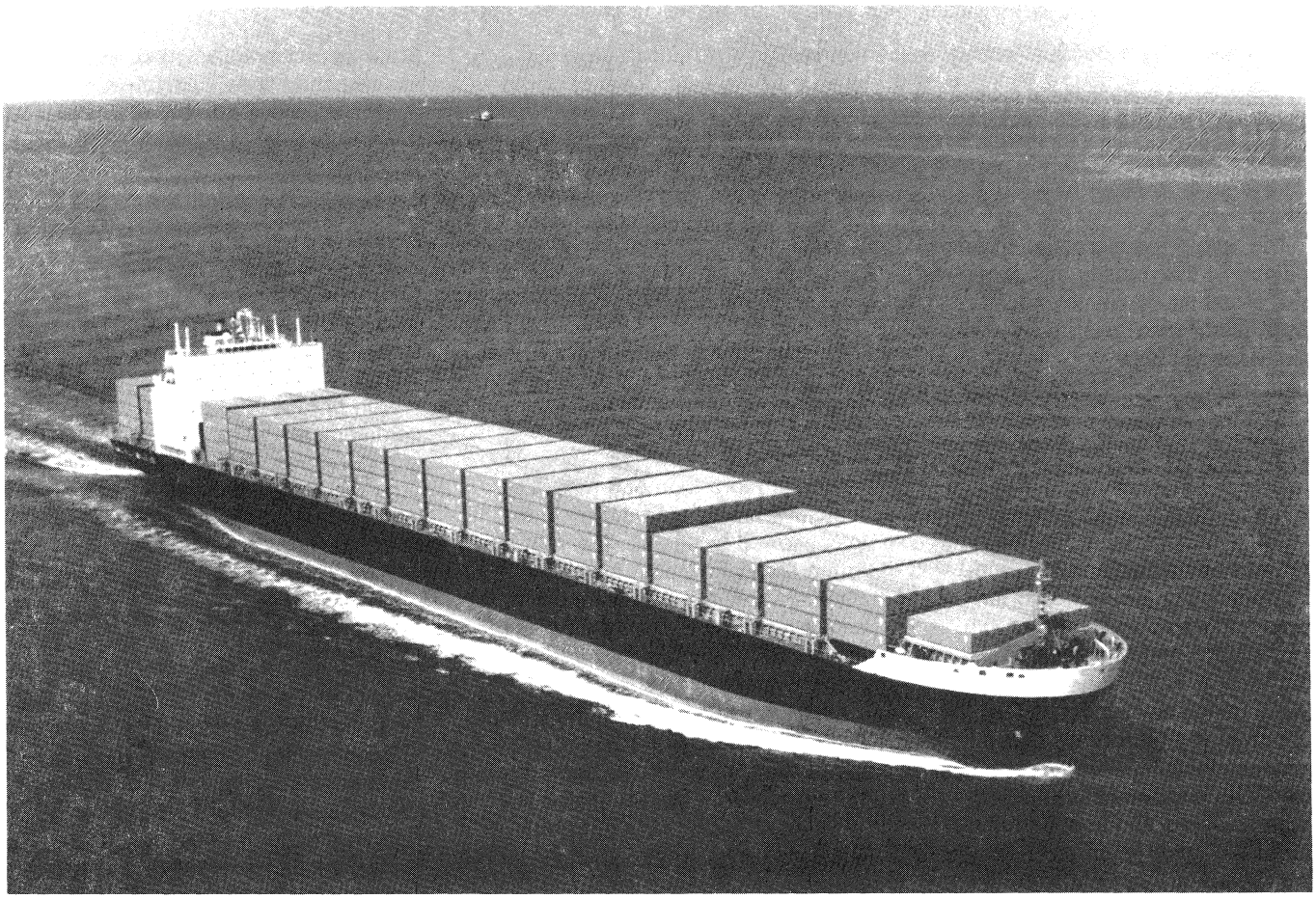
The Division of Ship Financing Contracts continued to experience a high volume of foreclosure proceedings and bankruptcies related to Title XI defaults. Approximately $91 million of new Title XI guarantee commitments were processed and legal services were provided for program-associated financial transactions, including restructuring of Title XI obligations.

Cargo preference programs were particularly active areas for the Agency, and involved legislative proposals and two major court actions as well as general issues with several shipping agencies.

Agency initiatives in the ODS program resulted in several public proceedings, including the proposed redetermination of essential trade routes, which generated widespread participation by a variety of interested parties.

Judicial review of several MARAD administrative actions also was sought in FY 1985. For example:

- MARAD's decision to accommodate off-route and round-the-world service patterns by subsidized liner operators was challenged by a coalition of nonsubsidized and smaller ODS liner operators.
- The Department's CDS payback rule was unsuccessfully challenged by the operators of non-CDS-built tankers in the Alaska oil trade.
- In another Alaska oil trade case, the courts affirmed MARAD's authority to include automatic termination provisions keyed to changing market conditions in approvals under Section 506 of the Merchant Marine Act, 1936, as amended.
- Court actions and administrative claims against MARAD for asbestos exposure in shipyard and shipboard working environments continued to increase throughout FY 1985. A computerized document-management system was



One of United States Lines 12 Jumbo econships at sea.

established to track these claims and to provide litigation support to Department of Justice.

An increase in rulemaking activities to pursue and reflect modifications to MARAD program standards prompted the establishment of a separate Division of Regulations within the Office of the Chief Counsel in this reporting period. New rules for administering the Ship Financing Guarantee (Title XI) Program were issued and existing program regulations were revised to reduce regulatory burdens.

Management Initiatives

In this reporting period, the Agency established a new Office of Associate Administrator for Policy and International Affairs, consolidating foreign and domestic policy and planning activities to strengthen its ability in these areas.

