

A Report by a Panel of the

NATIONAL ACADEMY OF PUBLIC ADMINISTRATION
for the Maritime Administration

Maritime Administration: Defining its Mission, Aligning its Programs, and Meeting its Objectives



ABOUT THE ACADEMY

The National Academy of Public Administration is an independent, non-profit, and non-partisan organization established in 1967 and chartered by Congress in 1984. It provides expert advice to government leaders in building more effective, efficient, accountable, and transparent organizations. To carry out this mission, the Academy draws on the knowledge and experience of its over 850 Fellows—including former cabinet officers, Members of Congress, governors, mayors, and state legislators, as well as prominent scholars, business executives, and public administrators. The Academy helps public institutions address their most critical governance and management challenges through in-depth studies and analyses, advisory services and technical assistance, congressional testimony, forums and conferences, and online stakeholder engagement. Learn more about the Academy and its work at www.NAPAwash.org.

A Report by a Panel of the

**NATIONAL ACADEMY OF
PUBLIC ADMINISTRATION**

November 8, 2017

***Maritime Administration:
Defining its Mission, Aligning its Programs, and
Meeting its Objectives***

PANEL OF FELLOWS

Lewis Crenshaw* *Chair*
Mortimer Downey, III*
Beverly Godwin*
William Kenwell
Marvin Phaup*

*Academy Fellow



Officers of the Academy

Reginald Robinson, *Chair of the Board*
Sallyanne Harper, *Vice Chair*
Teresa W. Gerton, *President and Chief Executive Officer*
B. J. Reed, *Secretary*
Jonathan Fiechter, *Treasurer*

Study Team

Joseph P. Mitchell, III, *Director of Academy Programs*
Roger Kodat, *Project Director*
Joseph Tasker, *Senior Advisor*
Emily Fay, *Research Associate*
Hailey Ellsworth, *Research Associate*
Michaela Halásová, *Intern*

The views expressed in this report are those of the Panel. They do not necessarily reflect the views of the Academy as an institution.

National Academy of Public Administration
1600 K Street, N.W.
Suite 400
Washington, DC 20006
www.napawash.org

November 8, 2017
Printed in the United States of America
Academy Project Number: 2216

Foreword

The United States is an island nation with geographical connections to both the Atlantic Ocean and the Pacific Ocean. Our economy depends on the effective use of coastal resources and a functional system of inland waterways, while our security depends on a strong maritime industry to move troops and materiel for military purposes. The Maritime Administration (MARAD)—an agency within the U.S. Department of Transportation—supports the U.S. commercial maritime industry and assists the U.S. Department of Defense with strategic sealift. Over the years, MARAD has had a significant impact on the daily lives of the American people, and the combined force of our country’s maritime industry and military sea power has produced economic and security benefits both here and abroad.

MARAD asked the National Academy of Public Administration (the Academy) to conduct an independent review of its core functions, including an assessment of both its role within the Department of Transportation and its contribution to the nation. This report, prepared by a five-person Panel consisting of four Academy Fellows and an individual with extensive maritime transportation knowledge and experience, confirms the Agency’s important role and offers a total of 27 recommendations for improvement. In preparing this report, the Academy’s professional study team, working under the Panel’s leadership, interviewed more than 100 people representing more than 40 organizations. In addition, the study team reviewed reports, articles, and other documents in conducting its research.

The Academy is a congressionally chartered non-partisan and non-profit organization with over 850 distinguished Fellows which has a unique ability to bring subject matter experts together to assist agencies in addressing their most pressing challenges. I am deeply appreciative of the work of the Academy’s Panel of Fellows and study team who provided their valuable insights and expertise throughout the project. I am also thankful for the constructive engagement of internal and external stakeholders who provided important context and insights that informed the Panel’s deliberations on its findings and recommendations.

We are pleased to have had the opportunity to conduct this independent review. I expect that the Academy Panel’s report will contribute to strengthening the Maritime Administration’s ability to achieve both its commercial and its national security missions.

Teresa W. Gerton
President and Chief Executive Officer
National Academy of Public Administration

THIS PAGE INTENTIONALLY LEFT BLANK.

CONTENTS

Foreword	i
Acronyms and Abbreviations	vi
Executive Summary	1
Chapter 1: Project Background and Overview	8
1.1 Origin of the Study	9
1.2 Background on MARAD	10
1.3 Methodology and Report Organization	10
Chapter 2: MARAD Programs and Operations	12
2.1 Agency Programs	14
2.2 National Security/Strategic Sealift	15
2.3 Mariner Training	24
2.4 Environment, Safety and Security	26
2.4.1 Office of the Environment: META Program	26
2.5 Port Infrastructure and Intermodal Development	28
2.5.2 Port Conveyance Program	29
2.5.3 Short Sea Shipping (America’s Marine Highway Program)	30
2.5.5 StrongPorts Program	33
2.6 Shipbuilding and Finance	34
2.6.1 Capital Construction Fund (CCF)	34
2.6.4 War Risk Insurance	35
2.7 Support for the U.S. as a Maritime International Trading Nation	36
2.8 MARAD’s Role in Jones Act Enforcement	37
Chapter 3: Overarching Issues	40
3.1 Mission Clarity	40
3.2 Aligning Business Processes to the Mission	42
3.3 Transparency	44
3.4 Completing a National Maritime Transportation Strategy	46
3.5 Collaboration	47
3.6 Operating the USMMA	47
3.7 MARAD’s Fit in DOT	51

Chapter 4: Sealift Mission	53
4.1 Time and cost are the essential differences between Sealift and Airlift	54
4.2 Commercial Sealift vs. Government Sealift.....	56
4.3 U.S.-flag Sealift vs. Foreign-flag Sealift.....	59
4.4 Specific Recommendations Related to Sealift	61
4.4.1 Maritime Security Program—Issues Raised for Discussion	63
4.4.2 RRF – Recapitalization of the Fleet	64
4.4.3 Cargo Preference—Ideas to Consider for Improvement	66
4.5 Other Programs Related to Sealift.....	68
4.5.1 Noted Progress in Implementing the Ship Disposal Program	68
4.5.2 NS <i>Savannah</i>	70
Chapter 5: Mariner Education and Training Mission	71
5.1 Challenges to Determining USTRANSCOM Mariner Needs and the Available Mariner Pool....	73
5.1.1 Calculation of Necessary Mariners.....	73
5.1.2 Calculation of Available Mariners.....	74
5.2 Challenges to the Provision of Mariners.....	76
5.2.1 Providing Adequate Levels of Mariner Expertise	77
5.2.2 Current Job Shortages in the Commercial Shipping Industry.....	77
5.2.3 Voluntary Service in Sealift Activation	78
5.3 State Maritime Academies as a Source of Certified Mariners	79
5.3.1 Student Incentive Program (SIP)	80
5.3.2 School Ship Recapitalization.....	81
5.4 Enlarge the Cadet Contingent at USMMA to Increase Pool of Certified Mariners	83
Chapter 6: Other MARAD Programs and Functions	84
6.1 Mission Area: Environment, Safety, and Security.....	84
6.1.1 Office of Environment.....	84
6.1.2 Office of Safety	85
6.1.3 Office of Maritime Security.....	85
6.2 Mission Area: Port Infrastructure and Intermodal Development.....	86
6.2.1 Port Development Grant Programs	86
6.2.2 Deepwater Ports	87
6.2.3 Port Conveyance Program	88
6.3 Mission Area: Business and Finance Development.....	89

6.3.1 The Title XI Maritime Loan Guarantee Program	89
6.3.2 Capital Construction Fund (CCF)/ Construction Reserve Fund (CRF).....	93
6.3.3 Small Shipyard Grants (SSG).....	94
6.3.4 War Risk Insurance	94
6.4 Chapter Summary	95
Chapter 7 Conclusions.....	97
Appendix A: Panel Member and Study Team Biographies.....	101
Appendix B: Interviews.....	106
Appendix C: Bibliography	111
Appendix D: Legal Authorities	119
Appendix E: Eliminated MARAD Programs	122
Appendix F: Committee on the Maritime Transportation System’s Standard Matrix of the Federal Marine Transportation System by Department/Agency	124
Appendix G: MARAD Organizational Chart.....	126
Appendix H: Glossary of Relevant Maritime Terms	127
Appendix I: Merchant Mariner Career Progression.....	131
Appendix J: International Information Administrative Comparison.....	134
Appendix K: U.S. Federal Service Academies Cost Comparison.....	137

THIS PAGE INTENTIONALLY LEFT BLANK.

Acronyms and Abbreviations

AAPA	American Association of Port Authorities
AMHP	America's Marine Highways Program
BRAC	Base Realignment and Closure Process
CCF	Capital Construction Fund
CRF	Construction Reserve Fund
CMTS	Committee on the Marine Transportation System
DoD	Department of Defense
DOT	Department of Transportation
FSS	Fast Sealift Ship
FTE	Full Time Equivalents
JDAM	Joint Direct Action Munition
LNG	Liquid Natural Gas
MARAD	Maritime Administration
META	Maritime Environmental and Technical Assistance
METERB	Maritime Education and Training Executive Review Board
MMLD	Merchant Mariner Licensing and Documentation System
MSC	Military Sealift Command
MSP	Maritime Security Program
MTSNAC	Marine Transportation System National Advisory Committee
NDRF	National Defense Reserve Fleet
NDTA	National Defense Transportation Association
NMTS	National Marine Transportation Strategy
NOAA	National Oceanic and Atmospheric Administration
NRC	Nuclear Regulatory Commission
NSMV	National Security Multi-Mission Vessel
NSS	Nuclear Ship <i>Savannah</i>
OMB	Office of Management and Budget
RO/RO	Roll On/ Roll Off Vessel
RRF	Ready Reserve Force
SIP	Student Incentive Program
SMA	State Maritime Academy
SSA	Social Security Administration
SSG	Small Shipyard Grants
TEU	Twenty Foot Equivalent Units
The Academy	National Academy of Public Administration
USAID	U.S. Agency for International Development
USCG	U.S. Coast Guard
USMMA	U.S. Merchant Marine Academy
USNS	United States Naval Ship
USTRANSCOM	U.S. Transportation Command
VISA	Voluntary Intermodal Sealift Agreement
WCF	Working Capital Fund

THIS PAGE INTENTIONALLY LEFT BLANK.

Executive Summary

Our country's economy is highly dependent on viable inland waterways, as well as coastal and ocean resources. The Maritime Administration is a small operational administration within the Department of Transportation with a broad mission to support the U.S. maritime industry. Its programs seek to support both the maritime industry's commercial health and the country's national security objectives. The Maritime Administration works closely with parts of the Department of Defense, which funds some of its programs.

This independent assessment, requested by the Agency, provides a high level review of its programs and offers recommendations for improving the alignment of activities and authorities to enhance performance and meet key mission objectives in the 21st century. The Maritime Administration operates within a complicated tapestry of economic, political, and defense-related authorities and stakeholder groups. Given its modest budget and human resources, the Maritime Administration will need to improve its ability to prioritize, maximize, and focus its activities to address a plethora of challenging current issues.

The defense-related functions of the Maritime Administration play a key role in the mobility and logistic requirements articulated by the Combatant Commanders' contingency and war plans. These plans involve supplying U. S. Navy ships, U.S. Coast Guard Ships, allied Navy ships, and commercial sealift for logistical support worldwide. Additionally, ships of the Ready Reserve Force are routinely activated to fulfill emergency mobility requirements of U.S. forces. Interviews with the U.S. Transportation Command and the Department of Defense confirm that the Agency has been effective in meeting sealift needs and has provided a needed bridge between the military and civilian merchant marine force through the Ready Reserve Force and The Voluntary Intermodal Sealift Agreement Program, which includes the Maritime Security Program. The nation's security risks will increase should the Maritime Administration be unable to provide an adequate number of ships and qualified mariners to serve our national defense needs. While some analysts have proposed to transfer the Agency's defense-related work to the Department of Defense, this Panel sees no apparent benefits to move MARAD and its commercial partnerships which provide defense-related capabilities. The Panel thinks that a significant amount of additional analysis would be required to justify any potential change in the relationship between the Department of Defense and the Agency.

The Maritime Administration struggles with its commercial industry-related work, partly due to its more amorphous nature and small size. The Panel believes that the Maritime Administration must add further focus to these activities to align with a clearer mission that is more effectively communicated to stakeholders and to the general public.

The Maritime Administration also runs the U.S. Merchant Marine Academy. Several recent high-profile problems and challenges surrounding management of this institution have hindered its ability to provide an adequate number of credentialed mariners. Over the course of this review, the Panel has seen the Maritime Administration take concrete steps to improve USMMA management and ultimately believes that the Maritime Administration is, on balance, best suited to continue operating USMMA. The Panel concurs with the statements of U.S. Transportation Secretary Chao and the current Maritime Administration that the U.S. Merchant Marine Academy must be a priority for addressing challenges and driving continuous improvement.

The Panel issues 27 actionable recommendations. By taking these actions and working with its many federal agency partners, the Maritime Administration can strengthen its contribution to further enhance its commercial and national security-related programs in support of the maritime transportation industry.

List of All Report Recommendations

The following recommendations are addressed to the Maritime Administration. As an administrative unit within the U.S. Department of Transportation, it is understood that its actions will be taken in consultation with the Department's Office of the Secretary, as appropriate.

RECOMMENDATION 3-1. The Maritime Administration should craft and communicate a mission statement to all staff and to the public in order to enhance mission clarity and support performance. Doing so should help Agency employees better understand how their work contributes to a unified mission and perform their respective work better.

RECOMMENDATION 3-2. The Maritime Administration should conduct a business process review to ensure alignment with the Agency's updated mission, eliminate duplicative processes, and re-engineer inefficient processes in order to minimize major fluctuations in its performance, and so that changes in the position of the Maritime Administration Administrator will not negatively impact Agency performance as seen by maritime industry partners and federal colleagues.

RECOMMENDATION 3-3. The Maritime Administration should complete a comprehensive review of its practices related to making decisions public and communicating detailed information to federal agencies and congressional committees, and take appropriate actions in order to enhance access and transparency of its decisions for other agencies, congressional committees and interested members of the public. The Maritime Administration should resume issuing an annual report to the public to communicate the

full range of its activities (given its national security tasks, there may need a need for a classified annex). The Maritime Administration should actively solicit support of the Department of Transportation Office of Public Affairs and Office of Congressional Affairs in these and all of its increased efforts to inform the public and government stakeholders.

RECOMMENDATION 3-4. In consultation with the Department of Transportation and the Office of Management and Budget, the Maritime Administration should continue expeditious work to finalize and make public the National Marine Transportation Strategy as soon as possible in order to provide further guidance on how best to address its mission and better support the maritime industry.

RECOMMENDATION 3-5. The Maritime Administration should agree on the long-term mission focus of the U.S. Merchant Marine Academy. The Maritime Administration's leaders should determine whether the institution has essentially a function that results in U.S. Coast Guard credentialing, or if it should have a broader scope that accommodates other subjects.

RECOMMENDATION 3-6. The Maritime Administration must ensure that all stakeholders, to the extent permitted by law, are pro-actively and promptly informed of important developments at U.S. Merchant Marine Academy going forward in order to help rebuild trust among all stakeholders. The Maritime Administration should err on the side of transparency.

RECOMMENDATION 3-7. Recognizing its responsibilities for results at the U.S. Merchant Marine Academy, the Maritime Administration should ensure that individuals who are members of the U.S. Merchant Marine Academy's leadership team, including Superintendent, Deputy Superintendent, Commandant, and Academic Dean, have among them the requisite skills and experience required to lead an institution of higher learning and to train mariners. Doing so will require highly qualified and experienced professionals to expertly: (1) administer an academic institution of higher learning; (2) produce trained, credentialed mariners; and (3) create a safe, inclusive environment for all cadets, free from all forms of assault and harassment.

RECOMMENDATION 3-8. The Maritime Administration's leaders should conduct a thorough review of all policies of the U.S. Merchant Marine Academy. This review and corrective follow-up action should be completed in no more than one year.

RECOMMENDATION 3-9. The Maritime Administration should examine the appropriate division of decision-making and authorities of the U.S. Merchant Marine Academy's

management between the Superintendent and the Maritime Administration's headquarters.

RECOMMENDATION 3-10. Given various existing oversight bodies supporting the U.S. Merchant Marine Academy, the Maritime Administration should reconsider whether the Maritime Education and Training Executive Review Board is needed. Having too many oversight bodies can confuse lines of authority and can short-circuit effective leadership in the U.S. Merchant Marine Academy.

RECOMMENDATION 4-1. The Maritime Administration should work through the Secretary of Transportation to request that the Administration convene a working group to include the Maritime Administration, the Military Sealift Command, U.S. Transportation Command, and the U.S. Navy, to conduct an assessment of the sealift mission to determine the most cost-effective mix of the Ready Reserve Force, Maritime Security Program, the Voluntary Intermodal Sealift Agreement, and cargo preference provisions.

RECOMMENDATION 4-2. The Government Accountability Office has endorsed plans by the Maritime Administration and the Military Sealift Command to replace the ships now in the Ready Reserve Force and the 15 U.S. Navy Ship merchant type vessels in the Military Sealift Command's Surge Sealift Program. The Maritime Administration should incorporate the results of the study noted in 4-1 to assure that the composition of the new fleet is the most cost-effective in meeting the future needs of sealift.

RECOMMENDATION 4-3. Ready Reserve Force vessels managed exclusively by "Section II citizen companies" should also be eligible for management by "documentation citizen" companies.

RECOMMENDATION 4-4. The Maritime Administration should develop and issue proposed regulations based on recently enacted legislation relating to cargo preference statutory requirements. However, the Panel notes that cargo preference shifts some budget costs of sustaining U.S.-flag sealift capacity to other federal agencies. Over the longer term, policymakers should consider transparent and efficient methods of financing a surge shipping capacity for the Department of Defense, including increasing the annual payment to Maritime Security Program participants.

RECOMMENDATION 5-1. The Maritime Administration should establish and communicate consistently, in collaboration with stakeholders, the process of determining crew size and composition in order to meet sealift needs.

RECOMMENDATION 5-2. The Maritime Administration should work closely with the U.S. Coast Guard (and other stakeholders) on a long-term solution for updating the Merchant

Mariner Licensing and Documentation System to allow for data analysis and to meet both credentialing and sealift needs.

RECOMMENDATION 5-3. The Maritime Administration should work with the U.S. Coast Guard and the Social Security Administration to compare the Merchant Mariner Licensing and Documentation System's database with those listed as deceased from the Social Security Administration's database and build in a recurring process so that deceased licensed mariners no longer appear on the Merchant Mariner Licensing and Documentation System.

RECOMMENDATION 5-4. Until a new Merchant Mariner Licensing and Documentation database is operational, the Maritime Administration should reissue biennial Mariner Surveys to improve confidence in calculations of mariner availability.

RECOMMENDATION 5-5. The Maritime Administration should work with the U.S. Navy, U.S. Army, and U.S. Coast Guard to determine a training system for end-of-service Navy Sailors and Officers to earn their Merchant Mariner Credential.

RECOMMENDATION 5-6. The Maritime Administration should evaluate the costs and requirements of establishing a reserve program for experienced mariners. Once the cost estimates are determined, and if they are deemed appropriate, the Maritime Administration and the Department of Transportation should present the option of a reserve program for experienced mariners to Congress.

RECOMMENDATION 5-7. The Maritime Administration should propose increasing the Student Incentive Program's funding per student to Congress to increase the number of credentialed mariners graduating with a service obligation.

RECOMMENDATION 5-8. The Maritime Administration should consider the recommendations from the marketing study for the Student Incentive Program to guide further steps in how to promote this program.

RECOMMENDATION 5-9. The Maritime Administration needs to present the option to buy foreign vessels in the near-term for school ship recapitalization to Congress.

RECOMMENDATION 6-1. The Maritime Administration should consider triaging the functions of the Offices of Environment, Safety, and Security by moving them to other departments or agencies that may represent a more appropriate alignment with their mission. Specifically, the Maritime Administration should move the Maritime Environmental and Technical Assistance, a program more appropriately thought of as research and development for the maritime industry, into another existing Maritime Administration office. The Maritime Administration should do so under the overall

auspices of streamlining Agency functions and leadership composition (see recommendation 6-4).

RECOMMENDATION 6-2. The Maritime Administration should assess its staffing needs to adequately address the deepwater ports program.

RECOMMENDATION 6-3. The Maritime Administration should request that Congress consider enactment of new legislation that would move the Title XI program out of the Maritime Administration to the Department of Transportation's Build America Bureau in order to create synergies and utilize financing expertise existing already within the Department of Transportation. The Bureau operates in such a way that its staff will ensure that the requisite maritime industry expertise available to support the complexities of applications and to assess transaction risks will be available.

RECOMMENDATION 6-4. The Maritime Administration should re-evaluate its organizational structure to conform to its mission statement, align its business processes against that mission, and support its mission areas after triaging its programs. The resulting restructuring must bolster its core programs for enduring mission support.

Chapter 1: Project Background and Overview

With more than 70 percent of the earth covered by oceans, it is not surprising that the maritime industry plays a critically important role to advance economic and strategic interests of nations. The ocean is the trading route for the planet.¹ Almost 90 percent of everything American industry and consumers buy that is not made or grown in the United States arrives via ship.² The maritime industry is far more important to the U.S. economic well-being, quality of life, and national security than many Americans realize.

While not readily thought of in this way, the continental U.S. may be described as an island nation given both the geography and reliance on the maritime industry. Our country's economy is highly dependent on healthy inland waterways, as well as coastal and ocean resources. In 2014, the ocean economy, which includes both oceans and the Great Lakes, contributed more than \$352 billion to the U.S. Gross Domestic Product and supported 3.1 million jobs.³ Critical stakeholders include shipyards, shipping companies, labor unions, ports, ship disposal companies, and many others. Congressman John Garamendi (D-CA), in an article entitled "Our Maritime Industry is Too Important to Ignore" appearing on February 10, 2017 in *The Hill*, wrote: "The United States is the world's commercial superpower. We are the largest importer and second-largest exporter of merchandise. In 2015, American exports of merchandise abroad totaled over \$1.5 trillion. Seaborne trade represents an enormous share of this activity: In 2016, over \$475 billion worth of American exports were transported overseas by ship."⁴

Furthermore, the maritime industry plays an essential role in moving troops and materiel for military purposes. The U.S. Transportation Command (USTRANSCOM), currently one of nine unified commands of the Department of Defense (DoD), provides the country with a strategic mobility capability that includes all modes of transportation, including maritime strategic sealift. As an illustration: "During Operations 'Enduring Freedom' and 'Iraqi Freedom' (2002-10), U.S.-flag commercial vessels, including ships drawn from the domestic trades, transported 63 percent of all military cargos moved to Afghanistan and Iraq,"⁵ illustrating the importance of MARAD's sealift programs. Including government-owned

¹ U.S. National Oceanic and Atmospheric Administration, *How Important Is the Ocean to Our Economy?* <https://oceanservice.noaa.gov/facts/oceaneconomy.html>

² George, Rose. *90 Percent of Everything, Inside Shipping, the Invisible Industry That Puts Clothes on Your Back, Gas in Your Car and Food on Your Plate*, Dewane L. Vanleuven, 2013.

³ <https://oceanservice.noaa.gov/facts/oceaneconomy.html>

⁴ Garamendi, John. *Our maritime industry is too important to ignore*, *TheHill*, February 28, 2017.

<http://thehill.com/blogs/congress-blog/economy-budget/321678-our-maritime-industry-is-too-important-to-ignore>

⁵ American Maritime Partnership. *Domestic Maritime Industry*.

<https://www.americanmaritimepartnership.com/domestic-maritime-industry/>

vessels crewed by U.S. merchant mariners. Well over 90 percent of the military cargoes were carried by sealift.⁶ In Operation Iraqi Freedom alone, a “Steel Bridge of Democracy” was created by up to 167 ships operating in March 2003, moving materiel to the operating theater. “The span of that bridge was literally a ship every 72 miles from the U.S. to Kuwait.”⁷

Besides the maritime industry’s important role in our economy and national security, the critical role that U.S.-citizen merchant mariners play in operating ships cannot be overstated. Unique expertise of qualified professional mariners and crews who can navigate vessels is another critical part of this complex industry.

The Maritime Administration (MARAD) is a relatively small agency within the Department of Transportation (DOT). With its budget of \$423.1 million and approximately 745 employees, MARAD comprises only 0.2 percent of DOT’s funding (totaling \$98.1 billion) and 1.4 percent of its workforce (of more than 54,000 employees). Yet MARAD has a critical mission: to support the U.S. maritime industry.⁸

1.1 Origin of the Study

MARAD requested the National Academy of Public Administration (the Academy) to undertake an independent review of its core functions, including an assessment of both its role within the DOT and the contribution of MARAD’s work to the nation. The project, which was six months in duration, included the following five key assessment objectives:

- Evaluate how effectively and efficiently MARAD meets its responsibilities.
- Assess whether or not each program fits within its responsibilities.
- Assess how each program can be more effectively managed.
- Provide a high-level comparison to successful federal maritime transport organizations in other countries, highlighting components contributing to their success.
- Identify how mission and operations can most effectively support U.S. national defense and maritime transportation responsibilities and best fit into DOT.

This is a report of a five-member Panel that includes four Academy Fellows and one additional member who brings extensive maritime industry experience. The Panel was supported by a six-member professional study team that worked under the guidance of the

⁶ The United States Navy’s Military Sealift Command 2016 Handbook.

<http://www.msc.navy.mil/publications/MSCHandbook2016.pdf>

⁷ <https://www.globalsecurity.org/military/systems/ship/sealift-oif.htm>

⁸ U.S. Department of Transportation. *Budget Highlights FY 2017: Transforming Communities in the 21st Century*. https://www.transportation.gov/sites/dot.gov/files/docs/DOT_BH2017_508%5B2%5D.pdf

Panel. Brief biographical information of each Panel and study team member is provided in Appendix A.

1.2 Background on MARAD

In describing its mission, MARAD employees use language taken from the opening provision of the Merchant Marine Act of 1936: "To further the development and maintenance of an adequate and well-balanced American merchant marine, to promote the commerce of the United States, to aid in the national defense, , and for other purposes." Its mission is intended to strengthen a national maritime industry in order to support both national security needs and contribute to the nation's economic well-being.

With respect to its mission focus areas, MARAD frequently breaks them into the following five areas:⁹

- National Security/Strategic Sealift
- Mariner Training
- Environment, Security and Safety
- Port Infrastructure and Intermodal Development
- Shipbuilding and Finance

The report provides more details on each of the five missions in subsequent chapters, along with further background information about MARAD in chapter 2.

1.3 Methodology and Report Organization

Research for this report drew on a mix of interviews and documentary research (interviews are listed in Appendix B and a bibliography is provided in Appendix C). The study team conducted interviews with public and private sector stakeholders.

The report is divided into six chapters, as follows:

Chapter 1 provides background information on project scope and report structure.

Chapter 2 offers an overview of MARAD's mission authorities and short descriptions of various programs.

Chapter 3 discusses overarching issues that impacts MARAD's effectiveness.

⁹ The list of five missions is adapted from congressional testimony of then Acting Administrator Joel Szabat, dated April 4, 2017 before the House Committee on Transportation and Infrastructure.

Chapter 4 addresses MARAD's sealift mission, with respect to both the military and the commercial sector.

Chapter 5 covers MARAD's mission to provide adequate qualified merchant mariners.

Chapter 6 evaluates various programs not connected with sealift, relating to finance, environment, safety and security, and ports and intermodal transportation.

Chapter 7 presents report conclusions.

Chapter 2: MARAD Programs and Operations

This chapter summarizes the current programs and operations of MARAD. It is intended to be a non-judgmental summary that lays out the facts about what MARAD does. These programs and activities do not constitute the “mission” of the agency but all of them are tools MARAD has available to use to advance the mission.¹⁰

Today, as has been true throughout the country’s history, the U.S. must be considered a maritime nation whose economic and national security is inextricably linked to maritime transportation systems. More than 90 percent of U.S. military cargo in peacetime and in times of war moves on oceangoing vessels.¹¹ Similarly, about 90 percent of global commercial import and export trade, including everything from heavy equipment to digital devices, from petroleum products to agricultural goods, is carried by the international shipping industry.¹² U.S. law since at least 1904 has required DoD to prefer U.S. commercial vessels to move supplies for military engagements and routine shipments of military goods (everything from food for military kitchens to personal effects of service members stationed abroad to ammunition and heavy equipment) to foreign bases of operation around the world.¹³ This is a policy more recently affirmed by National Security Directive 28 as updated in 1989, also known as the National Security Directive on Sealift:¹⁴

The U.S.-owned commercial ocean carrier industry, to the extent it is capable, will be relied upon to provide sealift in peace, crisis, and war. This capability will be augmented during crisis and war by reserve fleets comprised of ships with national defense features that are not available in sufficient numbers or types in the active

¹⁰ The mission of MARAD is discussed in chapter 3 of this report.

¹¹ For the statistics, see, e.g., Military Sealift Command, *Sealift Program*, <http://www.msc.navy.mil/PM5/> another agency along with the Maritime Administration that plays a major role in sealift operations.

¹² International Chamber of Shipping. *Shipping and World Trade*. <http://www.ics-shipping.org/shipping-facts/shipping-and-world-trade> The percentages are somewhat less than this for the U.S., which engages in significant import and export trade with Canada and Mexico. A substantial amount of that trade moves by truck. End of July Year, to Date 2017, Canada and Mexico were, in fact, the number two and number three trading partners with the U.S., accounting for 29.6 percent of total U.S. trade. See U.S. Department of Commerce, Census Bureau. *Top Trading Partners, July 2017*. <https://www.census.gov/foreign-trade/statistics/highlights/toppartners.html>

¹³ 10 USC § 2631(a): “Only vessels of the United States or belonging to the United States may be used in the transportation by sea of supplies bought for the Army, Navy, Air Force or Marine Corps.” The annotated U.S. Code cites authority from 1904 for this provision. This is a “cargo preference” requirement that 100% of U.S. military cargoes move on U.S.-flag merchant marine or military vessels, if they are available. Unavailability and exceptions bring the actual percentage to the mid-nineties. “Cargo preference” is discussed later in this report.

¹⁴U.S. White House Office. *National Security Directive 28: National Security Directive on Sealift*, October 5, 1989. <https://www.hsdl.org/?abstract&did=458560>

U.S.-owned commercial industry. DOT is responsible for determining whether adequate manpower is available to support the operation of reserve ships during a crisis.

National Security Directive 28, in turn, fits into a more general policy first enacted in the United States in 1920 that it is “necessary for the national defense and the development of the domestic and foreign commerce of the U.S. that the U.S. have a merchant marine:

- Sufficient to carry the waterborne domestic commerce and a substantial part of the waterborne export and import foreign commerce of the U.S. and to provide shipping service essential for maintaining the flow of the waterborne domestic and foreign commerce at all times;
- Capable of serving as a naval and military auxiliary in time of war or national emergency;
- Owned and operated as vessels of the U.S. by citizens of the U.S.;
- Composed of the best-equipped, safest, and most suitable types of vessels constructed in the U.S. and manned with a trained and efficient citizen personnel; and
- Supplemented by efficient facilities for building and repairing vessels.”¹⁵

MARAD draws its mission from these long-standing statements of federal policy.¹⁶

MARAD was established as an agency of the Department of Commerce by a Presidential Reorganization Plan in 1950.¹⁷ During 1966, when the creation of DOT was under consideration, it was contemplated that MARAD would become part of the new Department. However, that move was sacrificed in order to gain congressional approval. At the request of President Reagan, MARAD was moved to DOT under the terms of the Maritime Act of 1981.¹⁸ In his statement on signing that Act, President Reagan reaffirmed the continuing need for a “strong merchant marine capable of meeting both our peacetime need for transportation of resources and products and our need for logistical support in time of national emergency.” He concluded that “this organizational change is a significant

¹⁵ 46 USC § 50101, Merchant Marine, “Objectives and Policies”, codified from the text of the Merchant Marine Act of 1920 (also known as the “Jones Act”) and the Merchant Marine Act of 1936.

¹⁶ The MARAD mission (or missions) is discussed in some detail in Chapter 3 of this report.

¹⁷ Reorganization Plan No. 21 of 1950 (President Truman). There were predecessor agencies dating back to the Shipping Act of 1916.

¹⁸ Maritime Act of 1981, “An Act to Revise the Laws Pertaining to the Maritime Administration”, Section 2, Pub. Law 97-31, 95 Stat. 151 (August 6, 1981). The intention of this legislation was to organize all the modes of transportation under the DOT. See also MARAD Annual Report for 1981,

https://www.marad.dot.gov/wp-content/uploads/pdf/MARAD_Annual_Report_1981.pdf

achievement and will be of assistance in considering the maritime industry as part of a comprehensive national transportation system. This is of particular importance in view of the recent innovations in marine transportation that have resulted in greater integration of land and water transportation modes.”¹⁹

2.1 Agency Programs

The Panel separates the work MARAD does into six distinct mission areas:

- National Security/Strategic Sealift;
- Mariner Training;
- Environment, Safety, and Security;
- Port Infrastructure and Intermodal Development;
- Shipbuilding and Finance; and
- Support for America’s Role as a Maritime International Trading Nation.

The Agency also plays a secondary role to Customs and Border Protection (Customs) in enforcement of the cabotage laws²⁰ governing the U.S. coastwise trade, as explained in this chapter.

Each of these mission areas and the tools that are used to affect them are summarized in this chapter and will be evaluated as to their efficiency and effectiveness in greater detail in the chapters that follow.²¹

Before turning to those summaries, we note that, for an Agency of its size and scope, with a possible budget for FY 2018 of \$490.6 million,²² MARAD operates under a host of detailed and complex statutory mandates. These mandates are collected in the Legal Authorities Appendix D to this report.

¹⁹ Reagan, Ronald. *Statement on Signing the Maritime Act of 1981*, August 6, 1981.

<https://reaganlibrary.gov/archives/speeches/29-crchives/speeches/1981/532-80681f>

²⁰ The dictionary defines “cabotage” to mean “trade or transport in coastal waters or airspace or between two points within a country” <https://www.merriam-webster.com/dictionary/cabotage>. Many countries including the United States implement regulation of this trade. The subject is covered in more detail in Section __ of this report.

²¹ Appendix G to this Report provides a current organizational chart for MARAD, which may also be referenced.

²²U.S. House of Representatives Committee on Appropriations. July 10,2017. Appropriations Committee Releases Fiscal Year 2018 Transportation, Housing and Urban Development Funding Bill.

<https://appropriations.house.gov/news/documentsingle.aspx?DocumentID=394975> . MARAD has been approved for an appropriation of \$490.6 million in Fiscal 2018 by the House Appropriations Committee.

2.2 National Security/Strategic Sealift

Sealift refers to the practice of transporting military cargo over oceans and other waterways in times of war, conflict, emergency, or peace. The goal of the MARAD sealift mission is to maintain (a) the ability of U.S.-flag merchant marine vessels, both privately held and owned by the government, along with (b) a sufficient number of U.S.-citizen mariners, to (c) provide the capability to support U.S. military cargo movements in the event of emergencies and support other needs in the event of natural disasters.²³ The following six programs provide support to the sealift mission:

1. National Defense Reserve Fleet (NDRF)
2. Ready Reserve Force (RRF)
3. Ship Disposal Program
4. Maritime Security Program (MSP)
5. Voluntary Intermodal Sealift Agreement (VISA)
6. Cargo Preference Requirements

This section also covers MARAD's support for the NS *Savannah*, an out-of-commission nuclear-powered merchant marine vessel berthed in Baltimore, which is managed by the MARAD offices responsible for sealift.

2.2.1 National Defense Reserve Fleet (NDRF)

Under the terms of the Merchant Marine Act of 1946, the

Secretary of Transportation (now through MARAD) is required to “maintain a National Defense Reserve Fleet, including any vessel assigned by the Secretary to the Ready Reserve Force (RRF) component of the Fleet [discussed in the next section], consisting of those vessels owned or acquired by the United States government that the Secretary of Transportation, after consultation with the Secretary of the Navy, determines are of value for national defense purposes²⁴ and that the Secretary . . . decides to place and maintain in the fleet.” These vessels, including vessels loaned to State Maritime Academies (SMAs) as training ships, “shall be considered public vessels of the United States.”²⁵

²³ The argument over whether foreign-flagged vessels and mariners can satisfactorily accomplish this mission is considered in Chapter 4 of this report.

²⁴ Some of the vessels in the NDRF, as specified in the following table, are not in themselves of much value for “national defense purposes” but they are maintained as a source of spare parts for other vessels still operational in the Ready Reserve Force. Their purpose is, in effect, as “floating parts bins” for the aging technology of the RRF.

²⁵ Merchant Marine Act of 1946, codified at 50 USC § 4401, et seq. See § 4405.

As of May 31, 2017,²⁶ according to MARAD,²⁷ there were 99 vessels in the NDRF, including 46 in the RRF described in section 2.1.2. The remaining 53 vessels include:

Number of Vessels	Definition of Terms	Type of Vessel
6 vessels in “custody”	Vessels in custody include MARAD-owned vessels, RRF vessels not owned by MARAD, and may also include vessels of the other services including Army, Navy, National Oceanic and Atmospheric Administration, and Coast Guard, as well as vessels financed under the terms of Title XI	a. 2 barges b. 1 military c. 3 “other” = 6 vessels
15 “non-retention” vessels	MARAD vessels that no longer have a useful application and are pending disposition	a. 1 barge ship b. 7 break bulk c. 1 crane ship d. 4 military ships e. 1 “other” f. 1 Roll On/Roll Off = 15 vessels
32 “retention” vessels	MARAD vessels “preserved” for agency programs of one kind or another. ²⁸	a. 4 barge ships b. 10 break bulk c. 2 crane ships

²⁶ Unless otherwise stated, vessels numbers stated in this report are accurate as of time of report publishing.

²⁷ MARAD. May 31, 2017. *National Defense Reserve Fleet Inventory*. <https://www.marad.dot.gov/wp-content/uploads/pdf/i170531.pdf>

²⁸ MARAD cites several reasons vessels are “retained”. These include:

1. Sealift support
2. Reserve fleet organization (material storage e.g.)
3. Pending future status determination
4. Cannibalization or material stripping for RRF vessels

		d. 3 military e. 5 “other” f. 4 public nautical school ships g. 4 tankers = 32 vessels
--	--	--

Table 2.1 NDRF Vessels

As discussed in Chapter 4 in more detail, the NDRF has been in existence since shortly after World War II. MARAD advised in interviews that it spends a substantial amount of time and effort each year to continue to reduce the size of the “non-retention” vessel element of the fleet.²⁹ MARAD operates a ship disposal program (discussed below) to organize and manage this effort.

2.2.2 Ready Reserve Force (RRF)

The RRF was established in 1975 under the terms of a Memorandum of Understanding between DoD and DOT. It is managed as a component of the NDRF, which was itself established by statute in 1946. Both are addressed by the same section of the United States Code.³⁰

Managed by MARAD until emergencies require that one or more of the vessels be activated, the RRF as of May 31, 2017 consisted of 46 vessels, specifically:³¹

35 roll-on/roll off (RO/RO) vessels (including
 8 Fast Sealift Support vessels (FSS))
 2 heavy-lift or barge carrying ships
 6 auxiliary craneships
 1 tanker, and

-
- 5. Possible future military use
 - 6. Listed on national register and preserved pending donation
 - 7. Training ship for a MMA
 - 8. Vessel operated by MARAD in support of other agency programs/mission
 - 9. Training platform for one or more federal agencies

²⁹ One measure of the outcome of these efforts has been the elimination of the entire NDRF Suisun Bay staging area, as discussed in Chapter 6 of this report.

³⁰ See 50 U.S.C. §1744.

³¹ U.S. Maritime Administration. *The Maritime Administration’s Ready Reserve Force*.

<https://www.marad.dot.gov/ships-and-shipping/strategic-sealift/office-of-ship-operations/ready-reserve-force-rrf/>

2 aviation repair vessels.

These vessels are owned by MARAD but are operated and maintained by private companies that contract with MARAD. All the vessels are subject to USCG inspection to the same standards as commercial U.S.-flag ships. All are U.S.-flag vessels that are maintained in a state of readiness for activation in case of emergency, with limited crews of U.S.-citizen licensed and unlicensed mariners. In consultation with the Navy and USTRANSCOM, MARAD has determined each vessel to be of value for national defense purposes. The vessels are positioned around the country near embarkation ports convenient to DoD for rapid loading of supplies and deployment. Vessels are activated for service, most on five days' notice (a tanker is on 10 days' notice). From time to time, the vessel operators are directed to take the vessels on test voyages to make sure they remain in an advanced state of readiness.³² If the vessels are called up by USTRANSCOM, they become subject to the operational control of the Military Sealift Command (MSC), while remaining under the administrative control of MARAD, for the duration of a sealift or emergency mission. The average age of the vessels in this aging fleet is a little over 43 years.

The NDRF and the RRF are managed by the MARAD Office of Ship Operations. Funding is provided by appropriations transferred to MARAD from the Navy's National Defense Sealift Fund in accordance with a 1997 Memorandum of Agreement between DoD and DOT, which is executed by MARAD and USTRANSCOM.³³

2.2.3 Ship Disposal Program

MARAD is the exclusive disposal agent for U.S. government-owned merchant marine vessels or vessels that can be converted to commercial use when the vessel is above a certain size (1,500 gross tons or more). Vessels awaiting disposition are considered part of the NDRF.³⁴

In recent years, the program has witnessed reductions in the size of the U.S. government-owned fleet of obsolete vessels. Disposition involves primarily dismantling the vessel and recycling whatever is possible (e.g., selling steel for scrap), however, MARAD can also dispose of ships by selling the vessel if there is an international market for it and it remains

³² These "skeleton crews" are sufficient to crew the vessels while in a state of readiness, and to manage the "test voyages" used to keep the vessels current, but are not in sufficient numbers to support sustained operation of the vessels for an extended period of time. In all cases these crews are citizen-mariners under contract with the ship operating contractors who support the RRF.

³³ U.S. Maritime Administration. *Strategic Sealift*. <https://www.marad.dot.gov/ships-and-shipping/strategic-sealift/>

³⁴ Authority is based on provisions of the Federal Property and Administrative Services Act of 1949, as amended; codified at 40 U.S.C. 101 et seq.

seaworthy, artificial reefing utilizing the remains of a vessel (which has to conform to a number of environmental legal requirements for disposing of pollutants before reefing), or SINKEX (sink exercise), which is a Navy program involving sinking a vessel at sea as a live-fire training exercise, after first removing environmental hazards.³⁵

From the first quarter of FY 2001 through FY 2016, MARAD awarded dismantling contracts for 215 obsolete ships, removed 219 ships from the MARAD and Navy NISMO fleet sites,³⁶ and completed disposal action on 219 ships. At the start of FY 2017, there were only 15 ships designated as non-retention and available for disposal from the NDRF fleet.

Proceeds from disposition are required by law as follows: (1) 50 percent to improve NDRF (including RRF) vessels; (2) 25 percent to support the U.S. Merchant Marine Academy (USMMA) and State Maritime Academies (SMAs) for purchase of simulators and fuel; and (3) 25 percent to the Secretary of the Interior (DOI) for the National Park Service Maritime Heritage Grants Program; with a 25 percent set aside of the DOI amount to MARAD for preservation and presentation of MARAD Maritime Assets.³⁷

2.2.4 Maritime Security Program (MSP)

Under the terms of the MSP, MARAD, is authorized to establish a fleet of privately-owned U.S.-documented vessels that are “active, commercially viable and militarily useful.”³⁸ The vessels must be engaged “in foreign commerce”, not coastwise trade.³⁹ The statute describes two distinct purposes for the fleet:

³⁵U.S. Maritime Administration. *SINKEX*. <https://www.marad.dot.gov/ships-and-shipping/ship-disposal/sinkex/>

³⁶ See U.S. Maritime Administration. *Ship Disposal Program Annual Report Fiscal Year 2016*, at p. 5; <https://www.marad.dot.gov/wp-content/uploads/pdf/2016-Program-Annual-Report.pdf> MARAD and the Navy share some physical recycling facilities. “NISMO” is The Naval Inactive Ship Maintenance Office, one of four holding facilities in the United States for inactive Navy vessels, located in Philadelphia, PA.

³⁷ 54 USC §308704(a).

³⁸ 46 USC §53102(a). An “active” vessel refers to the requirement that the vessel be actively engaged in commerce, not in dry-dock or storage. A “commercially viable” vessel is determined by MARAD as one that is “necessary to maintain a United States presence in international commercial shipping and the applicant possesses the ability, experience, resources and other qualifications necessary to execute the obligations of the MSP Operating Agreement.” 46 CFR § 295.10(b)(3) The MSP vessel is expected to be a regular participant in U.S. foreign commercial trade, including trade in preference cargoes as discussed in a later section of this report. Whether a vessel is “militarily useful” is a determination made by MARAD in consultation with the Secretary of Defense. *Id.*

³⁹ The “coastwise trade” for the U.S. refers to shipping between two points in the U.S., including Alaska and Hawaii, and also including most of its island territories. See 46 USC § 55101. U.S. law limits this trade to vessels built in the U.S., staffed by U.S.-citizen mariners and operating under the U.S. flag designation. This is discussed in more detail later in this report.

1. Meet national defense and other security requirements (the “sealift” objective); and
2. Maintain a U.S. presence in international commercial shipping (the “international trade” objective).⁴⁰

The sealift objective and the international trade objective are both intended to advance American national security and economic security interests.