MARAD's Office of Policy and Plans and the Office of International Activities were transferred to this new office without change in functions. As part of this reorganization, the Associate Administrator for Policy and Administration was redesignated as Associate Administrator for Administration.

Audits

During FY 1985, DOT's Office of the Inspector General submitted the final internal audit reports to MARAD: *Survey of MARAD's Scrap Vessel Disposal Program; Maritime Administration Travel Voucher Payment Practices; Report on the Maritime Administration's Compliance with the Federal Managers' Financial Integrity Act; Audit of Procurement Activities at the U.S. Merchant Marine Academy, Kings Point, NY; Report on Audit of Travel; Maritime Administration's Implementation of the Prompt Payment Act; Report on End-of-Year Procurement; and the U.S. Coast Guard and Maritime Administration.* The Agency generally agreed with the findings contained in the reports.

The General Accounting Office also submitted a final audit report to the Secretaries of Transportation and Agriculture entitled *Transportation of Public Law 480 Commodities—Efforts Needed to Eliminate Unnecessary Costs.* The report contained recommendations for improving MARAD's methods for determining the fairness and reasonableness of rates on preference cargoes on U.S.-flag liner vessels and the accuracy of operating data and vessel costs.

Information Management

As a result of a study sponsored by the Office of the Secretary of

Transportation, under OMB Circular A-76, Commercial and Industrial Activities, the MARAD headquarters automated data-processing activities, along with those of the Federal Railroad Administration, Urban Mass Transportation Administration, and National Highway Traffic Safety Administration, were transferred to contractor operation.

Expanded use of information-resource management technology in nearly all MARAD programs continued during FY 1985 and a modern office automation system was installed, which provides more computational power throughout the Agency. As a result of user acceptance of the new systems, MARAD exercised its option for planned expansion ahead of schedule to permit continued progress. The Agency also continued the expanded use of the minicomputer previously installed in the Operations Center.

Waterborne trade information was made more accessible to program offices as previous efforts continued, and a new initiative to analyze trade data and statistics with a view toward improving their timeliness and usefulness was initiated. In addition, a new means of processing foreign-trade competition data for use in the analysis of paying ODS was developed. Reports may be produced when needed, and users do not have to wait until year's end for information.

In the defense support area, several tasks were undertaken to enable MARAD to better support the Ready Reserve Force component of the National Defense Reserve Fleet (NDRF). NATO and Joint Chiefs of Staff exercise support also was expanded.

Personnel

The Maritime Administration employment stood at 1,034 at the end of FY 1985. The percentage of MARAD's female and minority employees and their representation in supervisory positions remained stable during the period, as did the percentage of handicapped employees.

Four upward mobility positions were established during FY 1985.

Twenty-three MARAD employees received high honors in FY 1985. Four Silver Medals, fourteen Bronze Medals, and five Secretary's Awards for Excellence were approved. Performance awards went to 108 Agency employees—38 quality step increases and 70 special achievement awards.

Safety Program

MARAD's Medical Surveillance Program of the "Action Plan for the Control of Asbestos Exposures in MARAD Programs" provides pre-placement, fit-for-duty determinations, and pre-separation examinations in addition to periodic medical examinations to designated MARAD employees exposed or potentially exposed to hazardous conditions or substances such as asbestos, lead, or excessive noise.

Employees assigned to MARAD headquarters, the Beaumont, James River, and Suisun Bay NDRF, and the New York, Central and Western Region offices were provided medical examinations.

In conjunction with the Medical Surveillance Program, the Agency provides the NDRF sites and the U.S. Merchant Marine Academy with industrial hygiene services to conduct periodic surveys of ships and facilities to target all safety and health hazards.

The MARAD Safety Officer, with assistance from the Department, also conducts safety and health inspections of MARAD work sites.

MARAD provides an "Asbestos Safety Course" for employees assigned to the Reserve Fleet sites and the U.S. Merchant Marine Academy. Its objectives are to develop trained workers and supervisors who are capable of recognizing potentially dangerous asbestos hazards in the work place, and knowledgeable in correct work practices and protective measures to prevent exposure to and release of asbestos, and know how to provide respiratory protection.

Installations and Logistics

Real Property

At the end of this reporting period, the Maritime Administration's real property included National Defense Reserve Fleet sites at Suisun Bay, CA, Beaumont, TX, and James River, VA; a warehouse at Kearney, NJ; the U.S. Merchant Marine Academy at Kings Point, NY; and the Wilmington, NC, Maritime facility.

Facilities for training maritime firefighters are operated at Earle, NJ, and Treasure Island, CA, under MARAD agreements with the U.S. Navy; by Delgado College of New Orleans, LA; and by MARAD at Toledo, OH.