Today, the MSP fleet consists of 60 vessels, specifically:⁴¹

Type of Vessel	Number at May, 2017
Container Ship	24
Geared Container Ship	10
Roll-On/Roll-Off	18
Heavy Lift Ship	6
Product Tanker	2
Total:	60

Table 2.2 MSP Fleet Vessels

These vessels support full-time employment for about 2,400 U.S. mariners. The fleet employs almost 1,200 mariners at sea at any given time. Approximately 115,000 20-foot equivalent units (TEU), 3.4 million square feet of cargo space and 666,800 barrels of tanker capacity are committed to DoD through these MSP obligations.⁴² The MSP, according to MARAD, supports approximately 5,000 shore side maritime industry direct jobs, as well as jobs for highly qualified U.S. merchant mariners.

⁴⁰ The MSP is intended to meet the “national defense and other security requirements and maintain a United States presence in international commercial shipping.” 46 USC § 53102(a).

⁴¹ See generally U.S. Maritime Administration. *Maritime Security Program*. <https://www.marad.dot.gov/ships-and-shipping/strategic-sealift/maritime-security-program-msp/>

⁴²U.S. Maritime Administration. July 1, 2017. *The Maritime Security Program: Meeting National Sealift Needs*. <https://www.marad.dot.gov/wp-content/uploads/pdf/MSP-Brochure-7-1-2017.pdf>

Each vessel in this program is supported by a ten-year operating agreement between the ship owner and MARAD. The exact amount of annual operating agreement payments, however, is dependent on annual congressional appropriations.⁴³

The operating agreement payment can be thought of as, in effect, a retainer for use of the vessel when needed and, importantly, the associated network of logistics and facilities of its shipping company-owner and operator. In return for the retainer payment, the vessel operator agrees to make the vessel available to the U.S. if called on for a national emergency or other national security reason.⁴⁴ The vessel, with its crew of U.S.-citizen mariners, moves to the operational control of USTRANSCOM within a few days of being activated under the MSP.

As a further benefit of signing up for the MSP, the vessel owner becomes eligible to carry international “preference cargoes” of the U.S. military and civilian agencies. All military cargoes, including transportation of everyday personal goods of military personnel, must move on U.S.-flag vessels if they are available and “reasonably priced.” In addition, specified percentages of cargoes of other U.S. agencies (e.g., the Department of Energy or Department of Agriculture), cargoes of exported goods financed by the U.S. Export Import Bank, and cargoes of exported “food aid” for the U.S. Agency for International Development (USAID) or other agencies must be shipped on a U.S.-flag vessel, to include MSP vessels.⁴⁵

While preference cargoes, discussed in more depth below, have been declining in recent years,⁴⁶ the revenues they produce continue to be an important part of the MSP business model. Eligibility for carriage of preference cargoes is an incentive to join the MSP; more than that, many interviewees noted that cargo preference carriage is an important component of the economics of maintaining a U.S.-flag vessel in the MSP.⁴⁷ This topic is discussed further in Chapter 4.

The Sealift Support Office manages the MSP, as well as the VISA program described in the next section.⁴⁸

⁴³ This has raised issues with several MSP participants as discussed in Chapter 4 of this report.

⁴⁴ The retainer amount for each vessel is identical. Before the MSP, MARAD calculated an “operating cost differential subsidy” and other subsidies for each qualifying U.S.-flag vessel based on actual and projected costs. These programs were eliminated with the advent of the MSP. The prior programs are noted in an appendix to this report. See Appendix E.

⁴⁵ See 46 USC § 553 “passenger and cargo preferences.”

⁴⁶ See, e.g., Statement of General Paul J. Selva, Commander, USTRANSCOM, before the Senate Armed Services Committee at 9 (2015); https://www.armed-services.senate.gov/imo/media/doc/Selva_03-19-15.pdf

⁴⁷ Cargo preference is discussed further in Chapters 4 and 6 of this report.

⁴⁸ MARAD, *Strategic Sealift*, supra note 19.

2.2.5 Voluntary Intermodal Sealift Agreement (VISA)

“Intermodal freight transportation” refers to the use of two or more “modes”, i.e., truck, airfreight, railroad, pipeline, or ship, to transport goods from shipper to consignee. The intermodal process of interest to this report begins with freight loaded on a vessel being transferred to a truck or railcar for further transport. Shipping containers may be involved in intermodal transportation but the term applies to all forms of shipments using more than one “mode.” The VISA program is a partnership between MARAD and the commercial maritime industry to provide DoD with assured access to commercial sealift and intermodal capacity to support the emergency deployment and sustainment of U.S. military forces. Intermodal capacity includes dry cargo ships, equipment, terminal facilities, and intermodal management services.

Working together, the carriers enrolled in the VISA program, MARAD (the program manager) and the DoD, through USTRANSCOM develop transportation solutions in peacetime to anticipate DoD requirements at other times. The program provides for a seamless, time-phased transition from peacetime to wartime operations. Carrier representatives periodically meet with MARAD and USTRANSCOM to enable carriers to better meet defense transportation needs while maintaining ongoing commercial arrangements during contingencies.

Like the MSP, which calls for the vessel to come under the control of USTRANSCOM, the VISA participant, if called upon, enters into a form of charter agreement with USTRANSCOM for space on the vessel.⁴⁹ VISA participants also get priority preference when bidding on DoD peacetime cargo. Government use of the intermodal facilities and logistics units of the enrolled carriers is available at no additional charge.

MSP and VISA are complementary programs.⁵⁰ More than 90 percent of the militarily useful vessels in the U.S.-flag fleet are committed to the VISA program and over 75 percent of that capacity is provided by MSP vessels.⁵¹

⁴⁹ There are three different levels of cargo space commitments. The charter rates are worked out in advance, as part of the planning process.

⁵⁰ If the vessel participating in the MSP is “activated”, it comes under the control/direction of the MSC and USTRANSCOM, but it continues to be operated by its owner and receive its MSP payments. The annual agreement is paid out in monthly installments. If the vessel is activated under VISA, it carries on under a charter agreement with the government and the carrier receives a daily charter rate for the specific amount of space and corresponding amount of support (VISA stage I, II, and III). Under stage III, the entire vessel is chartered with appropriate space/containers. The rates are negotiated each year for a three year period. The ship then falls under the control/direction of USTRANSCOM, but is still operated by the carrier. The rates are generally high, as the Carrier no longer can participate in moving commercial cargo in the space committed. It is worth noting that USTRANSCOM has not had to initiate any stage requiring this specific type of a charter under VISA. Carriers prefer to volunteer space and use contract rates and not give up control of the ship by charter.

The VISA program is authorized under sections of the Defense Production Act of 1950, and the Maritime Security Act of 2003 that apply to MARAD. It was approved as a DoD-DOT Emergency Readiness Program on January 30, 1997.

The VISA program provides for a time-phased activation of state-of-the-art commercial vessels, including intermodal equipment, to coincide with DoD requirements while minimizing disruption to U.S. commercial operations.

2.2.6 Cargo Preference Requirements

Cargo preference is the term applied to shipment of cargoes owned by, paid for, or financed by the federal government. In such cases, the government takes the position that it can determine the appropriate carrier for shipment, with appropriate statutory limitations and exceptions. In applicable cases, the government requires that U.S.-flag vessels be used as the carrier.⁵² In addition to the provision covering 100 percent of military cargoes,⁵³ major cargo preference laws include the Cargo Preference Act of 1954;⁵⁴ Subchapter II of Chapter 553 of Title 46 of the U.S. Code, covering “Export Transportation of Agricultural Commodities”;⁵⁵ and regulations requiring shipment of all goods financed by the U.S. Export Import Bank to be transported on U.S.-flag vessels.⁵⁶

In addition to these requirements that apply to international shipments originating in the U.S., there are cargo preference requirements that apply to the coastwise trade under the terms of the Jones Act.⁵⁷ Virtually all cargoes (and passengers⁵⁸)—both government

⁵¹ MARAD, VISA Brochure; <https://www.marad.dot.gov/wp-content/uploads/pdf/VISA-BROCHURE-4-1-2017-wDOT-logo.pdf>

⁵² This is not in principle different from the general U.S. government requirement that if “a federal traveler” (i.e., a federal government employee or contractor) engages in foreign air travel he or she must fly on an air carrier with a U.S. air carrier operating certificate issued by the Federal Aviation Administration (subject to exemptions found in four “open skies” agreements). Known colloquially as the “Fly America Act” the provisions of the Federal Travel Regulations are enforced by the General Services Administration. See <https://www.gsa.gov/policy-regulations/policy/travel-management-policy/fly-america-act>

⁵³ Supra, note 3.

⁵⁴ 46 USC § 55305. This statute requires that 50 percent of all government-generated cargoes, meaning cargoes procured, furnished, or financed by the United States Government, be shipped on U.S.-flag vessels; shipment is subject to waivers if appropriate vessels cannot be made available.

⁵⁵ These include shipments of “food aid.” See 46 USC §55311 et seq.

⁵⁶ Public Resolution 17 of the 73d Congress, 46 USC §55304. The percentage is reduced to 50% if the importing nation gives reciprocal treatment to U.S. flag ships. When an ExIm Bank loan guarantee is involved (rather than a direct loan), cargoes are to be shipped exclusively on U.S.-flag vessels provided the guarantee amount is over \$20 million or the term of the guarantee is over seven years.

⁵⁷ The Merchant Marine Act of 1920 is often referred to as the “Jones Act.” The statute is codified in subtitle V of Title 46 of the United States Code. See e.g., 46 U.S.C. § 55101 et seq. on the “Coastwise Trade.” This subject generally is described some detail in Section 2.8 of this Report.

⁵⁸ The passenger provisions are found in the U.S. Code sections on coastwise trade but are derived from statutes other than the Jones Act.

impelled and commercial—are required to be carried by U.S.-flag ships certified by coastwise endorsement.⁵⁹ MARAD has a secondary role in Jones Act enforcement; which is primarily handled by Customs.⁶⁰ Jones Act cargo preference and the MSP present different enforcement issues, since the Jones Act applies only to the “coastwise trade” of the U.S. and the MSP focuses on cargo preference in international shipping under the U.S. flag.

MARAD has an office that plays a role in managing the cargo preference requirements. The Office of Cargo and Commercial Sealift has, as its primary focus, promotion and monitoring capabilities of the mandated use of U.S.-flag vessels in the movement of federally-sponsored cargo in international waters.⁶¹ MARAD keeps a list of all U.S.-flag oceangoing vessels and maintains a continuous dialogue with carriers on the services and trade routes offered. The Office reminds/educates federal shipping agencies of the cargo preference requirements, helping them locate available U.S.-flag vessels to use for shipment. If necessary, MARAD can assist agencies or their contractors with their compliance requirements by issuing a determination of non-availability in cases where U.S.-flag services are either unavailable or if the rates offered are deemed unreasonable.

2.2.7 NS Savannah

The Nuclear Ship *Savannah* (NSS) is considered a MARAD NDRF legacy retention asset. It is a decommissioned, nuclear-powered merchant ship berthed in Baltimore Harbor. The ship houses a defueled, deactivated, inoperable 80 Megawatt nuclear power plant. The vessel is licensed and inspected by the Nuclear Regulatory Commission (NRC). It was declared a National Historic Landmark in 1991. Decommissioning is a process defined, licensed, and inspected by the NRC and must be completed by December 2031. Meanwhile, MARAD explains that the process requires retention of employees who serve as experts in the nuclear technology and decommissioning process and compliance with National Historical Landmark rules for dismantling when the vessel is decommissioned.

2.3 Mariner Training

MARAD plays a significant role in the education and training of U.S.-citizen mariners with unlimited credentials needed for the sealift mission as well as for the U.S. coastwise trade. MARAD plays an indirect supportive role in the training of nonlicensed mariners. MARAD’s central focus is to support an adequate base of mariners to meet the U.S. government’s

⁵⁹ A “coastwise endorsement” is provided after an application is approved by the Coast Guard. See 46 U.S.C. § 12112. The endorsements go to U.S.-built vessels, majority owned by U.S.-citizens and staffed by a crew of U.S.-citizens.

⁶⁰ MARAD’s role in Jones Act enforcement is discussed in section 2.7 of this report.

⁶¹ Determination of U.S.-flag status is an administrative decision by the Coast Guard, but MARAD keeps track of at least the 60 U.S.-flag vessels in the Maritime Security Program.

sealift crewing requirements for federal and commercial sealift, in peace and war, ensuring the mobility needs of DoD are met.

2.3.1 United States Merchant Marine Academy (USMMA)

MARAD operates the USMMA, an accredited institution of higher education with about 950 cadets located at Kings Point, New York.⁶² MARAD states: “The mission of the USMMA is to educate and graduate licensed merchant marines and leaders of exemplary character who will serve America’s maritime transportation and defense needs in peace and war.”⁶³

The USMMA offers a four-year maritime-focused educational program centered on academic and practical technical training that leads to credentials earned by every graduate. These include: (1) an accredited Bachelor of Science Degree; (2) an unlimited USCG license as a Merchant Marine Officer; and (3) a military commission in any U.S. military service (either active duty or reserve status). In addition, all eligible U.S.-citizen students⁶⁴ graduate with a federal security clearance that enables them to serve on military vessels and in missions. Tuition and other expenses are paid by the federal government. Students are chosen by a process that includes nomination by Congressional offices. In addition, a few foreign students are admitted.

Graduates have a federal service obligation upon graduation. They can either choose to: (1) work concurrently five years in the U.S. maritime industry with eight years of service as an officer in any reserve unit of the U.S. armed forces; or (2) serve five years of active duty in any of the nation’s armed forces.

In addition to the academic program at USMMA, cadets must accumulate at least 360 days of sea-time during their education. These days are typically accumulated onboard commercial, RRF, and MSC vessels. Generally, the requirement is met by participating in the Sea Year, which is an element of the USMMA’s academic program. The Sea Year consists of two independent sailing periods, one of four months, the other of eight months, coordinated by USMMA staff.

⁶² The Academy has a Board of Visitors that includes 10 members of both the Senate and House of Representatives and *ex officio* members that include the Commander of the Military Sealift Command and the Deputy Commandant for Operations of the Coast Guard, along with additional members of Congress and others with maritime backgrounds. 46 U.S.C. § 51312(b)(1)(F).

⁶³ United States Merchant Marine Academy. United States Merchant Marine Academy 2014-2015 Catalog. <https://www.usmma.edu/sites/usmma.edu/files/docs/New%20Curriculum%20Catalog%20%28Class%20of%202017%20and%20beyond%29.pdf>

⁶⁴ The Academy has a few foreign students who may not be eligible.

2.3.2 State Maritime Academies (SMAs)

MARAD also provides limited funding to the six SMAs located across the U.S.: California Maritime Academy, Maine Maritime Academy, Massachusetts Maritime Academy, Great Lakes Maritime Academy, Texas A&M Maritime Academy, and the State University of New York Maritime College. These maritime academies contribute about 75 percent of entry-level licensed mariners with unlimited credentials⁶⁵ to the pool of qualified mariners for service in the U.S. merchant marine, the U.S. Armed Forces, and the nation's intermodal transportation system. These academies may enroll up to 75 students each year in the Student Incentive Program (SIP) who in return will have service obligations and a requirement to serve upon graduation. MARAD also provides training vessels to SMAs, called school ships, for use in at-sea training and as shore-side laboratories. These vessels constitute MARAD's assistance to the academies to train qualified licensed mariners.

Graduates of these state academies, except those who are SIP recipients, do not have tuition and expenses paid by the federal government, do not receive security clearances on graduation, nor do they incur a service obligation to MARAD upon graduation. SIP recipients are authorized to receive up to \$32,000 for tuition coverage and in return are obligated to attain Mariner Credentials, and either (1) enter the U.S. Armed Forces on active duty for 3 years or (2) be employed in the maritime industry for 3 years and maintain a commission as an officer in the U.S. Armed Forces reserve unit for eight years concurrently.⁶⁶

2.4 Environment, Safety and Security

2.4.1 Office of the Environment: META Program

The Office of Environment participates in the development of international and U.S. environmental requirements. International requirements are typically developed by the International Maritime Organization; MARAD is regularly a member of the U.S. delegation. The Office of Environment also facilitates agency and field office compliance with applicable federal, state and local requirements.⁶⁷ The Office of Environment also participates in oversight inspections of grantees, to ensure the appropriate environmental mitigation measures are being carried out.

⁶⁵ SMAs collectively graduate approximately 660 cadets with officer endorsements annually, of which, approximately 75 have confirmed service obligations. SMA cadets graduate with unlimited licenses but do not have services obligations under SIP.

⁶⁶ Maritime Administration. Maritime Academies. <https://www.marad.dot.gov/education/maritime-academies/>

⁶⁷ MARAD compliance includes ensuring that appropriate environmental planning (environmental impact statements, assessments, and categorical exclusions, as appropriate) has been completed relative to various grant programs.

The Coast Guard and Marine Transportation Act of 2012⁶⁸ includes a provision enabling MARAD to study ways to achieve environmental improvements in a variety of ways: by reducing emissions and other ship discharges; improving fuel economy or the use of alternative fuels; and controlling aquatic invasive species.⁶⁹ MARAD's Office of Environment administers this program—called the Maritime Environmental and Technical Assistance (META) program—conducting environmental research, development, and demonstration projects in collaboration with government, industry, and academic stakeholders. The Office of Environment (including the Offices of Safety and Security described in sections 2.4.2 and 2.4.3) operated with direct full time equivalents (FTE) employment of 18 in FY 2017. The META program received funding of \$3 million that year and has requested an additional \$3 million in funding for FY 2018.⁷⁰

META initiatives include: Control of Aquatic invasive species (ballast water treatment generally and technology testing projects in the Chesapeake Bay and Great Lakes; hull fouling or biofouling prevention); vessel and port air emissions (marine biofuels emission testing, marine applications of fuel cells, hydrogen fuel cells for port and shipboard marine applications); liquefied natural gas feasibility studies as an alternative fuel; and a variety of emission reduction technology projects and other projects with cooperating research institutions, funded by the META budget.⁷¹

2.4.2 Office of Safety

This Office assists the USCG and international bodies (such as the International Maritime Organization) in developing affordable and practicable international and U.S. maritime safety regulations and consensus standards. It supports the adoption by the U.S. maritime industry of improved safety-related technology and practices that reduce the risk of injury to workers and passengers, minimize time lost, and reduce the significant financial burden when injuries do occur.⁷² Cyber security, as it relates to safety, is a significant focus area of this Office, as is preparing for the advent of autonomous vessel technology.

2.4.3 Office of Security

This Office collaborates with USCG and the Navy in maintaining both government and maritime industry awareness of potential threats (to include cyber-threats, piracy,

⁶⁸ Public Law 112-213, December 20, 2012.

⁶⁹ Ibid, title IV, § 403(a), codified at 46 USC § 50307.

⁷⁰ Department of Transportation, *MARAD Budget Requests FY 2018*, <https://cms.dot.gov/sites/dot.gov/files/docs/mission/budget/281151/marad-fy-018-cj-budget.pdf>

⁷¹ See U.S. Maritime Administration, *META Program*, <https://www.marad.dot.gov/environment-and-safety/office-of-environment/environmental-technology-assistance-initiative/>

⁷² See U.S. Maritime Administration, *Office of Safety*; <https://www.marad.dot.gov/environment-and-safety/office-of-safety/>

terrorism, criminal activity, and other security threats) in the maritime domain. It administers a Maritime Security Communications program with industry, providing stakeholders a single point of contact for current threat information anywhere in the world. It contributes to international and U.S. development of best practices related to security, including conventions, agreements, statutes, regulations, policies, and training to protect the maritime industry.

2.5 Port Infrastructure and Intermodal Development

2.5.1 Deepwater Ports

A deepwater port is defined by statute as:

any fixed or floating manmade structure other than a vessel, or any group of such structures, that are located beyond State seaward boundaries and that are used or intended for use as a port or terminal for the transportation, storage, or further handling of oil or natural gas for transportation to or from any State.⁷³

Because oil and liquefied natural gas (LNG) cargoes are hazardous materials in the ordinary port environment, a concern over safety calls for a deepwater port that moves the connection between the mainland and the vessel to an area of deep water, away from other port facilities and outside U.S. territorial waters, for safe handling. Deepwater port facilities are connected to the mainland via pipelines running on the sea floor.

Such ports “include all associated components and equipment, including pipelines, pumping stations, service platforms, mooring buoys, and similar features to the extent they are located seaward of the high-water mark.”⁷⁴

The Deepwater Port Act of 1974⁷⁵ establishes a licensing system for ownership, construction, operation, and decommissioning of deepwater port structures located beyond the U.S. territorial sea.⁷⁶ Applicants are required to meet a number of conditions. In 2003, at a time when only one deepwater port had been licensed by the Secretary of Transportation under the statute, MARAD was delegated authority to investigate and issue

⁷³ 33 USC § 1502(9)(A)

⁷⁴ Ibid, §1502(9)(B)

⁷⁵ Codified at 33 USC §1501 et seq.

⁷⁶ MARAD has also been able to link deepwater port licenses to fostering employment for mariners to increase base of credentialed mariners.

the relevant licenses.⁷⁷ MARAD is responsible for determining financial capability of licensees, citizenship, and ultimately granting or denying the license. This is an administrative review process carried out under the terms of rules published in the Code of Federal Regulations.⁷⁸ MARAD is charged with collaborating with the USCG in this process and may also work with other federal agencies. In addition, Governors of the coastal states adjacent to those facilities under review must approve the application and, in effect, have veto power over the determination.

According to MARAD, 21 license applications have been filed for approval to date, and 10 have been approved.⁷⁹

The Deepwater Ports statute also provides that

an adjacent coastal State may fix reasonable fees for the use of a deepwater port facility, and such State and any other State in which land-based facilities directly related to a deepwater port facility are located may set reasonable fees for the use of such land-based facilities.⁸⁰

Fees are subject to the approval of the Secretary of Transportation.⁸¹

2.5.2 Port Conveyance Program

The Port Conveyance Program was established by MARAD under the terms of the Federal Property and Administrative Services Act of 1949, as amended.⁸² It enables the federal government (acting through MARAD) to convey surplus real estate to state and local authorities for the purpose of expanding port facilities. The conveyance is at no cost to the party receiving the land, so long as the land use remains a port facility in perpetuity. Some of the property becomes available through the BRAC (Base Realignment and Closure Process) conducted by DoD. Other property becomes available through a variety of ways.

⁷⁷ See Department of Transportation, Office of the Secretary, 49 CFR Part 1, "Organization and Delegation of Powers and Duties", 68 Fed. Reg. 36496 (2003); <https://www.gpo.gov/fdsys/pkg/FR-2003-06-18/pdf/03-15400.pdf>

⁷⁸ See generally, 33 C.F.R. Part 148, "Deepwater Ports." Section 148.3(a) notes that "the Coast Guard and MARAD coordinate with each other in processing applications."

⁷⁹ U.S. Maritime Administration. *Deepwater Port Licensing Program: Approved Applications and Operational Facilities*. <https://www.marad.dot.gov/ports/office-of-deepwater-ports-and-offshore-activities/approved-applications-and-operational-facilities/>

⁸⁰ 33 USC at §1504(h)(2)

⁸¹ *Ibid.* The term "land-based facilities directly related to a deepwater port facility" means the onshore tank farm and pipelines connecting such tank farm to the deepwater port facility.

⁸² Federal Property and Administrative Services Act of 1949, as amended by section 2927 of Pub.L. 103-160, the National Defense Authorization Act of 1994.

The program is administered by the MARAD Office of Deepwater Ports. Since the inception of the program in 1995, MARAD has transferred over 2,800 acres of former federal property to eligible ports to facilitate development of those ports and the intermodal transportation system.

2.5.3 Short Sea Shipping (America's Marine Highway Program)

“Short sea shipping” is a term of art in the maritime industry for the practice of shipping cargoes by sea without crossing an ocean. Basically, it is another term for the “coastwise” trade. It is equivalent to “Marine Highways” in North America.⁸³ Congress authorized the program now known as America's Marine Highways Program (AMHP) in the Energy Independence and Security Act of 2007,⁸⁴ and assigned administrative authority to the Secretary of Transportation, as part of an effort to mitigate landside transportation congestion. A marine highway is an intermodal transportation route involving a combination of waterways, port facilities, and road and rail connectors, the function of which is to accommodate the efficient transportation of containerized, unitized and trailerized cargoes. Since then, the legislation has been amended to have as one of its purposes the explicit promotion of “shortsea transportation” As defined in the U.S. Code, this term means “the carriage by a documented vessel of cargo-

1. that is –
 - a) contained in intermodal cargo containers and loaded by crane on the vessel;
 - b) loaded on the vessel by means of wheeled technology;
 - c) shipped in discrete units or packages that are handled individually, palletized, or unitized for purposes of transportation; or
 - d) freight vehicles carried aboard commuter ferry boats; and
2. that is-
 - a) loaded at a port in the United States and unloaded either at another port in the United States or at a port in Canada located in the Great Lakes Saint Lawrence Seaway System; or
 - b) loaded at a port in Canada located in the Great Lakes Saint Lawrence Seaway System and unloaded at a port in the United States.”⁸⁵

⁸³ “Domestic fleets doing coastal or inland trade are often referred to as being involved in short sea shipping. Although short sea shipping definition varies by countries, this specific activity is usually understood as the movement of cargo by sea without directly crossing an ocean. It is also referred in North-America as “marine highways”; <https://www.cslships.com/en/our-values/our-environment/short-sea-shipping>

⁸⁴ Pub. Law 110-140 (December 19, 2007) codified in Chapter 556 of Title 46 of the U.S. Code.

⁸⁵ 46 USC § 55605, compiled from provisions in statutes from 2007, 2012 and 2015. See

<http://uscode.house.gov/view.xhtml?req=granuleid:USC-prelim-title46-section55605&num=0&edition=prelim>

As MARAD recently noted in the Federal Register, the most recent amendments to the statute have expanded the focus of the AMHP to “include efforts that increase utilization or efficiency of short sea transportation on designated Marine Highway Routes.”⁸⁶

Under the terms of the AMHP, state and local governments, port authorities, tribal governments, and other public entities apply for navigable waterways to be designated by the Secretary of Transportation as Marine Highway Routes. The Secretary may designate projects that seek Federal support to begin or expand Marine Highway services between domestic ports on these Routes to be Marine Highway Projects (Projects). As of November 2016, there were 24 Marine Highway Routes around the country, and 14 designated Projects. Only sponsors of designated projects are eligible to apply for Marine Highway grants. While applications for route designation are accepted at any time, project applications are accepted twice a year, on June 30 and December 30. If a project designation is granted to a public sponsor or sponsors, the project becomes eligible for grants and receives a number of promotional services performed by MARAD, from promoting the service with government freight transportation planners at all levels to advising sponsors of the availability of a variety of funding sources for improvements.⁸⁷

This promotional initiative is reported to be a relatively small program with a staff of four, which is not funded every year but has been funded in 2010, 2016 and 2017 at the rate of \$5 million per year. It reportedly has a strong congressional constituency. It is managed by the MARAD Office of Marine Highways and Passenger Services. The agency notes that in January 2017 it issued a Notice of Proposed Rulemaking in the Federal Register to amend the AMHP regulations in order to improve processes, implement amendments enacted in 2012 and streamline the regulations. The comment period ended March 17, 2017 and final action is expected by the end of the year.⁸⁸

2.5.4 Port Development Grants

There are two grant programs operated by DOT available to fund projects involving maritime infrastructure. These programs are managed on an all-department basis and include maritime projects, as well as project funding available to other modes of transportation. MARAD plays a role in assisting DOT to prepare guidance to grant

⁸⁶U.S. Department of Transportation. U.S. Maritime Administration. January 11, 2017. *Revision of the America's Marine Highway Program Regulations*, 82 Fed. Reg. 3250, at 3251. <https://www.gpo.gov/fdsys/pkg/FR-2017-01-11/pdf/2017-00249.pdf>

⁸⁷ A list of 10 items that MARAD will undertake to support a designated project is found at 82 Fed. Reg. 3250, 3256 (response to paragraph (f)).

⁸⁸ Supra, note 78.

applicants, consulting on project selection and providing post-award grant management, bringing a maritime focus to the overall effort of strengthening freight movement.

TIGER Grants. The Transportation Investment Generating Economic Recovery Grant Program, or TIGER grants, is a discretionary grants program that provides for DOT investment in road, rail, transit, and port projects that promise to achieve national objectives. While this program is not established through congressional authorization language, since 2009, Congress has appropriated nearly \$5.1 billion for eight rounds of TIGER grants. Most recently, in the *Consolidated Appropriations Act of 2017*, Congress appropriated \$500,000,000, to remain available through September 30, 2020, to the Secretary's Office of the Department of Transportation, for infrastructure investments in "projects that will have a significant impact on the Nation, a metropolitan area, or a region."⁸⁹

In each round of TIGER, DOT receives hundreds of applications to build and repair critical pieces of freight and passenger transportation networks. This grant program is considered very competitive and has a wide range of applications.⁹⁰ TIGER grants cover far more than just maritime infrastructure but port projects including port access have received more than 11 percent of TIGER funding to date. Prior to TIGER, it was difficult to provide federal money to support landside port infrastructure projects.

FASTLANE/ INFRA Grants. This program focuses on freight and highway projects. Enacted as part of the FAST Act (Fostering Advancements in Shipping and Transportation Act) in 2015,⁹¹ the grants were initially known as "Fostering Advancements in Shipping and Transportation for the Long-Term Achievement of National Efficiencies" grants, or FASTLANE grants. In August of 2017, DOT announced that it was renaming the program to be called "Infrastructure for Rebuilding America" or INFRA grants.⁹² This is a substantial grant program, with authorizations of \$800 million in FY 2016 and \$850 million in FY 2017, and increasing to one billion dollars in 2020. While the funding comes from the Highway Trust Fund, there is exception language that allows a total of \$500 million over the five year period of the Act to go to non-highway projects including ports and port access. Issues covered by the program relevant to maritime infrastructure include:

⁸⁹ Department of Transportation, Office of the Secretary. *Consolidated Appropriations Act of 2017, Division K, Title I: Infrastructure Investments*. P. 592. <https://www.congress.gov/115/bills/hr244/BILLS-115hr244enr.pdf>

⁹⁰U.S. Department of Transportation. September 7, 2017. *TIGER Discretionary Grants: U.S. Department of Transportation Announces \$500 Million Funding Opportunity through TIGER Program*. <https://www.transportation.gov/tiger>

⁹¹ 23 U.S.C. § 117,

⁹² See Letter from Secretary Chao to Chairman Shuster of the House Transportation and Infrastructure Committee, August 2, 2017. https://transportation.house.gov/uploadedfiles/2017_fastlane.pdf

reducing highway congestion and improving connectivity between modes of freight transportation, among other objectives.⁹³ These investments are to be guided by a planning effort at the national and state levels that, among other criteria, looks at needs for intermodal access to ports

The INFRA grants program provides dedicated, discretionary funding for freight and highway projects. The grants provide direct funding and are intended to spur increased investments by state, local, and private partners.⁹⁴ The program guidance also provides a priority to projects with strong private sector involvement. The INFRA program recently updated its criteria to evaluate projects.

2.5.5 StrongPorts Program

The StrongPorts Program is managed by an office within the Office of Intermodal System Development: the Office of Infrastructure Development and Congestion Mitigation. StrongPorts is a development program intended to be a promotional authority to help communities support ports and port development.⁹⁵ It is intended to help ports engage public- and private-sector partners to plan, finance, and execute port and “near-port” infrastructure projects. StrongPorts is not itself funded as a grants program.

The program is also intended to develop best practice materials, including most recently (January, 2017) the first two “modules” of the “Port Planning and Investment Toolkit”⁹⁶, a joint project of the American Association of Port Authorities (AAPA) and DOT, through MARAD. This is, among other things, an effort to reduce the risk of producing inadequate port infrastructure plans.⁹⁷ It is a major report created with substantial participation by

⁹³U.S. Federal Highway Administration. February 2016. *Fostering Advancements In Shipping And Transportation For The Long-Term Achievement Of National Efficiencies; (Fastlane) Grants*. <https://www.fhwa.dot.gov/fastact/factsheets/fastlanegrantsfs.cfm>

⁹⁴ U.S. Department of Transportation. August 2, 2017. Infrastructure for Rebuilding America (INFRA) Grants. <https://www.transportation.gov/buildamerica/infragrants>

⁹⁵ Section 3512 of the National Defense Authorization Act for Fiscal Year 2010, Public Law 111-84, established the “port infrastructure development program” for MARAD and granted the Administrator authorities to (a) receive funds from a variety of sources; (b) coordinate with other Federal agencies on NEPA reviews; (c) coordinate on other matters with other agencies; and (d) provide technical assistance to port authorities or other appropriate agencies. This statute is the specific legislative authority for the StrongPorts Program.

⁹⁶ U.S. Maritime Administration and American Association of Port Authorities. January 2017. *Port Planning and Investment Toolkit*. <https://www.marad.dot.gov/wp-content/uploads/pdf/Port-Planning-and-Investment-Toolkit-2.pdf>

⁹⁷ Earlier efforts by MARAD were criticized by the DOT Inspector General in its report, “MARAD has Taken Steps to Develop a Port Infrastructure Development Program but is Challenged in Managing Its Current Port Projects”, See <https://www.oig.dot.gov/sites/default/files/MARAD%20Oversight%20of%20Ports%20Infrastructure%20Development%20Projects%5E8-2-13.pdf>

many port authorities and other agencies. The Toolkit is built around modules on planning, funding and executing projects, with the goal of finding the best course of action to accomplish goals more easily and in a more user-friendly fashion. The Toolkit modules can be used to help ports evaluate port conditions; define problems that need to be solved; plan a solution thoroughly; work through the preplanning process; engage private-sector partners; present actionable needs to administrators; access available funding; and bring projects to a successful completion.

2.6 Shipbuilding and Finance

2.6.1 Capital Construction Fund (CCF)

The CCF Program⁹⁸ was created to assist owners and operators of U.S.-flag vessels in accumulating the large amounts of capital necessary for the modernization and expansion of the U.S. merchant marine. The program encourages construction, reconstruction, or acquisition of vessels through the deferment of federal income taxes on certain deposits of money or other property placed into a CCF.

CCF vessels must be built in the U.S. and documented under the laws of the U.S. for operation in the nation's foreign, Great Lakes, short-sea shipping or noncontiguous domestic trade or its fisheries. Participants must meet U.S.-citizenship requirements.

A goal of the program is to assist in the modernization and expansion of vessels used in the noncontiguous domestic trade and the Great Lakes trade. Liner companies that operate containerships and other specialized vessels from the West Coast of the U.S. to points in the Far East and Hawaii, and from Gulf and East Coast ports to Europe, South America and Africa may also participate, along with several other categories of vessels.⁹⁹

A wide variety of vessels are covered by this program. These include large containerships, roll-on/roll-off ships, barge-carrying vessels, and other general cargo vessels. Crude oil and petroleum product tankers are also covered, as are sophisticated LNG carriers and self-unloading Great Lakes bulk carriers. There is even coverage for tugs, barges, ferries and passenger vessels. The operators range in size from large, consolidated companies to partnerships and sole proprietors.

The CCF program is an income tax deferral program. Both MARAD¹⁰⁰ and the Internal Revenue Service of the Department of the Treasury¹⁰¹ have regulations governing different aspects.

⁹⁸ See 46 USC §53501 et seq.

⁹⁹ See U.S. Maritime Administration, *Capital Construction Fund*, <https://www.marad.dot.gov/ships-and-shipping/capital-construction-fund/>

¹⁰⁰ 46 CFR Part 390.

2.6.2 Federal Ship Financing Program - Title XI Financing

The program provides for a full faith and credit guarantee by the U.S. government to promote the growth and modernization of the U.S. merchant marine and U.S. shipyards.¹⁰² The Federal Ship Financing Program, which originated in Title XI of the Merchant Marine Act of 1936, promotes the U.S.-flag merchant marine fleet and U.S. shipyard growth and modernization.¹⁰³ The program encourages U.S. ship owners to obtain new vessels from U.S. shipyards by reducing the burden of long term debt repayment. The program also assists U.S. shipyards with modernization of facilities for building and repairing vessels. The program generally offers much longer repayment terms and lower interest rates than those available from the commercial lending market because the obligations are guaranteed by the U.S. government.

2.6.3 Assistance to Small Shipyards and Maritime Communities

Provisions of the U.S. Code¹⁰⁴ call for assistance for small shipyards and maritime communities. A “small shipyard” is one that is found only in one geographic location and does not have more than 1,200 employees. The statute intends that the program cover grants, loans, and loan guarantees to small shipyards for capital improvements and training programs to foster technical skills. MARAD is required to take a number of factors into account in determining eligibility for assistance, including the economic conditions of maritime communities. There are several acceptable uses of funds,¹⁰⁵ but funds may not be used to construct buildings or acquire land. In addition, there must be matching funds from other sources for at least 25 percent of the project cost, unless the MARAD Administrator determines otherwise.

2.6.4 War Risk Insurance

Like several foreign governments, the U.S. government has had programs to provide war risk insurance for U.S.-flag vessels at less than commercial rates since 1918. There are two

¹⁰¹ U.S. Internal Revenue Service. *Capital Construction Fund*. <https://www.irs.gov/businesses/small-businesses-self-employed/capital-construction-fund-ccf>

¹⁰² U.S. Maritime Administration. *Federal Ship Financing Program (Title XI): About Us*. <https://www.marad.dot.gov/ships-and-shipping/federal-ship-financing-title-xi-program-homepage/>

¹⁰³ Codified at 46 U.S.C. Chapter 537.

¹⁰⁴ 46 USC §54101

¹⁰⁵ According to MARAD, “eligible projects include: (1) capital and related improvement projects that will be effective in fostering efficiency, competitive operations, and quality ship construction, repair, and reconfiguration; and (2) training projects that will be effective in fostering employee skills and enhancing productivity. For capital improvement projects, all items proposed for funding must be new and to be owned by the applicant. For both capital improvement and training projects, all project costs, including the recipient’s share, must be incurred after the date of the grant agreement.” U.S. Maritime Administration. *Small Shipyard Grants*. <https://www.marad.dot.gov/ships-and-shipping/small-shipyard-grants/>

current programs offered by MARAD, as provided in the Merchant Marine Act of 1936. Both are subject to Presidential approval:

The Section 1202 Program¹⁰⁶ offers risk-based premiums for commercial, non-DoD, activities. This program is on standby status, with Presidential approval required to activate it. It was last activated in 2007 but not used, and was last used in the 1990 Gulf War conflict. It is funded by the War Risk Insurance Fund, provided by statute and managed by the Department of the Treasury in coordination with DOT.¹⁰⁷ Currently, this fund contains around \$48 million in assets.

The Section 1205 Program¹⁰⁸ is primarily for DoD charters and related coverage. It is “non-premium” insurance for DoD charters, contracts, tenders, or agreements in support of DoD operations, and is available for vessels of any flag engaged in work for the DoD. In these cases, MARAD is indemnified by DoD operating funds. At this time, MARAD reports that it has active war risk policies under Section 1205 for seven Military Sealift Command¹⁰⁹ chartered or controlled vessels with a total coverage of over \$485 million.

2.7 Support for the U.S. as a Maritime International Trading Nation

The primary statutory framework that establishes the sealift mission notes that the purpose of the effort to promote and maintain a strong merchant marine is to support both:

the national defense and the development of the domestic and foreign commerce of the U.S.¹¹⁰

Support for domestic and foreign commerce is an important component of national security.

¹⁰⁶ Referred to as the “Section 1202 Program”, the legal authority is Section 1202 of the Merchant Marine Act of 1936, codified in Chapter 539 of Title 46 of the U.S. Code. See 46 USC § 53902.

¹⁰⁷ See 46 USC § 53909, “War Risk Revolving Fund.”

¹⁰⁸ The Section 1205 Program permits other agencies of the U.S. government to obtain risk insurance from MARAD. With Presidential approval, premiums are waived and the agency’s coverage is indemnified by the Department of Defense. See 46 USC § 53905.

¹⁰⁹ The Military Sealift Command (MSC) operates through private operating contracts a fleet of 15 merchant marine vessels. These vessels, owned and operated under the auspices of the Department of Defense are the “frontline” of supply until the RRF and MSP vessels can be activated. See *Military Sealift Command*; <http://www.msc.navy.mil/>

¹¹⁰ 46 USC §50101.

In addition to its role enabling U.S.-flag vessels to serve national security needs in the case of war or emergency, the MSP plays a significant role in the continuing development of the foreign commerce of the U.S. If the U.S. is to continue to play a role in the global trade framework of international shipping, it needs to demonstrate why it should be entitled to a seat at the table whenever international organizations meet to set standards or negotiate treaties/conventions for global maritime matters. There are, as of 2017, 81 vessels flying the U.S.-flag in foreign commerce. Of those, 60 are part of the MSP. Hence, the MSP vessels provide the vast majority of the presence of U.S. shipping in the international community and give the U.S. the standing it needs to continue to play a leading role in international organizations devoted to maritime issues.

MARAD underscores the importance of this role with its “Office of International Activities.” This Office assists the Office of the U.S. Trade Representative in ongoing trade negotiations and supports and participates in U.S. delegations to the International Maritime Organization (IMO); the International Labor Organization (ILO); the World Trade Organization (WTO); Asia-Pacific Economic Cooperation (APEC); Association of Southeast Asian Nations (ASEAN); the North Atlantic Treaty Organization (NATO) and the Organization of American States (OAS). In addition, the agency has bilateral market-access agreements with China, Brazil and Russia and consultations with Vietnam, Japan and the Philippines. MARAD also holds annual consultations on maritime issues with the European Union, the countries mentioned above, and the Republic of Korea and Panama.

2.8 MARAD’s Role in Jones Act Enforcement

Most countries have “cabotage” laws that restrict terms of trade along two points of the coasts of the country.¹¹¹ In the United States, the Jones Act¹¹² is the modern basis for cabotage laws regulating the “coastwise trade”.¹¹³ The Jones Act¹¹⁴ requires that

¹¹¹ See also the discussion at footnote 20, supra. The word “cabotage” is derived from the French word “caboter”, a verb that means to sail along the coasts. Cabotage laws can focus on local vessel-building requirements; local crewing requirements or other local requirements. MARAD surveyed 53 countries and found that a “majority of the responding countries (each with a substantial oceangoing fleet; coastal shores of their own; and diplomatic relations with the United States) have some type of restrictive legislation protecting their merchant marine.” See U.S. Maritime Administration. *By the Capes Around the World: A Summary of World Cabotage Practices*. <https://www.hsdl.org/?abstract&did=455295>

¹¹² Also known as the Merchant Marine Act of 1920, Public Law 66-261, codified in 46 USC Chapter 551.

¹¹³ The “coastwise trade” refers to trade between any two points on the “coast” of U.S. territories and possessions. The term includes trade between the lower 48 states and Alaska and is more broadly construed to include trade between the U.S. mainland and Hawaii, Guam and Puerto Rico, but American Samoa, parts of the Northern Marianas islands, and the Virgin Islands are all excluded from the coastwise trade rules by statute. See 46 USC 55101(b)(1)-(3).

¹¹⁴ Other sections of the Jones Act provide the original regulation of health and welfare claims made by mariners on U.S.-flag vessels for personal injuries suffered in the course of their employment.

merchandise of all kinds,¹¹⁵ when transported by water between points in the U.S., including territories, directly or via foreign port, must be shipped only in documented vessels that are built in the U.S.; “documented” in the U.S. (i.e., a “U.S.-flag vessel”); and solely owned by U.S.-citizens or corporate persons.¹¹⁶ In short, the vessel needs to obtain a “coastwise endorsement” from the government.

“Documentation” is a process laid out in regulations of the USCG.¹¹⁷ An application is made and documents are filed by the vessel owner and operator. The USCG is charged with approving all requests for documentation as a U.S.-flag vessel. A “coastwise endorsement” request must also be submitted by the vessel owner/operator to the USCG for approval.¹¹⁸ Not all U.S.-flag vessels meet the additional requirements of a “coastwise endorsement” which enables the vessel to operate legally in the U.S. coastwise trade.

Customs has responsibility for direct Jones Act enforcement and may grant waivers from the requirements only if in the interest of “national defense.” This is a relatively high standard that is difficult to meet.

- Waiver requests by Secretary of Defense (for coastwise movement of military cargoes) are granted immediately and without further investigation.
- Otherwise, waiver requests made to Customs must demonstrate the national defense interest supported by the proposed waiver.

MARAD plays a specific role in this waiver process. MARAD canvasses the U.S.-flag domestic shipping market to locate suitable coastwise qualified vessels and reports its results to Customs. If MARAD concludes that a suitable U.S.-flag vessel is available, Customs is informed and the waiver request is likely denied. Historically, waivers have not been granted absent a catastrophe, war, or a severe and substantial threat to the national security of the U.S. (e.g., there were waivers involved in the Exxon Valdez disaster; Hurricane Katrina relief in the Gulf coast; the Libyan conflict; Hurricane Sandy relief on the East Coast; and most recently in Houston and Puerto Rico after the 2017 hurricanes; but not for supplying salt needed to repair frozen streets in New Jersey as a result of the 2014

¹¹⁵ Cabotage provisions for the U.S. coastwise passenger trade date from the Maritime Acts of 1886 and 1898, codified in 46 USC §55103. MARAD has authority to grant “U.S.-build” waivers to small passenger trade vessels (no more than 12 passengers for hire). About 75 waivers are granted each year.

¹¹⁶ If the owner is a corporate entity it must be incorporated under U.S. law, and have an American citizen president and board chairman, as well as a majority of board members. It is also possible for this U.S. corporate entity to have a corporate parent maintained under the laws of a foreign country, so long as independent action of the U.S. subsidiary is preserved in corporate organizing and operating materials.

¹¹⁷ 46 CFR Chapter 1, parts 67-69

¹¹⁸ 46 CFR §67.19, *Coastwise Endorsement*.