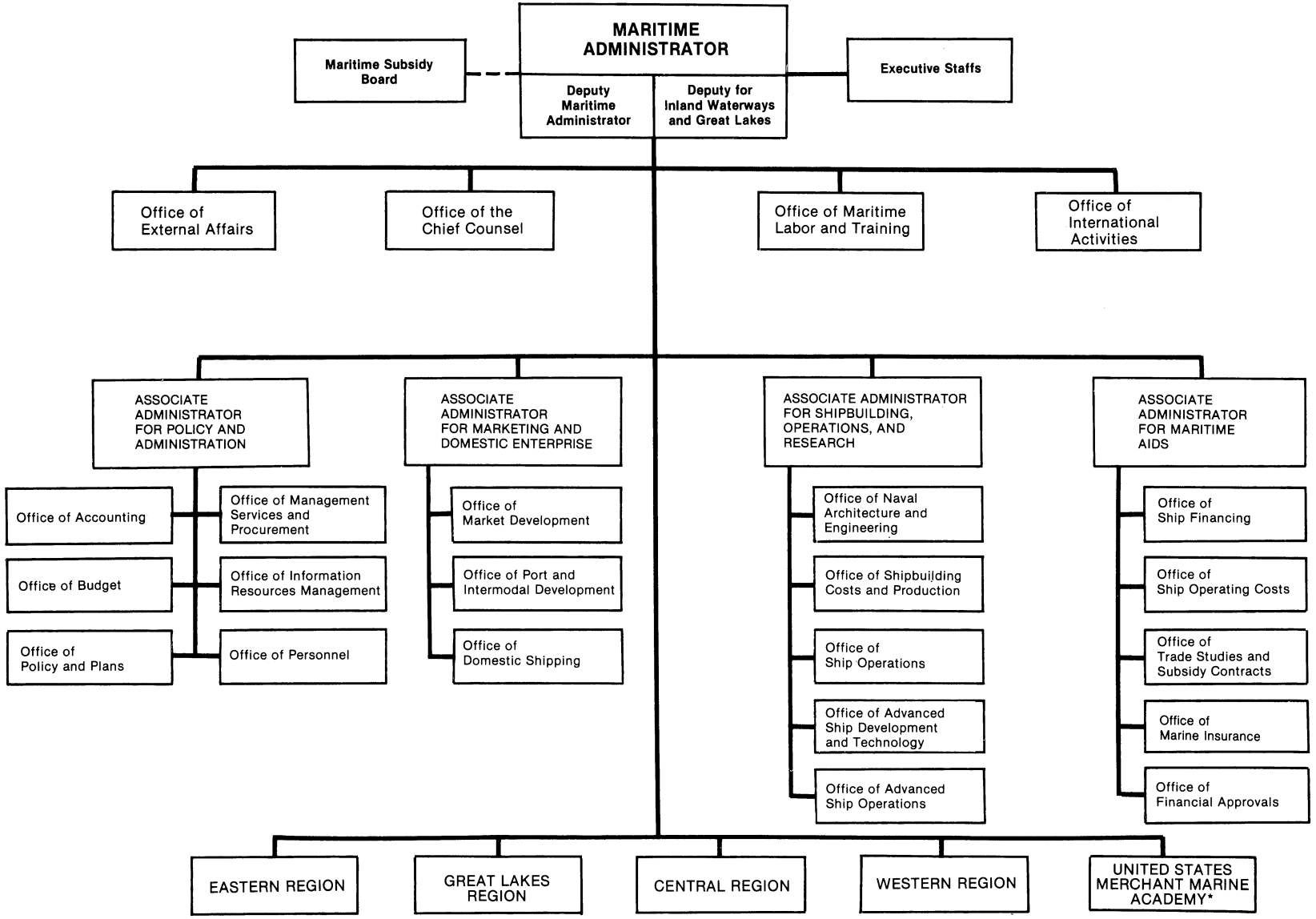
Regional offices are maintained in New York, NY; New Orleans, LA; Chicago, IL; and San Francisco, CA. Maritime Development Offices are maintained in Long Beach, CA; Cleveland, OH; Seattle, WA; Houston, TX; Portland, OR; and the four regional headquarters.

The Agency also maintains the National Maritime Research Center at Kings Point, NY, and Ship Management Offices in Norfolk, VA; Cleveland, OH; Port Arthur, TX; and New York, NY.

Accounting

MARAD's accounts are maintained on an accrual basis in conformity with generally accepted accounting principles and standards, and related requirements prescribed by the Comptroller General. The cost of the Agency's combined operations for the year totaled $ 692.6 million. This included $ 342.5 million in operating-differential subsidies, $38.7 million for administrative expenses, $ 9.7 million for research and development, $14.1 million for maintenance and preservation of reserve fleet vessels, $21.1 million for financial assistance to State maritime academies, and $21.5 million for Maritime Training Programs. MARAD received $245 million in other operating income, net of expenses. Financial statements of the Agency appear as Exhibits 1 and 2.