“Polar Vortex”). Both MARAD and Customs have rules in the Code of Federal Regulations governing this process.¹¹⁹

As a general matter, MARAD’s role in Jones Act enforcement is to determine whether qualified, U.S.-flag services exist to meet the coastwise trade requirements represented in the waiver request. Even without a waiver request, if a shipper needs a reference, MARAD is ready to provide one and may, in fact, help the shipper establish a business relationship with the U.S. vessel’s owner/operators.

¹¹⁹Coast Guard and MARAD rules regarding documentation and “coastwise endorsements” also apply to passenger trade vessels.

Chapter 3: Overarching Issues

This alignment study offers an opportunity to evaluate overarching issues connected with MARAD and its performance, as well as program-specific performance issues. In this chapter, we examine seven topics, deemed to span the Agency's performance as a whole, in which improvements could be made: mission clarity; aligning Agency business processes; transparency; completing the National Maritime Transportation Strategy; collaboration with other federal departments and agencies; administration of the United States Merchant Marine Academy; and MARAD's fit in DOT.

3.1 Mission Clarity

A mission statement sets forth the purpose, or goal, of an organization. An organization's mission statement emphasizes its ongoing commitment to meeting the needs of the community.¹²⁰ Its purpose is to clarify the most important justification for the organization's existence and to keep all employees focused toward the same goals no matter where they sit in the organization. For an organization of any size, the mission statement is a cornerstone on which to build an integrated set of programs and activities that ensure synergy, coordination, and a collective aim as a means to evaluate overall success.

As mentioned in Chapter 1, Agency leaders most frequently state that MARAD's mission is articulated in the preamble of the Merchant Marine Act of 1936: "To further the development and maintenance of an adequate and well-balanced American merchant marine, to promote the commerce of the United States, to aid in the national defense, to repeal certain former legislation, and for other purposes." Thus MARAD's mission is not only a promotional one focusing on the maritime industry as a whole. An important additional dimension of its mission is to support U.S. national security by means of the civilian maritime industry.

Notwithstanding federal law (the GPRA Modernization Act of 2010) requiring all agencies to periodically submit a strategic plan that features a mission statement, dozens of interviews that included both Agency employees and external stakeholders reveal an inconsistent understanding of MARAD's mission. When queried about the Agency mission, both inside and outside MARAD, responses reflected a lack of clarity about a singular, concise Agency purpose. While different mission statements might be understandable

¹²⁰ Merriam Webster. mission statement. <https://www.merriam-webster.com/dictionary/mission%20statement>

from outside the organization, we find the absence of commonality from MARAD employees confusing.

Looking at MARAD's web site, and comparing it with web sites of several other organizations and government agencies, a short mission statement is neither concisely articulated nor easy to find. And, once found, the mission is not concisely articulated.¹²¹ MARAD's web site describes its mission in the following paragraphs:

"The Maritime Administration is the agency within the U.S. Department of Transportation dealing with waterborne transportation. Its programs promote the use of waterborne transportation and its seamless integration with other segments of the transportation system, and the viability of the U.S. merchant marine. The Maritime Administration works in many areas involving ships and shipping, shipbuilding, port operations, vessel operations, national security, environment, and safety. The Maritime Administration is also charged with maintaining the health of the merchant marine, since commercial mariners, vessels, and intermodal facilities are vital for supporting national security, and so the agency provides support and information for current mariners, extensive support for educating future mariners, and programs to educate America's young people about the vital role the maritime industry plays in the lives of all Americans.

*The Maritime Administration also maintains a fleet of cargo ships in reserve to provide surge sea-lift during war and national emergencies, and is responsible for disposing of ships in that fleet, as well as other non-combatant Government ships, as they become obsolete."*¹²²

In another location on MARAD's web site, under Careers, there is a different mission statement: "As an agency of the U.S. Department of Transportation, the mission of the Maritime Administration is to promote the development and maintenance of an adequate, well-balanced United States merchant marine, sufficient to carry the Nation's domestic waterborne commerce and a substantial portion of its waterborne foreign commerce, and capable of serving as a naval and military auxiliary in time of war or national emergency."¹²³

The broad authorities ascribed to MARAD as described in Chapter 2 may, in part, be a reason for what appears to be mission confusion. However, the absence of one concise

¹²¹ For example, and as a means of illustration, it is easy to find on its web site the Department of Homeland Security's mission statement: "With honor and integrity, we safeguard the American people, our homeland, and our values." For another example, the mission statement of DOT is: "Serve the United States by ensuring a fast, safe, efficient, accessible and convenient transportation system that meets our vital national interests and enhances the quality of life of the American people, today and into the future."

¹²²U.S. Maritime Administration. *About Us*. <https://www.marad.dot.gov/about-us/>

¹²³U.S. Maritime Administration. *Maritime Administration – Careers*. <https://www.marad.dot.gov/about-us/maritime-administration-careers/>

mission statement on its web site, and the lack of consistent understanding held by MARAD employees about the mission, likely hinders the Agency's ability to determine which MARAD programs and activities are essential which are not. By making this observation, the Panel is not making a blanket judgment about how, or even whether, this lack of mission clarity may materially have an impact on MARAD's efficiency and effectiveness. Rather, with a sizable amount of research already available on the importance of having a clear organizational mission statement, we are convinced that effective practices in public administration call for MARAD to define its mission. And a well-defined, clearly-articulated mission can serve as an important building block to enhance organizational integration and overall effectiveness.¹²⁴

Once MARAD has crafted a concise mission statement, it must be regularly reinforced to employees. All MARAD staff must know the mission and the Agency must then orient both its current staff and all new staff on how each program fits into the broader mission. Given the penchant for an organization's staff to perform duties in a stovepiped manner, and knowing that several of its programs can operate independently of one another, there is value in taking deliberate steps to inform staff on the importance of each team's work being integrated and contributing to a unified mission and purpose.

MARAD needs not only to communicate a clear statement of their mission and their desired measurable outcomes, but also an ability to link their various activities to those outcomes showing that the activities are the most effective and efficient means of accomplishment. We address the importance to align business processes with the mission in Section 3.2.

RECOMMENDATION 3-1. The Maritime Administration should craft and communicate a mission statement to all staff and to the public in order to enhance mission clarity and support performance. Doing so should help Agency employees better understand how their work contributes to a unified mission and perform their respective work better.

3.2 Aligning Business Processes to the Mission

Interviews with both employees and external stakeholders consistently describe MARAD as having choppy, inconsistent, performance effectiveness over time. The difference in performance is overwhelmingly attributed to how one particular Administrator or another approached the leadership position. In short, we learned that MARAD's effectiveness in meeting its important mission is, to a great extent (and more than we have anecdotally observed in work with other federal agencies), based upon the personality, energy, focus, and technical expertise of its Administrator.

¹²⁴ The work of Dr. Chris Bart of Corporate Missions Inc. a prolific writer and professor, is one of many sources to support the importance of a quality mission statement in enhancing organizational performance. <http://corporatemissionsinc.com/dr-bart>

Based on the authority of an Agency leader, it is clear that he/she should have a positive impact on organizational performance, regardless of whether the organization is in the private, public, or non-profit sectors, interviews connected with this study attribute a high percentage of organizational success or failure and results of past Agency performance to the personalities, mission focuses and operational approaches incorporated by past MARAD Administrators.

As noted in Section 3.1, an organization's mission performance and employee experience can be enhanced when its mission is clearly understood. Improvement in organizational performance is inextricably intertwined with MARAD's work to clarify its mission. Furthermore, effective practice in organizational dynamics calls for programs to be consistently delivered over time, even across periods of time when different individuals lead the Agency, or even when there is an absence of a leader in an agency.

Agencies should strive for performance consistency, which is the result of an organization's ability to align its business processes with its mission. In the field of public administration, aligning all business processes with the mission has a positive effect on organizational long-term success, as doing so fosters organizational stability and permanence (it is also important for an organization to avoid the unintended consequence of organizational rigidity and resistance to change, a potential down-side risk when bringing greater operating discipline to an organization). While leadership will always impact organizational performance to some extent, both positively and sometimes negatively, all organizations should consistently strive to provide quality services with or without a gifted leader, and even for periods of transition when there is an acting leader.

Aligning and standardizing processes helps an organization integrate and complement on-going working teams that inevitably span different leaders. Doing so is a key facilitator to perform important agency functions consistently and helps prevent a tendency for an organization to be personality-driven. An important step includes building an orderly process to establish routines and perform agency functions in a sensible and consistent way, with high quality. This requires discernment, focus, and leadership support. It is also essential to define which activities are intended to be consistently embraced as an organization, and determine that these activities span leader personality or areas of personal interest.

The process for an organization to align its processes requires taking several actions. For MARAD, a sound approach to adopt is to have each working team within the organization consider the Agency mission statement and determine what specific goals, focused actions, and measurable outcomes are essential to contribute to achieving the high level Agency mission. These actions can be adopted by each working team. The sets of actions should also be amalgamated so that there is an integrated view available to senior leaders of how

to advance the Agency as a whole. In addition, the 2010 Government Performance Management and Results Act (GPRA) Modernization Act provides for the systematic process by which an agency involves its employees, as individuals and members of a group, in improving organizational effectiveness in the accomplishment of the agency's mission and goals. The GPRA Modernization Act requires agencies to use performance measurement information to help set agreed-upon performance goals, allocate and prioritize resources, inform managers to either confirm or change current policy or program directions to meet those goals, and report on the success in meeting performance goals. All of these tools can be used by MARAD.

RECOMMENDATION 3-2. The Maritime Administration should conduct a business process review to ensure alignment with the Agency's updated mission, eliminate duplicative processes, and re-engineer inefficient processes in order to minimize major fluctuations in its performance, and so that changes in the position of the Maritime Administration Administrator will not negatively impact Agency performance as seen by maritime industry partners and federal colleagues.

3.3 Transparency

Transparency includes prompt and clear communication in the public space and enhances accountability of an organization. It involves making information visible and accessible. The trend in the federal government during the past several administrations shows consistent support for using available technology and other means to enhance visibility and accessibility of non-classified/non-confidential federal data, decision-making, and operational metrics by the public. In contrast to this general trend, interviews with stakeholders in the maritime community suggest that MARAD's track record of making its data and decisions accessible to the public in a timely manner has markedly deteriorated in recent years.

The following few examples serve to illustrate this point:

- MARAD has not published an Annual Report that informs on its missions and programs on its web site since 2014.
- A report from 2014 by the DOT Office of Inspector General stated that, after the Duncan Hunter National Defense Authorization Act for Fiscal Year 2009 (which required DOT and MARAD to address problems of sexual assault and sexual harassment at USMMA) took effect in October 2008, USMMA did not issue reports for the first four academic program years in a timely manner. Reporting delays and other weaknesses ultimately resulted in Congress receiving irrelevant and

potentially misleading information on survey results with respect to sexual assault and sexual harassment at the Academy, and action plans for remediation.¹²⁵

- While the Agency formerly filed Federal Register notices seeking comments, many current Agency decision-making processes are not made public. Some of the decline in Federal Register notices may be the result of fewer programs that require noticed processes. Nevertheless, there are federal rules requiring that anything that might have value as a precedent must be published and MARAD allegedly does not do that.
- The MSP definition of “militarily useful” is taken from the current MARAD Maritime Security Program regulation (46 CFR 296.2), but that definition is neither in the MARAD regulations nor on the MARAD web site, nor is guidance readily available for how to locate the definition,, and so the definition cannot be assessed or challenged.¹²⁶
- Previously, MARAD provided the public with a periodic report on international cabotage laws, which the Agency does not provide anymore.
- MARAD has never provided a report on domestic shipbuilding records and information on current builds, even though this would benefit the industry.

A concern over the lack of transparency is not only applicable to MARAD’s engagement with the public and external stakeholders, but also has application in MARAD’s interactions with both Congress and federal agencies, such as the Office of Management and Budget (OMB) and DOT. Interviews reveal opportunities for MARAD to also enhance transparency in this area as well.

The following examples provided during interviews serve to illustrate this point:

- MARAD does not provide details of how it calculates the number of qualified mariners required to crew a military sealift surge (the Mariner Workforce Working Group Report addressing this subject is presently in draft form and, when this report is made public, will provide greater transparency; the report is due to Congress by the end of 2017).
- MARAD does not provide details of how it calculates the number of qualified mariners who are available. Problems with the USCG credentialed mariner database are not provided nor explained.
- MARAD does not provide details of its approach to measuring each of its program’s effectiveness.

¹²⁵U.S. Department of Transportation. Office of Inspector General. October 23, 2014. *Better Program Management and Oversight are Required for USMMA’s Efforts to Address Sexual Assault and Harassment*. <https://www.cg-dev2.com/dot/htdocs/library-item/32214>

¹²⁶ MARAD cites USTRANSCOM paper but paper is not available.

- MARAD did not provide timely details on the various issues connected with USMMA accreditation, sexual harassment, and cancelling of the Sea Year.
- MARAD does not provide congressional committees with information on various issues with the same level of detail shared by other federal agencies.

RECOMMENDATION 3-3. The Maritime Administration should complete a comprehensive review of its practices related to making decisions public and communicating detailed information to federal agencies and congressional committees, and take appropriate actions in order to enhance access and transparency of its decisions for other agencies, congressional committees and interested members of the public. The Maritime Administration should resume issuing an annual report to the public to communicate the full range of its activities (given its national security tasks, there may need a need for a classified annex). The Maritime Administration should actively solicit support of the Department of Transportation Office of Public Affairs and Office of Congressional Affairs in these and all of its increased efforts to inform the public and government stakeholders.

3.4 Completing a National Maritime Transportation Strategy

In response to several challenges and opportunities affecting the U.S. maritime industry, MARAD submitted a draft National Maritime Transportation Strategy (NMTS) to OMB for federal interagency clearance review in 2015. The NMTS is intended to provide overall guidance to MARAD's mission and programs aimed to support the U.S. merchant marine. The previous NMTS was via the Merchant Marine Act of 1936 and later updated in the Merchant Marine Act of 1970. In the course of preparing the update, MARAD convened two public symposiums in January and May 2014 and convened other public meetings when industry stakeholders helped inform the content. The Marine Transportation System National Advisory Committee (MTSNAC) and other important groups contributed to this document. It is important to note that interagency clearance of important documents such as this one can often take several months and even years. Currently, the NMTS is still not approved and thus is not a public document.

Through interviews, we understand that MARAD withdrew the current draft document from interagency review so that the new MARAD Administrator can review it and comment. From discussions with the Agency, a version of the NMTS that may be revised after a review by the new MARAD Administrator should be returned through DOT to OMB to undergo interagency clearance once again during the coming months. While firm dates cannot be set for how long the next interagency review process cycle may take, it is likely that a final approved version of the NMTS that is available to the public may not appear for another year or more.

The Panel believes that the final form of the NMTS should provide an important framework for how MARAD should engage through its programs to support and promote the U.S. maritime industry and support the national freight system as it faces many changes and challenges in the 21st century. The NMTS will also serve industry stakeholders, as well as federal, state, and local partners by giving insights into how MARAD expects to work in this critical transportation sector.

RECOMMENDATION 3-4. In consultation with the Department of Transportation and the Office of Management and Budget, the Maritime Administration should continue expeditious work to finalize and make public the National Marine Transportation Strategy as soon as possible in order to provide further guidance on how best to address its mission and better support the maritime industry.

3.5 Collaboration

There are dozens of federal agencies involved in maritime issues. In order to enhance prospects for effective collaboration, coordination, and information sharing, Congress authorized the U.S. Committee on the Marine Transportation System (CMTS) in 2012 (the CMTS existed for seven years prior to 2012 under presidential directive). It was established to provide transportation oversight and focus interest within the federal government to address our nation's waterways, ports, and intermodal connections. CMTS brings together about 35 different federal departments and agencies, both civilian and military, in order to identify and investigate opportunities for improved interagency collaboration and coordination (Appendix E shows a matrix of departments and agencies that are part of the CMTS partnership).

We view the topic of collaboration and coordination with other agencies as another aspect that merits our examination in considering MARAD's mission effectiveness. Using interviews with several federal agencies active in CMTS, we queried how effectively and pro-actively MARAD collaborates and coordinates with other agencies. While we did not create an elaborate evaluative process, nor did we formally survey the 30 or more agencies and departments to query views on MARAD's collaborative performance, the study team received consistent feedback that MARAD does engage collaboratively with other agencies, and its contribution is deemed both useful and value added. There were, in fact, no complaints whatsoever. The Panel commends MARAD's approach to collaborating with its federal agency partners.

3.6 Operating the USMMA

Operating the USMMA, as noted in Chapter 2, is an important part of MARAD's training mission to provide an adequate number of qualified mariners to support both the maritime industry and to meet MARAD's national defense mission. As stated in MARAD's Strategic

Plan 2017-2021, the USMMA's goal is to inspire and educate the next generation of the mariner workforce. Graduates of USMMA comprise about 20-25 percent of licensed U.S.-citizen mariners, holding the necessary unlimited ocean-going credentials with the balance mainly provided by the six SMAs.

USMMA plays a unique and important role in the U.S. maritime industry, but as presently managed this role is in peril. Unfortunately, the Academy has encountered several well-publicized issues over the past few years, raising the question of MARAD's ability to successfully operate an Academy. The issues include:

- Accreditation. The Academy received a warning about its accreditation status issued by the Middle States Commission on Higher Education (MSCHE) in a June 2016 report citing USMMA's failure to meet five of 14 standards. USMMA was given until June 2018 to be in compliance with all standards. In June 2017, MSCHE updated USMMA's status, confirming it to then be in compliance with all but one standard.
- Sexual assault and sexual harassment. These are longstanding problems at USMMA that were not aggressively addressed when first made public a decade ago. As recently as October 2016, in an internal report reviewed by the study team, both formal and informal survey data show that USMMA still had an unwanted sexual contact incident rate above those of the other four service academies and that sexual assault and sexual harassment were occurring at significant rates both on campus and during the Sea Year experience.
- Sea Year cancellation. Due to the continued unresolved high incidence of sexual assault and sexual harassment problems, the Secretary of Transportation suspended the use of commercial vessels, thus cancelling Sea Year in June 2016 for USMMA cadets. Sea Year was reinstated in January 2017, gradually building up to normal levels by later summer 2017.
- Internal control weaknesses resulting in improper sources and uses of funds. In a 2009 report issued by the Governmental Accountability Office (GAO),¹²⁷ numerous instances of improper and questionable sources and uses of funds by the Academy and its affiliated organizations were identified. Actions were subsequently taken to improve the Academy's internal controls.

The topic of operating USMMA is addressed in this chapter because the Panel considers the issues involved to have overarching impacts on MARAD's overall mission success. These

¹²⁷U.S. Government Accountability Office. August 10, 2009. *United States Merchant Marine Academy: Internal Control Weaknesses Resulted in Improper Sources and Uses of Funds; Some Corrective Actions Are Under Way*; GAO-09-635. <http://www.gao.gov/assets/300/293722.pdf>

problems not only call into question MARAD's ability to effectively govern, administer, and lead the Academy, but they also raise questions whether USMMA can ably deliver enough credentialed mariners to an industry where there is already a shortage (the topic of mariner training is discussed in Chapter 5). Given its national security role with DoD and USTRANSCOM, there are important implications brought into view that must be decisively addressed. Thus, operating USMMA effectively and efficiently contributes to MARAD's key program areas, and there are ripple effects to negatively impact MARAD's work when USMMA faces the types of challenges noted above.

The Superintendent of the USMMA has responsibility to govern, administer, and lead the institution.¹²⁸ The Superintendent is supported by a Deputy Superintendent, Commandant, and Academic Dean. These four positions constitute the USMMA's leadership team. There are several other key stakeholders that have input into Academy operations. These include the Office of the Secretary of Transportation, through MARAD, which provides the budget and appoints the Superintendent. With respect to oversight, key players by statute include the Board of Visitors,¹²⁹ which provides advice and recommendations, and the Advisory Board,¹³⁰ which examines and advises on instruction and management. Finally, the MSCHE provides the accreditation for the Academy.¹³¹

In addition, a newly created Maritime Education and Training Executive Review Board (METERB)¹³² is intended to provide further governance, oversight, strategic direction, and advocacy for the USMMA. Interviews indicate that there is not yet complete clarity around the new body's roles and responsibilities vis-a-vis improving support to USMMA.

In addition to formal sources of oversight and advice already mentioned, annual meetings convened with other service academy leaders and informal interaction between service academies during interim periods, allow USMMA's leadership team to exchange effective practices adopted by the other four military service academies.

The many challenging issues surrounding USMMA operations are both so broad and so complicated that a report that only focuses on the issues connected with the USMMA,

¹²⁸ Legislation establishing USMMA is found in 46 USC CFR 310.50.

¹²⁹ This Board consists of 10 members of Congress, plus Presidential appointees (including representatives of the commercial maritime industries) and other identified officials, including the commander of Military Sealift Command and a Commandant of the Coast Guard. 46 USC § 51312.

¹³⁰ This Board consists of "not more than seven individuals appointed by the Secretary of Transportation. The individuals must be distinguished in education and other fields related to the Academy." They are appointed for 3-year terms and may be re-appointed. 46 USC § 51313(b)

¹³¹U.S. Department of Transportation. United States Merchant Marine Academy. November 6, 2015. *Governance and Oversight*. <https://www.usmma.edu/governance-and-oversight>

¹³² The METERB was established about one year ago; it consists of MARAD career senior leaders led by the Deputy Maritime Administrator.

undertaken by a study team with extensive expertise in service academies and higher education, could be appropriate. Not having this topic alone as the limit of this report's scope, the Panel approaches its recommendations for operating the USMMA with several high level points.

We start with the following conclusive statement: MARAD must make the requisite changes to ensure the Academy operates with excellence. It is important to acknowledge that MARAD's leaders have been working diligently with the USMMA leadership team for the past several years to resolutely address the complex challenges the Academy has experienced. If MARAD is unable to make the required course corrections within a reasonable period of time, it should explore, through further study, whether there is another organization that should operate the USMMA (other possible candidates might be the Navy or USCG).

As currently staffed, neither MARAD headquarters nor DOT have the requisite experience and adequate monetary and other resources to support USMMA to the degree that the Navy, Air Force, Army, and USCG offer to their respective academies (see Appendix K with a cost comparison for US federal service academies). In comparison with the other service academies, USMMA has far fewer staff/faculty to student, in both the academic and in student mentoring realms given the size of its cadet population. According to the Appendix K, USMMA's operating budget per cadet is at a level that is only 59 percent of the amount per cadet invested at the U.S. Coast Guard Academy, 60 percent of the per cadet level invested at the U.S. Air Force Academy, 81 percent of the per cadet cost at the U.S. Military Academy (at West Point), and 92 percent of the per cadet cost at the U.S. Naval Academy. In addition to this academy budgetary comparison, each of the service academies is imbedded in its own military service. As such, service academies and the USCG academy are connected to further resources, including identified career pathways (and some even have additional schools of higher education) that can lend expertise and personnel support to their academy.

Notwithstanding these comparisons and the challenges faced at the USMMA, the Panel recommends MARAD maintain its responsibility to operate it as long as significant changes and budgetary resources are put into place to improve the current situation at USMMA. This recommendation is put forth because USMMA plays an important part of MARAD's critical mission to the nation's merchant marine industry and, with changes, is the best option to train mariners. To continue operating USMMA, MARAD must take the following actions:

RECOMMENDATION 3-5. The Maritime Administration should agree on the long-term mission focus of the U.S. Merchant Marine Academy. The Maritime Administration's leaders should determine whether the institution has essentially a function that results in U.S.

Coast Guard credentialing, or if it should have a broader scope that accommodates other subjects.

RECOMMENDATION 3-6. The Maritime Administration must ensure that all stakeholders, to the extent permitted by law, are pro-actively and promptly informed of important developments at U.S. Merchant Marine Academy going forward in order to help rebuild trust among all stakeholders. The Maritime Administration should err on the side of transparency.

RECOMMENDATION 3-7. Recognizing its responsibilities for results at the U.S. Merchant Marine Academy, the Maritime Administration should ensure that individuals who are members of the U.S. Merchant Marine Academy's leadership team, including Superintendent, Deputy Superintendent, Commandant, and Academic Dean, have among them the requisite skills and experience required to lead an institution of higher learning and to train mariners. Doing so will require highly qualified and experienced professionals to expertly: (1) administer an academic institution of higher learning; (2) produce trained, credentialed mariners; and (3) create a safe, inclusive environment for all cadets, free from all forms of assault and harassment.

RECOMMENDATION 3-8. The Maritime Administration's leaders should conduct a thorough review of all policies of the U.S. Merchant Marine Academy. This review and corrective follow-up action should be completed in no more than one year.

RECOMMENDATION 3-9. The Maritime Administration should examine the appropriate division of decision-making and authorities of the U.S. Merchant Marine Academy's management between the Superintendent and the Maritime Administration's headquarters.

RECOMMENDATION 3-10. Given various existing oversight bodies supporting the U.S. Merchant Marine Academy, the Maritime Administration should reconsider whether the Maritime Education and Training Executive Review Board is needed. Having too many oversight bodies can confuse lines of authority and can short-circuit effective leadership in the U.S. Merchant Marine Academy.

3.7 MARAD's Fit in DOT

As part of DOT, MARAD has a unique profile with respect to staff size, budget, and the nature of its operations. This sub-section provides analysis on how MARAD fits into DOT's orbit of agencies.

Of the nine administrations that are part of DOT, MARAD's budget and number of staff relegate it to being one of the smaller ones. With budgetary funds requested for MARAD in

FY2017 totaling \$423.1 million and a total number of employees around 745,¹³³ the budget and staffing of MARAD is small compared to DOT as a whole, with a total requested budget for FY2017 of \$98.1 billion and more than 54,000 employees).¹³⁴

MARAD's programs do not conform with the typical profile of other DOT agencies and their programs. First, unlike other transportation modal agencies of DOT, such as the Federal Aviation Administration, Federal Railroad Administration, or Federal Highway Administration, MARAD has a limited regulatory function focused only on licensing facilities under the Deepwater Ports Act and no safety function. Second, the largest portion of MARAD's budget, almost 80 percent, is invested into its national security function through sealift. With the departure of the USCG, no other DOT agency is focused on national security to the same extent. While other transportation modal agencies also have a national security function, its piece in each agency is relatively small and corresponding budget is modest.

Notwithstanding the ways that MARAD may have a somewhat unique profile in DOT, the Panel is convinced that the synergies created by MARAD being in this Department are many. The maritime industry plays an important role in the national transportation system, connecting with highway, air, rail, pipeline, and surface transportation. MARAD's programs with ports helps contribute to economic growth by connecting vessels via ports with the larger, national freight system. DOT also has an international focus, which is also a part of MARAD.

In summary, while MARAD's profile may differ somewhat from some parts of DOT, MARAD is best placed within the Department for the reasons stated above.

The next three chapters examine MARAD's five mission areas and their related programs: sealift, mariner training, and three smaller various mission areas aimed to advance MARAD's goal to promote the U.S. commercial maritime industry.

¹³³U.S. Maritime Administration. February 9, 2016. *Budget Estimates Fiscal Year 2017*. <https://www.transportation.gov/sites/dot.gov/files/docs/MARAD-FY-2017-CI.pdf>

¹³⁴ U.S. Department of Transportation. *Budget Highlights FY 2017: Transforming Communities in the 21st Century*. https://www.transportation.gov/sites/dot.gov/files/docs/DOT_BH2017_508%5B2%5D.pdf

THIS PAGE INTENTIONALLY LEFT BLANK.

Chapter 4: Sealift Mission

This chapter addresses sealift, which is among the most critical of the many MARAD programs. Here, we examine the sealift mission, focusing on its structure and operation. As noted earlier, more than 90 percent of American military cargo moves over the oceans. U.S. law has required, since at least early in the 20th Century, that the U.S. military rely on the U.S.-flag vessels for transportation as long as such ships are available, and at “fair and reasonable rates.”

As noted in Chapter 2, MARAD divides the Sealift Mission into Commercial Sealift and Federal Sealift. Each has its own management offices, all of which report to the agency’s Associate Administrator for Strategic Sealift.¹³⁵

Before examining issues with respect to the structure and operation of the programs that implement this mission, however, three larger issues are worth examination:

- What is the essential difference between sealift and airlift? What are the reasons to choose one over the other for emergency transport?
- Why is sealift a merchant marine mission rather than only a mission of vessels owned and operated by the DoD?
- If this has to be a merchant marine mission, why not open the mission to foreign flag vessels?

4.1 Time and cost are the essential differences between Sealift and Airlift

Both sealift and airlift are used when it is appropriate to the mission and cost effective to do so. The contrast between the two is significant: Airlift can move supplies more quickly, but at a substantially higher cost than sealift, and requires the use of many more transportation assets (e.g., many more airplane trips) to achieve the same cargo-moving result. Experts at DoD note that sealift capability will not be matched by airlift in a major conflict, due to the sheer volume of heavy equipment that must be moved by sea.¹³⁶

For example, a memorandum from the Chairman of the Joint Chiefs of Staff to the Secretary of Defense in 2003 outlines the following sample cost comparisons:

¹³⁵ MARAD organizational chart is in Appendix G.

¹³⁶ James K. Matthews and Cora J. Holt, *So Many, So Much, So Far, So Fast*. Chapter II – Strategic Deployment Management pg. 10-26.

ITEM	COST VIA AIR TRANSPORT (AIRLIFT)	COST VIA SURFACE TRANSPORT (SEALIFT)	COMPARISON
Avg. 1 lb. of cargo	\$1.56	\$0.16	10% or 10:1
Humanitarian daily ration to Germany for airdrop in Afghanistan (per HDR)¹³⁷	\$7.34	\$0.15	2% or 49:1
Wheat (per pound) for Afghanistan refugees	\$2.93	\$0.06	2% or 49:1
JDAM kit¹³⁸	\$14,102	\$641	5% or 22:1

Table 4.1 Cost Comparisons Between Airlift and Sealift for Representative Cargoes¹³⁹

In addition to the difference in the cost per item, there is significant difference in the amount of cargo that can be carried on one trip by air versus by sea. For example, the largest current U.S. military transport aircraft, the Lockheed-Martin C5M Super Galaxy, is considered “the workhorse of U.S. strategic airlift capability, and it is the largest aircraft, routinely operated by the U.S. forces.”¹⁴⁰ “It can carry two M1A2 Abrams main battle tanks,

¹³⁷ “HDR” stands for “Humanitarian Daily Ration”, a product designed for the Defense Logistics Agency to provide daily nutrition for large groups of individuals displaced by war or disaster. See <http://www.dla.mil/TroopSupport/Subsistence/Operational-rations/hdr/>

¹³⁸ The Joint Direct Attack Munition (JDAM) is a guidance tail kit that converts existing unguided free-fall bombs into accurate, adverse weather “smart” munitions. With the addition of a new tail section that contains an inertial navigational system and a global positioning system guidance control unit, JDAM is intended to improve the accuracy of unguided, general purpose bombs in any weather condition. JDAM is a joint U.S. Air Force and Navy program. See <http://www.military.com/equipment/joint-direct-attack-munition-jdam>

¹³⁹ Memorandum from the Chairman of the Joint Chiefs of Staff to Defense Secretary Donald Rumsfeld, archived as one of the Rumsfeld Papers. January 23, 2003. *Cost Comparisons of Sealift and Airlift*. <http://library.rumsfeld.com/doclib/sp/2603/2003-013%20from%20Richard%20Myers%20re%20Cost%20Comparisons%20of%20Sealift%20and%20Airlift.pdf>

¹⁴⁰ Military Today. *Top 10 Largest Military Cargo Aircraft*. http://www.military-today.com/aircraft/top_10_cargo_aircraft.htm

or 7-10 8x8 armored vehicles (Stryker or LAV-25), or 16 HMMWVs.”¹⁴¹ In contrast, a Roll On/Roll Off (RO/RO) vessel operated as part of the MARAD RRF, or participating in the MSP program, can carry more than 75 Abrams tanks at one time.¹⁴² One article estimated that during Desert Shield/Desert Storm, “Navy cargo handlers averaging 100 lift-hours per day¹⁴³ offloaded more equipment and supplies from three 755-foot ships than could have been moved by 3,000 C-141 cargo flights.”¹⁴⁴ In six months from the beginning of deployment in 1990, USTRANSCOM had moved “about 440,000 passengers, 3 million tons of unit equipment and supplies, and 4.2 million tons of fuel supplies to Southwest Asia in preparation for offensive action. Almost all of the troops moved by airlift, while the vast majority of the cargo required sealift.”¹⁴⁵ In many cases, sealift is required because the military equipment has become increasingly oversized for aviation transportation.¹⁴⁶

There is an appropriate division of labor between airlift and sealift. Airlift is faster and more useful for moving personnel, but it continues to be much more expensive for moving cargo. Sealift continues to have a viable and critical role to play, particularly in the shipment of equipment and supplies.

4.2 Commercial Sealift vs. Government Sealift

“Strategic Sealift” involves both “Commercial” and “Government” operations. At MARAD, the Commercial division includes the MSP, the VISA program, and cargo preference rules (utilized by MSP and other U.S.-flag vessels in foreign commerce). The Government division includes the RRF, as well as the larger National Defense Reserve Force of which the RRF is a part, regional offices near locations where the RRF vessels are kept in readiness, and the Ship Disposal Program, which includes vessels maintained as sources for parts for other RRF vessels. In addition to the 99 vessels owned by MARAD (46 RRF and 53 others in the NDRF), there are 15 merchant marine vessels under the control of the Navy’s MSC¹⁴⁷

¹⁴¹ Ibid.

¹⁴² Interview.

¹⁴³ The term “lifts” is used in the military to describe a variety of operations including operation of a crane on a vessel or at a port. See e.g., Navy Crane Center, *General Crane Safety Student Guide*; https://www.navfac.navy.mil/content/dam/navfac/Specialty%20Centers/Navy%20Crane%20Center/PDFs/Training/WBT/14_01_16_GCS_SG_Rev03.pdf “Lift-hours per day” is a measure of how many lifts were accomplished by a group of cranes at a given port in a day. 10 cranes each operating for 10 hours a day would generate “100 lift-hours.”

¹⁴⁴ Global Security. *Desert Shield/Desert Storm*.

<https://www.globalsecurity.org/military/systems/ship/sealift-ds.htm>

¹⁴⁵ Ibid.

¹⁴⁶ In other words, newer larger military equipment is too large to fit inside even the largest cargo planes.

¹⁴⁷ The Military Sealift Command operates many more than 15 vessels but the balance are specialized for various tasks related to national defense, ranging from hospital ships to research vessels to “fast” freighters that are designed to supply naval vessels while they are underway, not in port.

and others that are privately owned vessels chartered by the MSC that may be considered part of the “government sealift.”

The question has been raised by some: If sealift is a national security imperative, why not put all the relevant vessels under the control of the Navy’s MSC and get the civilian agencies out of the operations? This presumably would include putting the MSP under the control of the MSC (or ending that program altogether) and reinforcing the role of RRF, which would also be controlled by MSC.

There are several facts that compel the conclusion that the current system is considerably better for the national security interests—both military and monetary—than would be the case by shutting down the MSP, turning remaining vessels in the RRF over to the Navy and building an “in-house” military sealift capability in DoD.

First, “using the MSP is less expensive to the U.S. government for its overall sealift, because providing a financial payment for a portion of the ship’s operating costs is less expensive than owning or chartering a ship.”¹⁴⁸ This simple conclusion has held true since the program was established in the mid-1990’s. Studies have been conducted suggesting that the cost of establishing a government fleet comparable to the MSP would be in the billions of dollars, well above the \$300 million current annual appropriation for the MSP retainer payments.¹⁴⁹ Essentially, the 15 merchant marine vessels of the MSC and the 46 vessels in the RRF are not enough. Many more vessels would have to be acquired by DoD at substantial cost. And they would be sitting in port waiting for an emergency, like the RRF, not operating in commercial markets like the vessels of the MSP fleet. By 2009, over 90 percent of all ocean cargo transported to the Central Command Area of Responsibility for Operation Enduring Freedom/Operation Iraqi Freedom was being transported by MSP-enrolled vessels in commercial service.¹⁵⁰

Second, the MSP is not only advantageous to the government because of the availability of the vessels on a few days’ notice, but because the government also gains access to the logistics, intermodal and port facilities of participating MSP companies. As one interviewee

¹⁴⁸ Econometrica, Inc. 2009. *Maritime Security Program Impact Evaluation*, p. 31.

https://www.marad.dot.gov/wp-content/uploads/pdf/MSP_Revised_Final_Report_Transmitted_07-24-09.pdf

¹⁴⁹ By one estimate, replicating only the RO/RO and containership capacity of the current MSP, without taking into account the intermodal infrastructure, would require a capital expenditure of \$13 billion. See Reeve and Associates, “The Role of the United States Commercial Shipping Industry in Military Sealift,” prepared for Military Sealift Committee, National Defense Transportation Association, Yarmouthport, MA, August 2006.

¹⁵⁰ National Defense Transportation Association (NDTA) Military Sealift Committee, Maritime Policy Working Group. 2012. *The Use of Commercial Vessels and Intermodal systems for Military Sealift, 2009-2011 Addendum*, p. 7.

put it, his company operates “networks” not “vessels.” The logistics, intermodal and port facilities are available to the government as part of the MSP and VISA, a program supported by a memorandum of agreement in which all MSP members (and some others) participate (the VISA program operates at no cost to the government other than minor administrative costs.) The port, intermodal and logistical facilities are made available to USTRANSCOM at no cost.

The supply chain developed to serve the U.S. military operations in Afghanistan, a land-locked country, is an instructive example in estimating the value of these privately-held assets to national security. The plan for supplying American and coalition forces in Afghanistan originally involved ports in Pakistan, with trucks driving shipments from the ports over the mountain passes and into Afghanistan. Pakistan did not allow U.S. military vessels to land in their ports, so the only available option was to utilize MSP and RRF vessels for the job. The trucking logistics were worked out by the carriers participating in the MSP and VISA programs along with their logistics networks, in collaboration with USTRANSCOM planners.¹⁵¹ Later, after the trucks making the supply runs through mountain passes became attractive targets for insurgent attacks, the USTRANSCOM planners, acting with the MSP and VISA carriers and networks (and with considerable help from United States allies), developed alternative supply networks, such as the Northern Distribution Network. This was a set of

new distribution routes that connect Baltic and Caspian ports with Afghanistan via Russia, Central Asia and the Caucasus. The flexible supply line, *which relies entirely on commercial shippers*, serves as an alternative to the vulnerable ground route that follows the road through Pakistan that had been used exclusively since 2001.¹⁵²

USTRANSCOM has estimated that it would cost the U.S. government an additional \$52 billion to replicate the ‘global intermodal system’ that MSP and VISA participants have developed, maintained, and continuously upgraded.¹⁵³

Third, the MSP, by covering 60 of the remaining 81 U.S.-flag vessels operating in international commerce, plays a major role in the continued existence of the U.S.-flag international fleet, and the employment of the U.S.-citizen mariners that participate in the

¹⁵¹ The “I” in the VISA program stands for “Intermodal” and the participants have access to their own logistical systems and networks including the trucks to provide the intermodal services.

¹⁵² Northern distribution Network [NDN] Northern Ground Line of Communication (NGLOC), emphasis supplied, <https://www.globalsecurity.org/military/facility/ndn.htm>. The text refers to “shippers” but the operative term should probably be “shipping.” That term refers to the shipment of goods by a carrier. The “shipper” in this case is the United States military, not the commercial entity.

¹⁵³ See, e.g., Reeve & Associates, *supra* note 126. See also A.J. Herberger, Gaulden and Marshall. 2015. *GLOBAL REACH: Revolutionizing the Use of Commercial Vessels and Intermodal Systems for Military Sealift, 1990-2015*, p. 340.

crews. Without the MSP retainers (and the companion preferences for shipping U.S. government impelled cargoes), the cost differential between operating under the U.S.-flag subject to U.S. legal requirements, union rules, safety regulations and the rest and operating under foreign flags is too much for the commercial market to absorb.¹⁵⁴

This point may be disputed by advocates of what they consider as free and open competition. The problem, however, is that the rest of the maritime world is characterized as anything but a “free and open” competitive marketplace. Instead, it is characterized by significant subsidies for both vessels and ports, and labor practices that do not promote an even close to “level playing field” for U.S.-flag interests.¹⁵⁵ If the U.S. were to adopt a “free and open” market stance in this global industry, U.S.-flag vessels would find mostly unfair competition that they could not meet from vessels sailing under other flags.

Finally, the U.S.-flag international fleet performs an important role to ensure that the nation is a viable participant in international maritime standard setting and convention negotiations. As that fleet declines, so too, does the nation’s position in global maritime negotiations. Preserving that role is another important function of the MSP.

4.3 U.S.-flag Sealift vs. Foreign-flag Sealift

A third question raised at the outset of this chapter is: If the mission needs to be a “merchant marine” mission rather than a defense mission, why not open it up to foreign flag vessels?

Experiences gathered in the Desert Shield/Desert Storm operation shed some light on the answer. In *So Many, So Much, So Far, So Fast*, USTRANSCOM, working with the Joint History Office of the Chairman of the Joint Chiefs of Staff, presented a history of the experience in Desert Shield/Desert Storm in the early 1990’s.¹⁵⁶ In the course of Desert Shield/Desert Storm, virtually all of the vessels owned by MARAD in the RRF (78 of the 102 ships at the time) and operated by contractors, were activated by MSC/USTRANSCOM¹⁵⁷. This was cited as the first large-scale RRF activation. In addition, 32 U.S. flag vessels were

¹⁵⁴ “The higher costs of transporting cargo on U.S. flag vessels is due to differentials in wages, maintenance and repair, regulatory costs, insurance, and taxes.” Econometrica, Inc. *Maritime Security Program Impact Evaluation*. P. 46. https://www.marad.dot.gov/wp-content/uploads/pdf/MSP_Revised_Final_Report_Transmitted_07-24-09.pdf

¹⁵⁵ For example, many foreign “flag of convenience” vessels pay virtually no corporate or other business income tax on their operations. U.S. flag international fleet vessels, in contrast, pay U.S. income taxes on the import leg of their journeys bringing goods to the United States.

¹⁵⁶ Matthews, James and Cora Holt. 1992. *So Many, So Much, So Far, So Fast: United States Transportation Command and Strategic Deployment for Operation Desert Shield/ Desert Storm*. <http://www.jcs.mil/Portals/36/Documents/History/Monographs/Transcom.pdf>

¹⁵⁷ The study reports that by the end of the mission, the RRF ships had carried 28 percent of the unit cargo for U.S. forces. Supra note 147 at page 122.

chartered for the effort.¹⁵⁸ As the study put it, “[w]hen MSC exhausted U.S. merchant ships offered through a worldwide Request for Proposals, it turned to the allied and friendly sources of shipping.”¹⁵⁹ “As of 15 April 1991, MSC had chartered 177 foreign flag vessels... In all, foreign flag vessels carried 26.6 percent of unit equipment...while the U.S.-flag fleet (military and commercial) carried 78.8 percent.”¹⁶⁰ The authors also reported some problematic issues connected with the use of foreign flag vessels:¹⁶¹

Although crews on foreign flag ships supporting the U.S. deployment to the Persian Gulf on the whole proved dependable, USTRANSCOM’s Desert Shield/Desert Storm sealift experiences clearly illustrate the risks associated with them. For a variety of reasons—political, religious, pay disputes and, most commonly, fear of entering a combat zone—crews on at least 13 foreign flag ships¹⁶² carrying U.S. cargo hesitated or refused to enter the area of operations.

Additional anecdotal evidence on the potential unreliability of foreign flag vessels for military transport comes from the experience of the Canadian military at the turn of the 21st century. Returning from a Canadian peacekeeping mission in Kosovo, the cargo on the RO/RO vessel included 580 tanks, armored personnel carriers and reconnaissance vehicles as well as 390 sea containers loaded with 500 tons of weapons, ammunition, and electronic gear. The vessel, owned by an American company and flying the flag of St. Vincent and the Grenadines, had a Ukrainian crew. A financial dispute between the vessel owner and a Montreal-based shipping company that had chartered the vessel for the Canadian government but had not yet paid the American owner, led the owner to order the vessel to remain in international waters off the southeast coast of Newfoundland, rather than continuing to port in Canada, until the owner was paid. Once there, the vessel remained for almost a month.

On August 4, 2000 the *New York Times* reported that Canadian soldiers from a Canadian military vessel boarded the merchant ship via helicopter, took control, and piloted the ship to its original destination.¹⁶³ Under the terms of international maritime law, a boarding may occur with the permission of the owner, or the captain, or the country of registry. The government of St. Vincent and the Grenadines had told Canada that it did not object to the

¹⁵⁸ Ibid. at page 123. The MSP did not exist at this time and a predecessor program was not activated.

¹⁵⁹ Ibid.

¹⁶⁰ Ibid. at 123.

¹⁶¹ Ibid. at 136.

¹⁶² The authors footnote this statement to say “There likely were others that did not come to USTRANSCOM’s attention.” Ibid. The study goes on to provide considerable additional detail of ship-by-ship refusals to perform.

¹⁶³ Brooke, James. August 4, 2000. *Canada Goes Aboard Ship To Retrieve Its Weapons*. New York Times.

<http://www.nytimes.com/2000/08/04/world/canada-goes-aboard-ship-to-retrieve-its-weapons.html?mcubz=0>

boarding. The *Times* reported that as of the date of publication, the payment dispute still had not been settled.¹⁶⁴

Finally, there is the matter of security clearances. Many U.S.-citizen licensed and unlicensed mariners who comprise the crews of U.S.-flag vessels carrying military cargoes have federal security clearances. Most U.S.-citizens who graduate from the USMMA obtain one in the ordinary course of his/her education at the Academy. Not all graduates of SMAs receive clearances, but they are able to apply and need to obtain security clearances before they are eligible to work on vessels transporting military cargoes. Foreign nationals are not ordinarily eligible for security clearances.¹⁶⁵ Given modern-day security concerns, there is a risk to national security by employing foreign mariners to move sensitive shipments of military cargo, whether in combat conditions or in peacetime supply assignments.