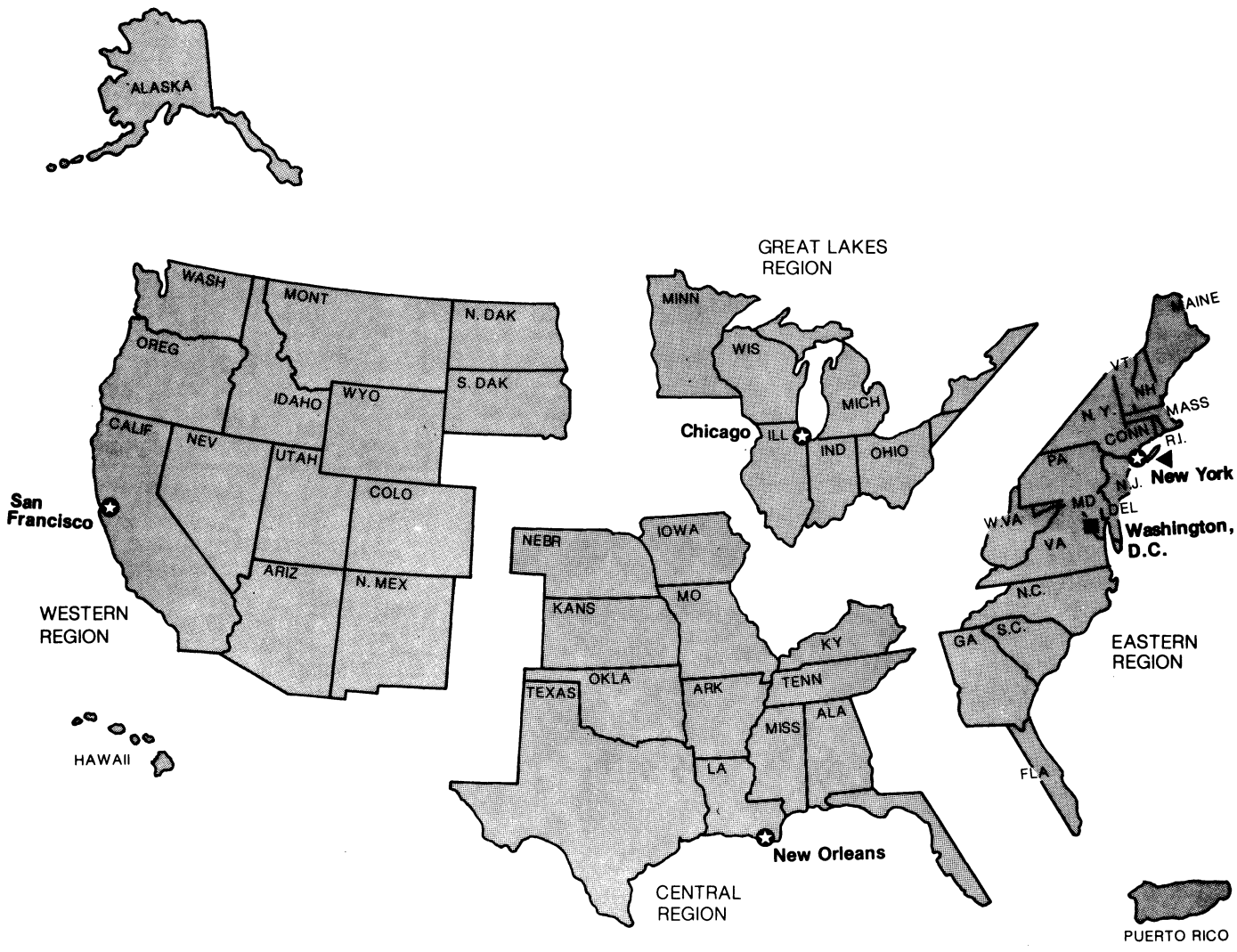
MARITIME ADMINISTRATION



* Kings Point, N.Y.

Maritime Administration

Field Organization



■ MarAd Headquarters

✪ Region Headquarters

▲ U.S. Merchant Marine Academy
Kings Point, N.Y.

FINANCIAL STATEMENTS

U.S. Department of Transportation—Maritime Administration

Exhibit 1. Statement of Financial Condition

September 30, 1984, and September 30, 1985

ASSETS	September 30 1985	September 30 1984
Selected Current Assets		
Funded Balances with Treasury:		
Budget Funds	$130,105,368	$117,357,549
Deposit Funds	553,464	986,981
Allocations from Other Agencies	—	—
Budget Clearing Accounts	−5,044	3,218
	130,653,788	118,347,748
Federal Security Holdings	13,210,000	158,428,000
Accounts Receivable:		
Government Agencies	55,917,321	32,487,669
The Public	14,773,031	25,886,071
Allowances (−)	−13,024,911	−5,554,513
	57,665,411	52,819,227
Advances To:		
Government Agencies	—	—
The Public	187,697	181,771
	187,697	181,771
Total Selected Current Assets	**$201,716,926**	**$329,776,746**
Loans Receivable:		
Repayment in Dollars	597,270,558	270,004,657
Allowances (−)	−380,225,607	−67,289,692
	217,044,951	202,714,965
Inventories:		
Raw Materials and Supplies	4,519,188	4,519,188
Real Property and Equipment:		
Land	6,720,014	5,204,190
Structures and Facilities	43,882,590	75,261,746
Equipment and Vessels	1,301,591,415	1,264,492,481
Leasehold Improvements	92,119	92,119
Allowances (−)	−1,222,637,644	−1,185,887,879
	129,648,493	159,162,657
Other Assets:		
Works-in-Process—Other	18,969,472	18,969,471
Material and Supplies	3,440,188	822,162
Non-Current Assets	14,052,618	32,303,600
Notes Receivable	26,583,262	26,698,894
Allowances (−)	−3,781,282	−124,353
	59,264,258	78,669,774
Total Assets	**$612,193,817**	**$774,843,330**

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

FINANCIAL STATEMENTS

U.S. Department of Transportation—Maritime Administration

LIABILITIES	September 30 1985	September 30 1984
Selected Current Liabilities (Note 2)		
Accounts Payable (Including Funded Accrued Liabilities):		
Government Agencies	$ 11,546,126	$ 11,177,914
The Public	19,810,768	37,229,499
	31,356,894	48,407,413
Advances Form:		
Government Agencies	—	35,014,282
The Public	—	16,593,393
	—	51,607,675
Total Selected Current Liabilities	**$ 31,356,894**	**$100,015,088**
Deposit Fund Liabilities	553,464	986,981
Unfunded Liabilities:		
Accrued Annual Leave	2,917,726	2,919,651
Debt issued under borrowing		
Authority: Borrowing from Treasury	130,000,000	
Other Liabilities:		
Vessel Trade-In Allowance and Other Accrued Liabilities	41,741,990	28,281,139
Total Liabilities	**$206,570,074**	**$132,202,859**
Government Equity		
Unexpended Budget Authority:		
Unobligated	56,113,532	188,796,778
Undelivered Orders	144,610,524	90,066,123
	200,724,056	278,862,901
Unfinanced Budget Authority (−):		
Unfilled Customer Orders	−30,917,488	−50,088,223
Contract Authority	—	—
	−30,917,488	−50,088,223
Invested Capital	235,817,175	413,865,793
Total Government Equity	**$405,623,743**	**$642,640,471**
Total Liabilities and Government Equity	**$612,193,817**	**$774,843,330**

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

FINANCIAL STATEMENTS

U.S. Department of Transportation—Maritime Administration

Exhibit 2. Statement of Operations

For Years Ended September 30, 1984, and September 30, 1985

	Years Ended September 30	
	1985	**1984**
OPERATIONS OF THE MARITIME ADMINISTRATION:		
Net Costs of Operating Activities		
Reserve Fleet Programs:		
Maintenance and Preservation	$ 14,086,238	$ 10,527,910
Maritime Training Program	21,496,720	18,738,952
Direct Subsidies and National Defense Costs:		
Operating-Differential	338,057,207	361,633,950
Construction-Differential	4,427,509	9,395,336
	342,484,716	371,029,286
Administrative	38,747,528	32,062,252
Research and Development	9,671,947	7,166,447
Financial Assistance to State Marine Schools	21,076,970	15,083,663
	69,496,445	54,312,362
Other Operating Income Net of Income	89,853,886	25,456,298
Net Cost of Maritime Administration	**$537,418,005**	**$480,064,808**
OPERATIONS OF REVOLVING FUNDS (– Income):		
Vessel Operations Revolving Fund	$ – 94,398,076	$ – 18,164,655
War-Risk Revolving Fund	– 1,277,780	– 885,190
Federal Ship Financing Fund	250,826,636	– 27,386,592
	155,150,780	– 46,436,437
Net Cost of Combined Operations	**$692,568,785**	**$433,628,371**

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

Appendix I: MARITIME SUBSIDY OUTLAYS—1936–1985

Fiscal Year	CDS	Reconstruction CDS	Total CDS	ODS	Total ODS & CDS
1936–1955	$ 248,320,942 [1]	$ 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 [2]	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	196,446,214	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
Total	**$3,568,407,728**	**$264,904,682**	**$3,833,312,410**	**$7,663,749,882**	**$11,497,062,292**

[1] 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 years 1954 to 1955.

[2] Includes totals for FY 1976 and the Transition Quarter ending September 30, 1976.

Appendix II: COMBINED CONDENSED FINANCIAL STATEMENTS OF COMPANIES WITH OPERATING-DIFFERENTIAL SUBSIDY CONTRACTS*

Statement A—Combined Condensed Balance Sheets as of December 31, 1984 and 1983 (Amounts Stated in Thousands of Dollars)

ASSETS	**1984**	**1983**
Current Assets:		
Cash	$ 48,870	$ 60,534
Marketable Securities	120,606	106,020
Accounts Receivable	450,912	440,871
Other Current Assets	36,056	57,960
Total Current Assets	$ 656,444	$ 665,385
Restricted Funds	261,264	222,387
Investments	33,158	40,962
Property and Equipment (Net of Depreciation)	2,142,659	2,013,077
Other Assets	129,798	167,106
TOTAL ASSETS	**$3,223,323**	**$3,108,917**
LIABILITIES AND STOCKHOLDERS' EQUITY		
Liabilities:		
Current Liabilities:		
Notes Payable	$ 156,124	$ 115,159
Accounts Payable	167,638	217,919
Other Current Liabilities	401,764	394,840
Total Current Liabilities	725,526	727,918
Long-Term Debt	1,321,958	1,257,564
Other Liabilities	340,650	342,542
Deferred Credits	56,285	47,353
Total Liabilities	$2,444,419	$2,375,377
Stockholders' Equity:		
Invested Capital	262,250	340,277
Retained Earnings	516,654	393,263
Total Stockholders' Equity	$ 778,904	$ 733,540
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	**$3,223,323**	**$3,108,917**

* Data from Forms MA–172 filed by 23 subsidized companies.

Appendix II: (Continued)

Statement B—Combined Condensed Income Statement for the Years Ending December 31, 1984 and 1983 (Amounts Stated in Thousands of Dollars)

	1984	1983
Shipping Revenue	$2,705,983	$2,653,299
Operating-Differential Subsidy	330,514	354,675
Other Shipping Operations Revenue	125,948	125,255
Total Revenue from Shipping Operations	$3,162,445	$3,133,229
Vessel Expense	$1,096,613	$1,289,084
Voyage Expense	1,312,530	1,264,589
Total Expense of Shipping Operations	$2,409,143	$2,553,673
Gross Income from Shipping Operations	$ 753,302	$ 579,556
General and Administrative Expense	363,716	378,959
Depreciation and Amortization Expense	113,701	114,958
Interest Expense	142,486	137,513
Shipping Operations Net Profit	$ 133,399	$ −51,874
Other Income	68,160	73,594
Other Deductions	24,924	17,618
Net Income Before Income Taxes	$ 176,635	$ −4,102
Provision for Income Taxes	29,217	10,719
Net Income After Income Taxes	$ 147,418	$ −6,617
Extraordinary Items	−8,896	−16,517
NET INCOME	**$ 138,522**	**$** −23,134

Project	Task	Vendor	Contract Number	Amount
	Advanced Ship Development and Technology			
Shipbuilding Research:				
Shipbuilding Surface Preparations & Coatings Program *	To develop methods and plans to improve blasting and painting techniques for preparing steel used in shipbuilding.	Avondale Shipyards, Inc. New Orleans, LA	41042	$258,750
Shipbuilding Facilities Improvement Program *	To develop and plan implementation of more efficient equipment and facilities and improved arrangements for the flow of production items in U.S. shipyards.	Avondale Shipyards, Inc. New Orleans, LA	41044	189,940
Ship Education and Training Program *	To develop a training program in productivity and improved shipbuilding techniques for skilled trades, middle management, and pre-entry professionals.	University of Michigan Ann Arbor, MI	41045	265,625
Shipbuilding Human Factors Program *	To examine shipbuilding technologies involving human resources management practices and concentrate new effort to establish problem solving worker teams, innovative organization structure and worker involvement in the shipbuilding organization structure.	Bethlehem Steel Corp. Bethlehem, PA	41027	189,700
Shipbuilding Standards Program *	To develop national shipbuilding standards for ship construction and establish a review process to transfer U.S. Navy specifications to equivalent commercial shipbuilding standards.	Bath Iron Works Corp. Bath, ME	41030	268,500
Shipbuilding Industrial Engineering Program *	To examine the complexities of systematic industrial engineering methods and plan implementation of advanced industrial engineering concepts in planning, ship loading, methods engineering, and manpower estimating/control.	Bath Iron Works Corp. Bath, ME	41031	273,805
Shipbuilding Research Program Management *	To provide full time management support to the National Shipbuilding Research Program.	Ingalls Shipbuilding Div. Litton Industries Pascagoula, MS	50112	94,000
Shipbuilding Design/ Production Integration Program *	To focus on ship design techniques, develop more efficient production methods, and integrate ship design with the construction process.	Newport News Newport News, VA	41043	272,500