4.4 Specific Recommendations Related to Sealift

The primary elements of the Sealift mission at MARAD include MSP, VISA and RRF. Additional support is provided by the various cargo preference provisions in place for international shipment in defense and other government-funded cargoes.

The Panel found that the MSP is accomplishing its mission effectively and efficiently, based on the experience in Operation Iraqi Freedom/Operation Enduring Freedom¹⁶⁶ as well as comments by interviewees. By the time of these operations, MSP-enrolled vessels in commercial liner service were transporting over 90 percent of all ocean cargo transported to CENTCOM.¹⁶⁷ Representatives of USTRANSCOM, in particular, have stated satisfaction with the way MARAD is conducting its part in the MSP mission. The relationship between MARAD and DoD in the guise of MSC and USTRANSCOM appears excellent and virtually seamless.

The VISA program provides an additional format for utilizing commercial vessels for DoD sealift, short of calling up the vessel to serve under USTRANSCOM operational control.

The RRF continues to be available as part of the “surge fleet” (along with 15 Surge Sealift vessels operated by the MSC, using contract civilian mariners), but it is often noted that the

¹⁶⁴ Ibid.

¹⁶⁵ “An individual must be of unquestioned allegiance to the United States. The willingness to safeguard classified information is in doubt if there is any reason to suspect an individual's allegiance to the United States.” Executive Order 12968 Revised Adjudicative Guidelines for Determining Eligibility for Access to Classified Information at 4; <http://pscprotectsyou.com/pdf/E012968-LEAdjudicativeGuidelines.pdf>

¹⁶⁶ See e.g., NDTA Military Sealift Committee, Maritime Policy Working Group, *The Use of Commercial Vessels and Intermodal Systems for Military Sealift, 2009-2011 Addendum*.

¹⁶⁷ Ibid. at 7. “CENTCOM” is the U.S. Central Command leading the operations.

average age of an RRF vessel is now over 43 years, and some of the technology is old enough that it is no longer used in commercial industry. While almost all of the RRF vessels were called into service during the Desert Storm/Desert Shield era,¹⁶⁸ only 40 were called into action during the more recent era of Operations Enduring Freedom/Operation Iraqi Freedom.¹⁶⁹

The opportunity to carry preference cargoes continues to be asserted by MSP and VISA participants as critical to their participation in the programs. At the same time, cargo preference continues to be a controversial subject among shipping agencies who may not be receiving appropriations intended to compensate for the cost of shipping under the preference.

All of these programs have separate legislative authorities and were established at different times over the years. The Panel believes that, given the current circumstances, the time is right for a thorough study and review of all of the programs together and how they interact in support of the sealift mission. From the point of view of a “clean sheet of paper,” how should the programs work together? What works and what may need to be changed?

RECOMMENDATION 4-1. The Maritime Administration should work through the Secretary of Transportation to request that the Administration convene a working group to include the Maritime Administration, the Military Sealift Command, U.S. Transportation Command, and the U.S. Navy, to conduct an assessment of the sealift mission to determine the most cost-effective mix of the Ready Reserve Force, Maritime Security Program, the Voluntary Intermodal Sealift Agreement, and cargo preference provisions.

RECOMMENDATION 4-2. The Government Accountability Office has endorsed plans by the Maritime Administration and the Military Sealift Command to replace the ships now in the Ready Reserve Force and the 15 U.S. Navy Ship merchant type vessels in the Military Sealift Command’s Surge Sealift Program. The Maritime Administration should incorporate the results of the study noted in 4-1 to assure that the composition of the new fleet is the most cost-effective in meeting the future needs of sealift.

The following observations are provided as possible subjects for the recommended review:

¹⁶⁸ Supra, note

¹⁶⁹ Supra, note

4.4.1 Maritime Security Program—Issues Raised for Discussion

Issues that arose in the course of this study regarding the operation of the program include:

1. Annual appropriations vs. 10-year MSP agreements

There is a tension between the MSP agreements signed by carriers coming into (or renewing participation in) the MSP on the one hand, and the annual appropriations that fund the Program, on the other. From a business perspective, the study team heard time and again that MSP participants wished something could be done about the uncertainty of having to fund the 10-year agreements on a year-to-year basis.

The exact amount of annual operating agreement payment made to ship owners in the program is not based on a firm ten-year commitment of congressionally appropriated funds. Rather, ship owners face annual cash flow uncertainties that are subject to fluctuations connected with the amount of enacted congressional appropriations. There is an uncertain amount of compensation each year in consideration for ship owners' long-term commitment to the program.

It can also be said that the carriers involved in the MSP were aware of this funding cycle when they agreed to participate. Nevertheless, it is appropriate to consider whether improvements can be made. While the program began in 1995, current legislation extends the program through 2025. Operating agreement annual payments are \$3,100,000 per vessel for FY 2017. The FY 2018 appropriations bill reported out by the House Appropriations Committee on July 10, 2017 proposes to appropriate a payment at the level of \$5,000,000 per vessel (the full "authorized" level) for FY 2018.¹⁷⁰

This is apparently not a new issue. The study team heard in interviews that this issue was substantially debated in the effort to authorize the MSP in the first instance, in the early 1990s. On one hand, this may simply be one of those situations in which the government is limited to annual appropriations because it is very difficult to establish a multi-year commitment of government funds. On the other hand, however, if something can be done

¹⁷⁰"The legislation includes \$490.6 million for the Maritime Administration, \$31.9 million below the fiscal year 2017 enacted level. This funding level will continue to increase the productivity, efficiency, and safety of the nation's ports and intermodal water and land transportation. The Maritime Security Program is funded at the full authorized level of \$300 million." Appropriations Committee Releases Fiscal Year 2018 Transportation, Housing and Urban Development Funding Bill (press release July 10, 2017); <https://appropriations.house.gov/news/documentsingle.aspx?DocumentID=394975>

to recast the MSP for multi-year funding, the options should be reviewed and considered.¹⁷¹ One possibility, for example, might be the establishment of a working capital fund (WCF) for disbursement of the annual payments. In general, however, a WCF is a method used in government to promote shared services between agencies and requires a government service provider and a government customer. There is no government customer here, so a WCF would not appear to be appropriate. Nevertheless, MARAD should at least consider this issue as part of the review recommended above. There may be ways that multi-year payments or other ways to add security such as advance appropriations or termination payments (and other issues discussed in the next section) might be achieved.

2. Possible Changes to the MSP

In the course of the study team interviews, a variety of issues were raised (all with conflicting points of view) about the MSP by participants. These included:

- Whether the number of vessels in the program was appropriate or should be higher or lower; and
- Whether the administration of the program could be improved in terms of the process of filling vacancies when they occur, replacing one vessel with another when it reaches the end of its useful life, and sharing annual payments among more than one party.

These issues, while beyond the scope of the current study, suggest a lack of consensus on multiple issues surrounding the MSP.

4.4.2 RRF – Recapitalization of the Fleet

As of August 2017, the average age of RRF vessels was 43.1 years.¹⁷² The fleet includes 23 steam-powered ships with technology no longer being built in the commercial industry. One interviewee said that quite a few of the ships are so old that learning the technology is no longer of any use to new graduates—it is not transferrable to the commercial maritime industry.

¹⁷¹ One possibility might be to consider some sort of “multiyear procurement” contract, as explained in Department of Defense materials. See *Defense Procurement and Acquisition Policy, “Multiyear Procurement”*; https://www.acq.osd.mil/dpap/pass/pa/multiyear_procurement.html

¹⁷² Result calculated from data presented on the MARAD web site: *National Defense Reserve Fleet Inventory date ending August 31, 2017*. <https://www.marad.dot.gov/wp-content/uploads/pdf/i170831.pdf>

House Report 114-537 on the National Defense Authorization Act for Fiscal Year 2017,¹⁷³ included a provision for GAO to assess the readiness of the MSC “surge fleet” of commercial merchant marine vessels. The GAO report, released in August, 2017, covered the combined MSC and MARAD Surge Sealift fleet, which includes the 46 vessels in the MARAD RRF fleet, as well as 15 MSC USNS merchant type vessels.¹⁷⁴ GAO found that, with the increasing age of the vessels in the Surge Sealift fleet:

- Mission-limiting equipment casualties/failures have increased;
- Maintenance periods are running longer than planned;
- Both the age of ships and deferred maintenance appear to be contributing to the need for more extensive repairs;
- Scores from “no-notice” exercises performed by USTRANSCOM to assess the material condition of a ship and test its ability to meet activation time frames are declining; and
- In short, “readiness has trended downward.”¹⁷⁵

The GAO report goes on to make a number of recommendations for the Navy to improve its effective capital planning for a successful recapitalization of its fleet. The Navy concurred with the GAO recommendations.¹⁷⁶

This subject should be a part of the overall review. The RRF should not be considered in isolation. Instead, MARAD, MSC and other stakeholders and decision makers should take this opportunity to assess how the RRF fits into the future of sealift.

Acquisition of U.S.-flag vessels that have participated in the MSP should be the first priority for the recapitalization of assets for the RRF. In addition, the Panel would support the acquisition of foreign flag vessels for the RRF as the second priority.

The National Defense Authorization Act (NDAA) for Fiscal Year 2018¹⁷⁷, reported favorably by the U.S. House of Representatives Armed Services Committee on June 28, 2017, would amend existing law to permit the acquisition of foreign-built vessels for the U.S. fleet of military reserve vessels. Current law¹⁷⁸ limits the use of National Defense Sealift Fund

¹⁷³ R E P O R T Of The Committee On Armed Services House Of Representatives on H.R. 4909 at 127; <https://www.congress.gov/114/crpt/hrpt537/CRPT-114hrpt537.pdf>

¹⁷⁴ U.S. Government Accountability Office. August 2017. *Navy Readiness: Actions Needed to Maintain Viable Surge Sealift and combat Logistics Fleets*, GAO-17-503. <http://www.gao.gov/assets/690/686733.pdf> The report also covered the MSC Combat Logistics Fleet.

¹⁷⁵ Ibid. at 13-15.

¹⁷⁶ The focus of the GAO report is on the U.S. Navy, because it is defense appropriations to the Navy that will fund the recapitalization of the RRF

¹⁷⁷ H.R. 2810

¹⁷⁸ 10 U.S.C. § 2218

moneys to the construction, alteration or conversion of RRF and other reserve vessels in U.S. shipyards. The NDAA for FY 2018 as introduced amends this provision. Specifically, section 1001 of the NDAA authorizes DoD to purchase foreign-built vessels with a preference for foreign-built vessels that have participated in the U.S. Maritime Security Program. Section 1001 further provides that the MSP-vessel preference depends on whether such vessels are “available at a reasonable cost, as determined by the Secretary of Defense.”

RECOMMENDATION 4-3. Ready Reserve Force vessels managed exclusively by “Section II citizen companies” should also be eligible for management by “documentation citizen” companies.

4.4.3 Cargo Preference—Ideas to Consider for Improvement

Cargo preference rules applicable to international trade should be part of the review recommended here. Application of the cargo preference laws outlined in Chapter 2 continues to be considered by the vast majority of those interviewed as vital to the continued success of the MSP. The study team was informed that it is the combination of the MSP retainer with the revenues that are derived by MSP vessels carrying preference cargoes (“government impelled” cargoes) that makes the system profitable and attractive to carriers that have agreed to participate in the MSP program. Are there ways to improve the preference program? Or are there ways to distribute more equitably the costs of these cargo preference programs?

Some industry observers believe that it is necessary to retain cargo preference as an essential element of the current business model as incentive for MSP members to participate in the program. However, doing so shifts some commercial sealift costs to federal agencies other than MARAD. As a factual matter, however, preference cargoes are declining. U.S. military cargoes are declining as troop levels in mission areas have declined over the past several years. Food aid shipments have declined as the food aid agencies such as USAID shift focus, under the amended Food for Peace program¹⁷⁹ from delivering food to pursuing efforts to make local populations more self-reliant by delivering “impact funds” for local and regional food purchases.¹⁸⁰ There are some efforts in Congress to

¹⁷⁹ Title III of the Agricultural Act of 2014, Public Law 113-79

¹⁸⁰ Tonnage of food available for aid shipments has also declined substantially as the United States has stopped buying surplus agricultural commodities as a form of price support and storing the purchased commodities for uses such as food aid.

increase the scope of international preference cargo (e.g., some percentages of identified commercial cargo such as oil or LNG), but it is far from clear that this can be achieved.¹⁸¹

Revenues connected with cargo preference are a subsidy to the sealift mission. There may be value in considering other, more transparent and efficient budgetary methods of maintaining participation in MSP, such as increasing annual payments to carriers rather than expansion of cargo preference rules.

Proposals to extend cargo preference requirements to one class or another of non-military commercial cargo would require congressional legislation.¹⁸² It might be more effective to increase the retainers because preference cargo is an uncertain source of commercial revenue. While many alternative ways to increase retainers have been discussed, analysis of this topic is beyond the scope of this report.

Meanwhile, MARAD could take reasonable steps to improve its oversight of the cargo preference program. Several steps are needed:

- There currently is no program requiring a shipping agency to identify a preference cargo for coverage under the rules. Compliance is mandatory, however, reporting of compliance is voluntary.
- There is no mechanism in place to collect data on shipments to see that the preference programs are working as intended. No reporting is required to any agency.
- There is, in effect, no mechanism to encourage compliance by imposition of civil penalties for failure to do so. Congress enacted legislation in 2008 to grant DOT necessary authority to impose penalties, but regulations have never been implemented.¹⁸³ This is in stark contrast to the penalties available under the Federal Acquisition Regulations and Travel Regulations for the failure of federal travelers to use U.S.-flag air carriers when on official business.

The legislation that Congress enacted legislation in 2008 to grant DOT the necessary authority to: (a) issue regulations governing the application of cargo preference rules by all federal agencies; (b) conduct an annual review of programs that should be subject to cargo preference rules; (c) direct federal agencies to require transportation of cargoes not

¹⁸¹ Holland & Knight. March 21, 2017. *History Doesn't Bode Well For New Commercial Cargo Preference Bill*. <https://www.hklaw.com/publications/history-doesnt-bode-well-for-new-commercial-cargo-preference-bill-03-21-2017/>

¹⁸² There is an opportunity to set cargo preference carriage requirements for non-military preference cargo to 100 percent through Executive Order.

¹⁸³ Section 3511 of the *Duncan Hunter National Defense Authorization Act* for Fiscal Year 2009, Public Law 110-417, 122 Stat. 4356 (2008).

otherwise subject to cargo preference rules in equivalent amounts to cargo determined to have been shipped on foreign carriers in violation of the preference rules; (d) provide for civil penalties for willful and knowing violations of the rules; and (e) take other appropriate measure under the Federal Acquisition Regulations.¹⁸⁴ Efforts to implement this legislation have been under discussion within the executive branch since it was enacted.

RECOMMENDATION 4-4. The Maritime Administration should develop and issue proposed regulations based on recently enacted legislation relating to cargo preference statutory requirements. However, the Panel notes that cargo preference shifts some budget costs of sustaining U.S.-flag sealift capacity to other federal agencies. Over the longer term, policymakers should consider transparent and efficient methods of financing a surge shipping capacity for the Department of Defense, including increasing the annual payment to Maritime Security Program participants.

4.5 Other Programs Related to Sealift

This section describes the current status of two remaining programs that are managed under the Office of Sealift at MARAD. The Ship Disposal Program has made notable progress over the last several years. Still the progress is well worth noting, since at least some of it occurred in the face of litigation. The NS Savannah stewardship is related to Ship Disposal in the sense that it cannot be disposed of until it reaches the end of a process mandated under Nuclear Regulatory Commission rules. The Panel has no additional recommendations regarding the operation of either program.

4.5.1 Noted Progress in Implementing the Ship Disposal Program

The MARAD ship disposal program has been in place since well before MARAD itself was in existence. This is the end-of-life program for vessels in the NDRF. Vessels are either identified for dismantling (with the component parts recycled and sold) or set for resale if there is a remaining useful life. Over the years, MARAD has had to deal with issues that it did not create with regard to the administration of the ship disposal program.

The prominent example may be the Suisun Bay Reserve Fleet off the coast of California, established by MARAD's predecessor agency in 1946.¹⁸⁵ The Suisun Bay Reserve Fleet, at the start of operations, held 125 ships. By 1952, it held 340 vessels, many of which had been in operation during World War II either as warships or cargo ships. By 2008, disposal efforts had fallen behind and MARAD faced the need for disposal of several hundred vessels and a federal lawsuit for environmental problems connected to the program. As one news

¹⁸⁴ Ibid.

¹⁸⁵ See generally, "Suisun bay Reserve Fleet", <https://www.marad.dot.gov/about-us/maritime-administration-history-program/vessels-of-the-maritime-administration/suisun-bay-reserve-fleet-history/>

article put it, “toxic paint, PCBs and heavy metals from the mothballed ships polluted Suisun Bay along California’s biggest migratory route for salmon, steelhead trout and other migratory fish.”¹⁸⁶

The lawsuit was settled with a consent decree in 2010. In August 2017, the last vessel in the fleet was removed, one month in advance of the deadline set out in the consent decree.¹⁸⁷ Officials of environmental groups that had brought the suit commented that MARAD did a very good job of cleaning and removing the vessels. MARAD officials commented that they viewed the result as a “symbol of the maritime industry’s environmental progress.”¹⁸⁸

As noted in Chapter 2, when MARAD disposes of a vessel¹⁸⁹ in a way that generates revenues (e.g., sale of the vessel or sale of the components resulting from a recycling process) legislation provides for how those proceeds are to be disbursed after first being deposited in the Vessel Operations Revolving Fund: 50 percent of the proceeds are to be used to maintain the remaining vessels in the NDRF; 25 percent of the proceeds are to be used to support the USMMA and the six SMAs; and the remaining 25 percent of the proceeds are to be used to support the National Park Service’s Maritime Heritage Grant Program and MARAD’s preservation of historical property and heritage education. Federal legislation in 2015¹⁹⁰ required the GAO to audit the system. In 2017, GAO issued a positive report without any recommendations for improvements.¹⁹¹

After overcoming some difficult problems in the past with too many vessels on line for disposition, it now appears that the Ship Disposal program is meeting its objectives. It is an essential and appropriate part of MARAD’s overall set of programs to support sealift, allowing MARAD, on behalf of the government, to dispose of surplus vessels efficiently, with the proceeds going to fund other functions managed by the Agency, as recently audited by GAO. Given Agency staff industry expertise, and its active engagement with the maritime industry, MARAD is well-placed to operate this program, and it will be essential in the future if the RRF is recapitalized. The Panel evaluates that this program operates in the way intended.

¹⁸⁶ Cuff, Denis. August 4, 2017. *Last Ghost Fleet Ship Leaves Suisun Bay after long Pollution Fight*. East Bay Times. <http://www.eastbaytimes.com/2017/08/03/last-ghost-fleet-ship-leaves-suisun-bay-after-long-pollution-fight/>

¹⁸⁷ Ibid.

¹⁸⁸ Ibid.

¹⁸⁹ The following discussion is based on a GAO report from earlier this year: U.S. Government Accountability Office, February 2017. *Maritime Administration: Proceeds from the Sale of Obsolete Vessels Were Accounted for, Allocated, and Disbursed Consistent with Applicable Law*; GAO-17-280. <http://www.gao.gov/assets/690/682980.pdf>

¹⁹⁰ The Coast Guard Authorization Act of 2015

¹⁹¹ GAO-17-280, supra, note 36.

4.5.2 NS *Savannah*

This nuclear-powered merchant marine vessel, the only one of its kind remaining on the water, was originally a joint venture of MARAD (then part of the Department of Commerce) and the Atomic Energy Commission (now the NRC). With its inactive nuclear reactor, it is clearly a relic of the atomic age. With its status as a National Historic Landmark (since 1991), and its status as an inactive nuclear power plant (subject to NRC decommissioning regulations), care has to be taken to manage carefully the final years of this vessel's life.

It is tempting to suggest a recommendation that MARAD rid itself of this burden, given its limited resources and the fact that retention of the NS *Savannah* requires MARAD to maintain the expertise on staff to do the job right. But which agency should take on the task? The Department of Commerce? It has little to do with maritime transportation and less to do with nuclear power. The NRC? It is a regulatory agency, not in the business of preservation of nuclear vessels or anything else. Neither seems a better fit than MARAD.

MARAD advises its intention to maintain the *Savannah* in protective storage for some years into the future; however, under current law and regulation the decommissioning process must be completed and the *Savannah's* operating license terminated no later than December 2031. In May, 2017, Congress appropriated funds for the first two years of a planned seven-year-long decommissioning of the *Savannah*.

THIS PAGE INTENTIONALLY LEFT BLANK.

Chapter 5: Mariner Education and Training Mission

The importance to MARAD’s mission to provide a sufficient number of qualified U.S.-citizen mariners is unambiguous. U.S.-flag vessels must be crewed by U.S.-citizen qualified mariners (see box for a listing of mariner designations). Thus, mariner education is a key issue that is inextricably intertwined with MARAD’s important sealift mission. Any potential of not having a sufficient number of qualified mariners to perform the sealift mission negatively impacts the maritime industry, and also poses a serious threat to the nation’s security due to the resulting inability to have sufficient crew to project military power around the globe.

In this chapter, we speak about challenges connected with MARAD’s mission to supply an adequate number of U.S.-citizen qualified mariners to meet the nation’s needs, and we provide recommendations to address those challenges (Panel recommendations to enhance USMMA operations are addressed in Chapter 3, and are considered an important part of MARAD’s efforts to meet this critical mission objective). In this chapter, we address the key aspects of the Agency’s efforts to further contribute to achieving success that are separate, but complementary, to operating the USMMA.

We begin this chapter with a discussion of two technical challenges MARAD faces in the mariner education and training mission with respect to calculating both crew number needs and the size of the pool of available qualified U.S.-citizen mariners.

The chapter continues with a discussion of several challenges MARAD faces with respect to meeting this critical objective. These challenges include the voluntary nature of sealift activation, attrition in the mariner pool, and building the number of credentialed mariners through MARAD’s assistance to SMAs.

Mariner Designations

Licensed Mariner (Deck): Licensed mariners who work on the deck have navigational and cargo responsibilities. Those positions include Master Mariners, Chief Mates, Second Mates, and Third Mates.

Licensed Mariner (Engineer): Licensed mariners who work in the engineering department are responsible for operating and maintaining the propulsion systems, sewage systems, lighting systems, air conditioning systems, and water systems. Those positions include: Chief Engineer, First Assistant Engineer, Second Assistant Engineer, and Third Assistant Engineer.