* Cost Shared

Appendix III: Continued

Project	Task	Vendor	Contract Number	Amount
Flexible Automation Program *	To examine the potential utilization of robotics and automation production capabilities in modern shipbuilding industrial construction.	Todd Pacific Shipyards San Pedro, CA	30028	$146,875
Shipbuilding Production Aids *	To concentrate on the overall shipbuilding production system, develop new construction techniques and advanced building technologies.	Todd Pacific Shipyards San Pedro, CA	41029	221,250
	Advanced Fleet Technology			
Ship's Machinery and Outfitting:				
Test and Demonstration of Bypass Blower Turbocharging (BPBT) and Variable Timing Electronic Fuel Injection (DDEC) *	Development and marinization of an on-line variable timing system based on current technology in the automotive and truck-tractor engine series.	Detroit Diesel Allison Div. General Motors Corp. Detroit, MI	50125	343,819
Test and Demonstration of a Unique Diesel Inlet Air Conditioning Device (PPACS)	Onboard test and evaluation of a unique air manifold device which offers benefits in reducing specific fuel consumption and environmental emissions.	Charlie Brown Enterprises Miami, FL	50101	177,000
Enhanced Heavy Fuel Capability of Diesels	Initiated Phase II of long term test program to establish and quantify enhanced diesel engine performance resulting from ceramic coating of combustion system components.	Seaworthy Systems, Inc. Essex, CT	41005	96,000
Improved Energy Management and Productivity—Great Lakes *	To achieve improvments in energy conservation and related gains in productivity for Great Lakes operating vessels.	District 2/MEBA-AMO Toledo, OH	MA-11681	507,659
	Maritime Technology			
Marine Science:				
ESSO OSAKA Data to Tape	To reformat data tapes for permanent storage and use at National Maritime Research Center (NMRC).	David Taylor Naval Ship Research and Development Center Bethesda, MD	400–57001	2,022
Ship Structure Committee *	Part of MARAD's share to participate in the Ship Structure Committee FY 1985 Program.	U.S. Coast Guard Washington, DC	400–57002	5,500
Ice Strength Research *	To conduct basic research on ice strength and other ice properties.	Cold Regions Research and Engineering Laboratory Hanover, NH	400–57008	25,000
Ship Dynamic Performance Control	To complete development of the Marine Coefficient Information System (MARCIS).	Systems Control Technology Palo Alto, CA	01092	226,379

* Cost Shared

Appendix III: Continued

Project	Task	Vendor	Contract Number	Amount
Trafficability Tests *	To continue full scale ship tests under heavy ice conditions to collect environmental, maneuvering and structural loads data and other design information.	ARCTEC Engineering, Inc. Columbia, MD	41032	$764,902
Development of Analytical Modeling Techniques for Ships Maneuvering	To improve the ability to predict the maneuvering characteristics of ships for use by designers and in simulation models.	Austin Research Assoc. Austin, TX	50106	145,588
Rotary-Jet Marine Propulsion	To explore ways for using rotary-jet thrusters in the propulsion and maneuvering of tugboats and to assess their relative merits.	George Washington Univ. Washington, DC	50114	49,700
The Influence of Heave and Pitch Motions on Level-Ice Resistance	To conduct model scale experiments on ice resistance and investigate the relationship between resistance and pitch motion.	The University of Iowa Iowa City, IA	50115	49,522
Container Transport by Inland Waterways	To identify the problems and potential for increased containerized commerce on U.S. inland waterways and the benefits to waterway operators, ports and shippers from container barge transport.	Louisiana State Univ. Baton Rouge, LA	50116	48,782
Bow Impact Loads Including the Effects of Flare	Fundamental research in the hydrodynamic modeling of impact loads.	University of Michigan Ann Arbor, MI	50118	38,645
Decision Support to Masters, Pilots, and Mates on Watch At Sea and in Close Waters: An Application of Expert Systems Technology	To address the steps in developing, testing and implementing an expert system to be coupled with electronic navigation and collision avoidance information for decision support.	Rensselaer Polytechnic Institute Troy, New York	50119	135,429
Spatial Pressure Variations and Three-Dimensional Effects on Liquid Sloshing Loads	To study factors which would enable successful use of a two dimensional numerical sloshing loads model more realistically.	Texas A&M Research Foundation College Station, TX	50120	49,788
Extension, Sensitivity Analysis and Documentation of a Theory (And Compute Program) for Cavitating Propeller Induced Hull Pressures and Bearing Forces	To extend an existing model for determining induced hull pressures and bearing forces to obtain more precise values of unsteady bearing forces and to document the resulting computer program.	Virginia Polytechnic Institute & State University Blacksburg, VA	50121	32,108

* Cost Shared

Appendix III: Continued

Project	Task	Vendor	Contract Number	Amount
Three-Dimensional Accuracy Control Variation Merging Equations	To take variation merging equations and expand them to provide a three dimensional solution.	Univ. of Washington Seattle, WA	50122	$ 50,000
Arctic Operation Requirements for Shipboard Machinery Systems	To study the machinery design problems for ship operation in the Arctic ice.	Webb Institute of Naval Architecture Glen Cove, NY	50123	28,786
Experimental Investigation of Ship Hull Strength Using Large Scale Models	To conduct an experimental program to investigate the linear and non-linear loading of ship hulls and to determine the ultimate collapse moment using large models.	Univ. of California Berkeley, CA	50103	50,248
Maneuvering Simulation Model	This modification to the 1984 URP contract is to complete funding requirements for full scale trials of a containership and tanker. The purpose of the tests are to develop a maneuvering simulation model and resistance information from simple in-service ship maneuvers.	Massachusetts Institute of Technology Cambridge, MA	41014	50,000
USCG Recruiting Goals	Continuation of a study of the specific problem of recruiting and retaining minority officers in the U.S. Coast Guard.	Morgan State University Baltimore, MD	30033	45,000
	Agency Support			
Advanced Ship Systems:				
Navigation/Communications Project	Provide navigation requirements for inland waterways and begin a state-of-the-art systems description document.	Transportation Systems Center Cambridge, MA	85MA802 (GWA 400–57005)	50,000
Small Business Innovative Research	To finance MARAD's share of the Department of Transportation Small Business Innovative Research program for Fiscal Year 1985.	Transportation Systems Center Cambridge, MA	400–57006	208,300
Marine Board FY 1985 *	To continue support of the Marine Board of the National Academy of Science.	Dept. of Interior Washington, DC	400–57002	200,000
R & D Accomplishments	Collect, edit and publish a MARAD report summarizing R & D activities from FY '70–'85, highlighting significant accomplishments.	B. Paraghamian Assoc. Washington, DC	P.O. 51223	22,000

* Cost Shared

Appendix III: Continued

Project	Task	Vendor	Contract Number	Amount
Fuel Cells	Addendum to a FY '84 fuel cell testing plan to consolidate design features.	Arctic Energies Ltd. Severna Park, MD	41004	$ 10,000
	Advanced Ship Operations			
Fleet Management:				
Design and Demonstration of Micro-computer to Mainframe Communications Links for the Maritime Industry *	Describe hardware, software, and management issues concerning micro-mainframe links and develop guidelines for their use in the shipping industry.	Temple, Barker & Sloane Lexington, MA	50111	123,350
A Knowledge-Based Expert System for Vessel Energy Management *	Develop a prototype system to demonstrate the feasibility of using a computerized knowledge-based system for energy management of diesel powered vessels.	Ship Analytics, Inc. North Stonington, CT	50126	135,585
Application of Artificial Intelligence in the Maritime Industry *	Identify potential applications of Artificial Intelligence technology to shipping operations and management. Conduct cost-benefit analyses of the most promising applications.	University of Michigan Ann Arbor, MI	50127	50,924
Expert Sailing Directions—Pattern Recognition of a Ship Response-Based Wave Climatology *	Demonstrate the feasibility of creating strategic weather routing for the duration of a voyage. A demonstration system for the Northern Pacific will be developed.	Brown and Caldwell Walnut Creek, CA	50128	71,000
Development of a Maritime Maintenance System with Artificial Intelligence *	Develop a shipboard maintenance system which will learn from conditions observed during preventive maintenance actions.	Jack Brown & Associates Highland Park, IL	50129	98,000
Vessel Performance System *	Develop, test, and evaluate a system for towboat operations to enable the pilot to control throttle settings and steering to operate his vessel at minimum costs.	Cargo Carriers Minneapolis, MN	MA-11788	98,982
Micro Computer Planning System	Contract modification to cover unanticipated expenses in coordinating the development of two models and producing a statistics program not originally planned.	Temple, Barker & Sloane Lexington, MA	30064	29,279

* Cost Shared

Appendix III: Continued

Project	Task	Vendor	Contract Number	Amount
Ship Performance & Safety				
Copper-Nickel Hull Sheathing Study, Phase III *	Provide detailed design and cost estimates for sheathing a steel hull with a copper-nickel alloy and identify major areas for cost savings in sheathing a ship.	Copper Development Assoc. Greenwich, CT	50109	$121,990
Develop & Evaluate Methods to Improve the Efficiency of Shipboard Personnel and the Shore-side Interface *	Through joint labor-management cooperation, identify potential improvements in labor productivity.	Pacific-Gulf Marine New Orleans, LA	MA-11716	598,792
Development & Evaluation of Methods to Advance Shipboard Labor Productivity *	Conduct research and analysis of tests directed toward increasing shipboard labor productivity through cooperative labor and management efforts.	American President Lines Oakland, CA	MA-11727	208,400
Effective Manning	Conduct research and analysis of tests directed towards increasing shipboard labor productivity through cooperative labor and management efforts.	Plice and Plice Howell, NJ	MA-11726	43,000
Ship Performance Monitoring System Development and Sea Testing *	Complete the development of a Voyage Monitoring System that will provide ships with accurate measures of fuel consumption attributable to hull and propeller roughness and fouling, plant inefficiencies, ballasting and trim, navigation and steering, wind, and heavy seas.	Erskine Systems Control Champaign, IL	MA-11831	144,632
MARATECH	Prepare, compose, edit, publish and distribute a technology transfer journal reporting results of individual projects sponsored by MARAD.	RJO Enterprises Crofton, MD	50107	43,000
Cargo Handling:				
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 Matson Navigation Co. Navieras De Puerto Rico Sea-Land Service United States Lines	MA-11715	1,375,000
Sea Shed Test and Evaluation *	Conduct shipboard tests of the Sea Shed System which allows containerships to carry large, oversized cargo.	Farrell Lines New York, NY	MA-9183	170,000
Port and Intermodal:				
Port Financial Management Information System *	To develop a system to provide decisionmaking information data for development and operation of public ports.	American Association of Port Authorities Alexandria, VA	MA-11874	100,000

* Cost Shared

Appendix III: Continued

Project	Task	Vendor	Contract Number	Amount
Barge Fleeting Conference *	To expand the national application of principles of barge fleeting as set forth in Lower Mississippi Barge Fleeting study.	E. J. Bentz & Associates Springfield, VA	MA-11850	$ 24,931
Auto Port Pricing Study *	To computerize the existing MARAD port price formula to facilitate usage of an arrival basis or as required.	Applied Systems Institute Washington, DC	50108	125,000
Port Thruput Capacity Update *	To update and expand previous methodology for estimating marine terminal thruput.	Moffat & Nichol Long Beach, CA	51002	53,846
Port Vessel Emission Study *	To assist ports in coping with air quality regulations by qualifying vessel emissions data in ports.	Long Beach Port Authority Long Beach, CA	50110	29,512
Port Economic Impact Kit *	To improve and simplify existing impact methodology and to develop microcomputer software.	Recht, Hausrath Oakland, CA	30004	25,000
Port Trade Data Access System *	Design and develop the capability to access foreign trade information from diverse sources for microcomputers.	Transportation Systems Center Cambridge, MA	85MA801 GWA 400–57005)	160,000
		Research Facilities		
Computer-Aided Operations Research Facility (CAORF)				
Management and Operations **	To provide daily management and operation at CAORF, for the period October 1, 1984 through September 30,1985.	Ship Analytics, Inc. Centerport, NY	20003	601,875
Engineering Maintenance Support **	To provide daily technical maintenance and engineering support to CAORF for the period October 1, 1984 through September 30,1985.	Sperry Systems Management Great Neck, NY	20003 50124	1,385,186 343,576
Technical Research Experimenter **	To provide technical research for maritime studies at CAORF for the period October 1, 1984 through September 30, 1985.	Ship Analytics, Inc. Centerport, NY	20004 50113	1,203,000 444,720
Submarine Trainer Design **	To develop scenarios and ship-handling models for a submarine trainer.	Ship Analytics, Inc.	30002	194,827
Simulator Trainer Design **	To investigate and develop advanced approaches for use in simulator trainers.	Ship Analytics, Inc. Sperry Systems Great Neck, NY	30002 50113 50124	400,069 652,222 35,709

* Cost Shared
** Costs are wholly or partially reimbursed by non-MARAD sources.

Appendix III: Continued

Projects	Task	Vendor	Contract Number	Amount
Emergency Repair	To perform emergency repairs and extra maintenance of the CAORF system.	Sperry Systems Management Great Neck, NY	20003	$150,681
Computer Replacement	Phase I of the CAORF SEL computer replacement, implement interim back-up system and perform replacement trade-off study.	Sperry Systems Management Great Neck, NY	20003	388,195
Wave Forces **	To design and implement wave forces into the CAORF offline validation program.	Sperry Systems Management Great Neck, NY	20003	97,696
Bank and Ship Interaction Effects **	To perform model tests of bank and ship meeting situations for the Panama Canal project.	Swedish Maritime Research Center (SSPA) Gotoeborg, Sweden	30015	61,000
National Maritime Research Center				
Automated Information Retrieval System	To automate bibliographic resources of the NMRC Study Center.	Cuadra Assoc. Santa Monica, CA	54630	72,276
Documentation Preparation & Management	To provide technical editorial review and report review and distribution of NMRC/CAORF reports and documents.	Barje Co. Belmore, NY	54620	56,758
Maritime Technical Literature Development & Control	Acquisition, cataloging, distribution and control of NMRC Study Center resources.	Seatrack Great Neck, NY	30023	153,054

** Costs are wholly or partially reimbursed by non-MARAD sources.

Appendix IV: STUDIES AND REPORTS RELEASED IN FY 1985

The following major* studies or reports were released by the Maritime Administration during fiscal year 1985.

A limited number of copies of publications marked [MARAD] are available from the Office of External Affairs, Maritime Administration. Publications marked [GPO] are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. Those labelled [NTIS] may be purchased from the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161.

MARAD 1984 (The Annual Report of the Maritime Administration for Fiscal Year 1984), 63pp [MARAD]

Containerized Cargo Statistics, Calendar Year 1983, prepared by the Maritime Administration, July 1985, 124pp [MARAD]

Decision Support Systems for Port Planning & Management, prepared by Marine Sciences Research Center, State University of New York, April 1985 [NTIS]

Final Report	PB86-107133/AS	$ 9.95
Atlas	PB86-107141/AS	$ 9.95
User's Manual	PB86-107158/AS	$ 9.95
Report	PB86-107125/AS	$165.00

Foreign Flag Merchant Ships Owned by U.S. Parent Companies/E.U.S.C. as of January 1, 1985, prepared by the Maritime Administration, August 1985, 50pp [MARAD]

A Guide To Strategic Planning for the Inland Barge and Towing Industry, prepared by Dravo Mechling Corp., December 1984 [NTIS]

Volume I	Executive Summary	ADA150520	$ 7.00
Volume II	Final Report	ADA150521	$17.50
Volume III	Appendix	ADA150522	$17.50

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Executive Summary	PB85-244747/AS	$ 9.95
Final Report	PB85-244739/AS	$22.95

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U.S.-Flag Crosstrading, prepared by Manalytics, Inc., December 1984 [NTIS]

Volume I	PB86-146553/AS	$ 9.95
Volume II	PB86-146561/AS	$13.00
Volume III	PB86-146579/AS	$10.00
Set	PB86-146546/AS	$25.50

U.S. Exports & Imports Transshipped Via Canadian Ports, prepared by the Maritime Administration, July 1983, 121pp [MARAD]

* Current reports and studies of the Maritime Administration are listed in *MARAD Publications,* which is available upon request from headquarters and field offices of this Agency.

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