Unlicensed Mariner (Deck): Unlicensed mariners who work on the deck have general responsibilities but occasionally have endorsements for navigational watch. Those positions include: able seaman and ordinary seaman.

Unlicensed Mariner (Engineer): Those positions include: Qualified Members of the Engineering Department and Wipers.

Mariners are also differentiated by the types of navigable waters they are authorized to sail on. Those include great lakes and inland waters, nears coastal waters, and oceans. For sealift requirements, both licensed and unlicensed mariners must be authorized to sail on oceans with no tonnage or horse power limitations.

Throughout this chapter, the Panel offers several recommendations to assist MARAD to achieve its mission to provide an adequate number of U.S.-citizen qualified mariners.

5.1 Challenges to Determining USTRANSCOM Mariner Needs and the Available Mariner Pool

MARAD is responsible for ensuring an adequate supply of certified U.S.-citizen mariners for sealift needs. There are two technical challenges connected with calculating the need and the pool of mariners that must be addressed in this context. MARAD cannot currently confirm the provision of an adequate supply of merchant mariners in a “full activation scenario with sustained operations” (see Appendix I Glossary for an explanation of this term)¹⁹² for the reasons described in the ensuing paragraphs.

5.1.1 Calculation of Necessary Mariners

The method of calculating available mariners is dependent on close relationships that MARAD has with USTRANSCOM. Through interviews, we learned at a high level that the calculation follows a three-step process: (1) USTRANSCOM is responsible for providing the number and type of vessels that need crewing in a full activation scenario; (2) MARAD is responsible for calculating the number of billets (see Appendix I) necessary to fully crew each vessel; and (3) that figure, in turn, is used to calculate a number necessary for crew rotations past a period of six months (ocean-going crews typically serve at sea for about six months out of the year, rotating on a 2 or 3 month basis, and are relieved by another qualified mariner when they rotate ashore).

The current detailed method MARAD uses to calculate the number of required minimum number of U.S.-citizen mariners is not well understood by some stakeholders. A lack of understanding by some stakeholders on how the calculations are done contributes to a proclivity by some to doubt the accuracy and dependability of MARAD’s figures. This might be addressed by greater transparency on how MARAD does this forecast (the topic of transparency is addressed in Chapter 3).¹⁹³

RECOMMENDATION 5-1. The Maritime Administration should establish and communicate consistently, in collaboration with stakeholders, the process of determining crew size and composition in order to meet sealift needs.

¹⁹²United States. Senate. Committee on Commerce, Science, and Transportation. *The State of the U.S. Maritime Industry: The Federal Role*, p. 5. <https://www.commerce.senate.gov/public/cache/files/f6b12ff6-bb5c-4616-ba72-6a817da76fe2/63470C053E33DFE56BA633BF169957F5.administrator-jaenichen-testimony-3.8.16.pdf>.

¹⁹³ Contributing to this perception and general distrust in MARAD’s calculation is DoD’s, prior to FY 2016, assertions of meeting past sealift needs without full activation of the reserve sealift fleet. (<http://www.gao.gov/assets/680/672181.pdf>)

5.1.2 Calculation of Available Mariners

To grasp the challenges in ensuring an adequate supply of qualified mariners to the U.S. maritime industry, which also includes its strategic sealift mission, MARAD needs to have access to an accurate record of the number of credentialed mariners who are available to support sealift. Neither MARAD, nor any other federal entity, are in ownership of such a record. USCG, however, maintains the database on credentialed mariners. Due to this fact, MARAD maintains an important and close relationship with USCG. USCG issues the Merchant Mariner Credential and maintains the Merchant Mariner Licensing and Documentation System (MMLD). The MMLD system works very well at issuing credentials, its intended purpose. Thus, in considering crew requirements and available pool, MARAD works with USTRANSCOM to determine sealift needs and calculates available mariners by using the MMLD system.¹⁹⁴

There is a major problem, however, with the MMLD system in regards to calculating available mariners for sealift activation. It is both out of date and not capable of meeting MARAD's needs in its effort to define, on a dynamic basis, the active credentialed mariner pool that might be called upon to man vessels. The MMLD was created to issue the U.S. Merchant Mariner Credential.¹⁹⁵ MARAD and USCG deem the database to be inadequate in calculating the number of mariners available for sealift because: not all licensed mariners still utilize their license to sail internationally; some credentialed mariners are deceased or unable to sail; and some currently licensed mariners¹⁹⁶ are not still actively sailing. All of these factors impact, in a material way, MARAD's ability to know a reliable size of the pool of mariners operating vessels required for sealift.¹⁹⁷ Interviews with MARAD officials revealed that, in addition, to not capturing the mariner pool with the correct experience, the MMLD also does not update to reflect deceased mariners upon their death. Other agencies solve this problem by asking the Social Security Administration (SSA) to run their database against the SSA's Death Master File.

The limitations of the MMLD database, acknowledged by both USCG and MARAD, have resulted in MARAD needing to manipulate the data using various assumptions. MARAD currently triangulates information provided by USCG, unions, and industry partners,

¹⁹⁴ MARAD formerly utilized the Mariner Outreach System (MOS) for this calculation. MOS' capability to query the MMLD database for this information has been affected by changes in USCG business practice since March 2014.

¹⁹⁵ Econometrica, Inc. July 2009. *Maritime Security Program Impact Evaluation*, pg. 56. https://www.marad.dot.gov/wp-content/uploads/pdf/MSP_Revised_Final_Report_Transmitted_07-24-09.pdf

¹⁹⁶ Merchant Mariners Credentials have a lifespan of five years.

¹⁹⁷ U.S. Government Accountability Office. 2015. *International Food Assistance: Cargo Preference Increases Food Aid Shipping Costs, and Benefits Are Unclear*, GAO-15-666. <http://www.gao.gov/assets/680/672181.pdf>

manipulating the database manually to determine numbers they deem more realistic for available mariners. GAO noted uncertainties in the calculation of available mariners in a 2015 report, *“International Food Assistance: Cargo Preference Increases Food Aid Shipping Costs, and Benefits Are Unclear”* and recommended MARAD study potential availability of qualified mariners. As mandated in the FY2017 National Defense Authorization Act (NDAA), MARAD has taken action on this recommendation by forming the Mariner Workforce Working Group.¹⁹⁸ That working group is expected to publish a report that responds to weaknesses in the calculation, as well as, issues surrounding transparency. However, a longer term course of action must address inadequacies in the database. USCG is in the early stages of work on designing a new data system, but likely years away from completing it.

RECOMMENDATION 5-2. The Maritime Administration should work closely with the U.S. Coast Guard (and other stakeholders) on a long-term solution for updating the Merchant Mariner Licensing and Documentation System to allow for data analysis and to meet both credentialing and sealift needs.

RECOMMENDATION 5-3. The Maritime Administration should work with the U.S. Coast Guard and the Social Security Administration to compare the Merchant Mariner Licensing and Documentation System’s database with those listed as deceased from the Social Security Administration’s database and build in a recurring process so that deceased licensed mariners no longer appear on the Merchant Mariner Licensing and Documentation System.

Limitations in the MMLD system have been acknowledged for several decades.¹⁹⁹ Prior to 2002, MARAD addressed these limitations by issuing Mariner Surveys.²⁰⁰ These surveys were used to capture data on (1) school affiliation; (2) mariners’ willingness to respond in sealift activation; (3) employment patterns; (4) progress in meeting revised certification standards; and (5) knowledge of reemployment rights.²⁰¹ Interviews indicate that these surveys were helpful tools in addressing inadequacies in the MMLD system and providing more accurate data to stakeholders on the number of available certified U.S.-citizen mariners.²⁰²

¹⁹⁸U.S. Government Accountability Office. August 2017. *Navy Readiness: Actions Needed to Maintain Viable Surge Sealift and Combat Logistics Fleets*, GAO-17-503, p. 8. <https://www.gao.gov/assets/690/686733.pdf>

¹⁹⁹U.S. Maritime Administration. *A Report to Congress: Maritime Education Program Evaluation*, April 2003.

²⁰⁰ Surveys were ultimately conducted through the Bureau of Transportation Statistics to ensure statistical viability.

²⁰¹U.S. Maritime Administration. *A Report to Congress: Maritime Education Program Evaluation*, April 2003.

²⁰² Current MARAD employees could not provide a reason for the Mariner Surveys suspension.

RECOMMENDATION 5-4. Until a new Merchant Mariner Licensing and Documentation database is operational, the Maritime Administration should reissue biennial Mariner Surveys to improve confidence in calculations of mariner availability.

5.2 Challenges to the Provision of Mariners

MARAD's ability to supply U.S.-citizen, qualified mariners is highly contingent upon the size and workforce demands of the U.S.-flag commercial shipping industry. This means the number of U.S.-flag ships and the volumes of cargo for these vessels have material impact on the pool of qualified U.S.-citizen mariners.

The U.S.-flag commercial shipping industry has undergone seismic shifts since the 1936 passage of the Merchant Marine Act (see Chapter 4). These shifts have significantly decreased the pool of U.S.-citizen mariners and can be attributed to increasing efficiencies in vessel construction which decrease the number of billets per ship, the growing reliance on Flag of Convenience vessels and foreign crews,²⁰³ and decreasing government cargos carried by U.S.-flag vessels.²⁰⁴ Flying under a flag of convenience is the practice of registering a vessel in a country other than that of the ships owners. It allows for the crewing of vessels to come from countries other than registry.²⁰⁵ This decreased pool of U.S.- citizen mariners greatly impacts MARAD's ability to meet sealift needs.

The decreased pool of mariners was publically stressed as an important issue by General McDew (Commander of USTRANSCOM) in his statement before the Senate Armed Services Committee in May 2017: "Unfortunately, the U.S.-flag international commercial fleet and Mariner pool has shrunk over time; while we have contingency plans, further reductions may cause us to investigate other options such as using more foreign flagged international commercial vessels manned by foreign crews during crisis or war."²⁰⁶

We address three reasons for the challenges to provide an adequate supply of qualified mariners.

²⁰³ Econometrica, Inc. *Maritime Security Program Impact Evaluation*, p. 58. https://www.marad.dot.gov/wp-content/uploads/pdf/MSP_Revised_Final_Report_Transmitted_07-24-09.pdf

²⁰⁴U.S. Maritime Administration. April 21, 2015. *Impacts of Reduction in Government Impelled Cargo in the U.S. Merchant Marine*. <https://www.marad.dot.gov/wp-content/uploads/pdf/04-21-2015-Report-to-Congress-on-the-Impact-of-Reduction-in-Government-Impelled-Cargo-on-the-US-Merchant-Marine.pdf>

²⁰⁵ This is considered a method to paying mariners at a lower rate than the rate paid to mariners in developed countries.

²⁰⁶United States. Senate. Armed Services Committee. *Statement of General Darren W. McDew: On the State of the Command*, p. 10. https://www.armed-services.senate.gov/imo/media/doc/McDew_05-02-17.pdf

5.2.1 Providing Adequate Levels of Mariner Expertise

MARAD works to ensure that there is proper alignment in job qualifications and experience levels of the crew (see Appendix J for a general progression of crew positions on merchant marine vessels) in relation to the billets required to fill TRANSCOM/MSC's full sealift activation scenario with sustained operations. To ensure this alignment and make appropriate crewing determinations for MSC need, MARAD must take the type of vessel into account. For instance, steam-operated vessels require the expertise and experience of engineers with steam credentials. Related to qualification type, the merchant mariner profession is facing a looming shortage of experienced mariners. MSC relies on mariners with certain levels of experience to fill more senior positions on vessels that cannot be filled by recent USMMA or SMA graduates. Given the nature of commercial shipping, MARAD cannot guarantee that there is proper alignment in availability and experience of crew (such as having a majority of the mariner pool with necessary job qualifications at sea when sealift is activated) when sealift is activated. In these instances MARAD cannot rapidly increase the provision of training through USMMA and other types of courses to meet an immediate activation need (more on mariner training will be covered in 5.4 below). Former MARAD Administrator, Chip Jaenichen, noted a potential future imbalance in billets and mariner experience and qualifications in his testimony to Congress: "Given the high average age of the credentialed mariner workforce, the expected separation rate of workers from the industry, and time needed to gain shipboard experience, there could be a critical need for senior mariners to meet employment demand between now and 2022."²⁰⁷

5.2.2 Current Job Shortages in the Commercial Shipping Industry

The demand for U.S.-flag commercial vessel services is not currently adequate to maintain the pool of qualified mariners necessary to meet TRANSCOM/MSC's sealift activation and sustainment needs. The lack of demand is responsible for a corresponding decrease in U.S.-flag ships and, thus, mariner jobs. The decrease in jobs, combined with an increase in licensing requirements, make recruiting and retaining mariners for sealift needs a unique challenge.²⁰⁸ Given the cyclical nature of the shipping industry, job shortages in the field are to be expected. However, MARAD can alleviate volatility in the job market by following the recommendations made in Chapter 4 regarding cargo preference, MSP payments, and Jones Act ships which should, in turn, stabilize cargoes for U.S.-flag vessels. MARAD should

²⁰⁷United States. Senate. Committee on Commerce, Science, and Transportation. *The State of the U.S. Maritime Industry: The Federal Role*, p. 5. https://www.commerce.senate.gov/public/_cache/files/f6b12ff6-bb5c-4616-ba72-6a817da76fe2/63470C053E33DFE56BA633BF169957F5.administrator-jaenichen-testimony-3.8.16.pdf.

²⁰⁸U.S. Maritime Administration. *Impacts of Reduction in Government Impelled Cargo in the U.S. Merchant Marine*, April 21, 2015. <https://www.marad.dot.gov/wp-content/uploads/pdf/04-21-2015-Report-to-Congress-on-the-Impact-of-Reduction-in-Government-Impelled-Cargo-on-the-US-Merchant-Marine.pdf>

carefully examine the balance of cargo preference cargoes, Jones Act requirements, and MSP payments and determine the correct balance of those incentives to maintain the U.S. flag fleet.

There are multiple ways to supply merchant mariners. One such potential untapped source of maritime experience is Navy Sailors and Officers. Tapped-out, active duty Navy Sailors and Officers who are approaching the end of service offer untapped potential for receiving specialized mariner instruction that would facilitate attainment of Merchant Mariner Credentials. There are two reasons for this: because they are less reliant on market cycles for employment and could be provided with incentives to seek additional training. Additionally, Navy Sailors and Officers who are approaching the end of service have the necessary days at sea and documentation of days at sea to put towards attaining their merchant mariner credential.²⁰⁹

RECOMMENDATION 5-5. The Maritime Administration should work with the U.S. Navy, U.S. Army, and U.S. Coast Guard to determine a training system for end-of-service Navy Sailors and Officers to earn their Merchant Mariner Credential.

5.2.3 Voluntary Service in Sealift Activation

MARAD is additionally challenged in its mission to ensure an adequate number of qualified mariners for sealift because crew service is voluntary. Previously, MARAD has relied on the service obligation of USMMA graduates and SIP program recipients and the sense of duty that continued after the formal close of obligation by those mariners enrolled in those program.²¹⁰ Interviews revealed that the number of students currently graduating with a formal service obligation is sufficient to meet the needs of the Strategic Sealift Officer (SSO) program, for entry level billets, in the U.S. Naval Reserve (USNR).²¹¹

The service obligations currently utilized, however, have a limited time frame and are targeted towards entry-level mariners.²¹² The *2001 Mariner Survey*, referenced above, revealed that once the formal obligation ended, licensed mariners who attended a MARAD-supported school were more likely to serve during a national emergency and identified a

²⁰⁹ MARAD currently utilizes this characteristic in its Military to Mariners program. This recommendation varies from that program because it concentrates on training Navy Sailors and Officers before they complete their service with the Navy.

²¹⁰ The SMAs and the USMMA collectively graduate about 1,000 entry-level officers with unlimited credentials annually, close to 75 percent of them being from the SMAs. Although vast majority of the SMA graduates pursues careers at sea, only those graduates who received SIP payments have an obligation to serve and that number does not exceed 75 annually.

²¹¹ SSOs are officers in the U.S. Navy Reserve assigned to MSC and RRF vessels in instances of national defense or emergency. <https://www.usmma.edu/academics/departments/strategic-sealift-officer>

²¹²U.S. Code Section Chapter 515

longer time available to serve during a national emergency.²¹³ Interviewees indicated a causal relationship between duty to serve and receipt of federal funds for mariner education. Despite the validity of the willingness to serve, MARAD cannot ensure that licensed mariners with the desired background will be available to serve when needed.

To address the challenge of mariner availability in the context of a dwindling U.S.-citizen qualified mariner pool, MARAD should establish a service obligation that mirrors that of the obligation for USMMA graduates and SIP recipients for experienced mariners. A reserve program, as opposed to an outright conscription,²¹⁴ would require incentives to gain enrollees (though this report refers to a “reserve program,” a program of this kind could also be thought of as an augmentation force to existing mariners available for sealift). Reserve programs are favored for their ability to save costs, maintain readiness, and reduce the need for an active military program.²¹⁵ A reserve program for mariners would allow MARAD to have greater certainty in the supply of available mariners during sealift. A reserve program could also function as an incentive for mariners struggling to find jobs at sea to maintain their license and stay in the maritime industry. Finally, a reserve program would allow mariners to continue to practice and develop skills onboard sealift-relevant vessels. Further study is necessary to determine how much a reserve program would cost and what incentives a reserve program would need to provide to attract enrollees.

RECOMMENDATION 5-6. The Maritime Administration should evaluate the costs and requirements of establishing a reserve program for experienced mariners. Once the cost estimates are determined, and if they are deemed appropriate, the Maritime Administration and the Department of Transportation should present the option of a reserve program for experienced mariners to Congress.

Despite significant concerns over the future of this profession, U.S. maritime academies are reaching record enrollment.²¹⁶ The next section of this chapter addresses MARAD’s efforts to administer mariner education programs and provides recommendations on improvements that could be made.

5.3 State Maritime Academies as a Source of Certified Mariners

In order to ensure an adequate supply of U.S.-citizen certified mariners, MARAD oversees the training of mariners through the administration of USMMA (discussed in Chapters 2

²¹³U.S. Maritime Administration. *A Report to Congress: Maritime Education Program Evaluation*, April 2003, p. 24

²¹⁴ This would require legislation change.

²¹⁵ The Army Reserve. *About Us*. <http://www.usar.army.mil/About-Us/>

²¹⁶ <https://www.usni.org/magazines/proceedings/2015-05/us-merchant-marine-and-world-maritime-review>

and 3) and by providing some narrow support for six U.S. SMAs. MARAD's support to SMAs comes in two primary ways: (1) through the SIP; and (2) through providing school ships.

5.3.1 Student Incentive Program (SIP)

SIP is the primary manner in which the SMAs²¹⁷ contribute to meeting sealift requirements.²¹⁸ In its current form, SIP is a direct payment made by MARAD to SMA students who elect either a service obligation of three years of active duty service after graduation or agree to be employed in the maritime industry for three years (preferably sailing on U.S.-flag vessels), maintain a USCG Merchant Mariner Credential with license endorsement for 6 years, be active in an U.S. Armed Forces reserve unit for at least 6 years and report annually their service obligation compliance to MARAD until all service obligation components are fulfilled.²¹⁹ SIP was established through the Maritime Academy Act of 1958 but later expanded through the Maritime Education and Training Act of 1980²²⁰ which rewrote the requirements for the service obligation of students receiving SIP to more closely align with those of USMMA students, and legislated the provision of training ships for SMAs.²²¹ The increase in service obligation did not correspond to an equivalent increase in tuition coverage for SIP recipients.

SIP is currently funded to a capacity of 75 students entering each year with total funds available per annum of \$2.4 million. The total contribution per student over four years is \$32,000 which represents an average of 28 percent of tuition coverage²²² for SMA students.²²³ This stands in contrast to USMMA students whose expenses are about 30 percent of those of an SMA student, pay no tuition, and are responsible for \$850 per year in fees.²²⁴ Interviews indicate that the difference in tuition and fee coverage per student between USMMA and SMAs, despite similar service obligations, results in the SIP being a challenging program to market to SMA students, for understandable reasons. The SIP

²¹⁷ All SMA graduates with unlimited credentials could participate in sealift movements; however, the SIP recipients within their period of service obligation, are required to participate.

²¹⁸U.S. Maritime Administration, *Budget Estimates Fiscal Year 2016: Maritime Administration*.
<https://cms.dot.gov/sites/dot.gov/files/docs/FY2016-BudgetEstimate-MARAD.pdf>

²¹⁹U.S. Maritime Administration, *Maritime Academies*. <https://www.marad.dot.gov/education/maritime-academies/>

²²⁰ HR 5451

²²¹Further details on the federal government's support for state maritime academies through general program support, personnel, use of training vessels, annual payment, and student incentive payments can be found in Section 46 Chapter 515 of the U.S. Code.

²²²Typical tuition expenses at a SMA is in the \$20K-30K range per year. In addition to SIP, the federal government provides approximately \$29,100/per SMA graduate, and requires no obligation. If this were to go away the cost for tuition and fees would rise significantly.

²²³U.S. Maritime Administration, *Budget Estimates Fiscal Year 2017: Maritime Administration*.
<https://cms.dot.gov/sites/dot.gov/files/docs/MARAD-FY-2017-CI.pdf>

²²⁴ USMMA midshipmen, by law, pay no tuition.

program struggles to reach capacity on a regular basis. A more proportionate cost to benefit ratio for SIP students, in relation to USMMA students, would alleviate this problem.

Since funding for SIP is authorized and the service obligation for SIP recipients is legislated, MARAD is challenged in responding to these factors administratively. MARAD has taken steps to improve the marketing of this program to more regularly reach capacity, including initiating a marketing study in this area due to be released soon. Training more than 75 students annually was not deemed a necessity to meet sealift needs due to the adequate provision of entry level positions for sealift.

RECOMMENDATION 5-7. The Maritime Administration should propose increasing the Student Incentive Program's funding per student to Congress to increase the number of credentialed mariners graduating with a service obligation.

RECOMMENDATION 5-8. The Maritime Administration should consider the recommendations from the marketing study for the Student Incentive Program to guide further steps in how to promote this program.

5.3.2 School Ship Recapitalization

Due to the importance of hands-on ship experience, provision of school ships for SMAs is a critical component of the quality of mariner education. SMAs rely on school ships provided by MARAD for at-sea training and shore-side laboratories to help meet credentialing requirements.²²⁵ MARAD provides SMAs with school ships,²²⁶ unlike USMMA which depends heavily on partnerships with commercial vessels for student training²²⁷, because there are too few U.S.-flag commercial ships available for SMA students to sail on and still attain the required number of days.

MARAD advised that the average age of the seven school ships currently provided by MARAD is 39 years old with annual maintenance expenses of about \$20 million.²²⁸ In meetings with MARAD we learned that MARAD will be unable to confirm school ship safety for SMA use without recapitalization of the oldest school ship by the end of 2019. Without authorized funding, MARAD cannot recapitalize the school ships. The consequences of not authorizing funding is tantamount to ending federal support for school ships as the current

²²⁵U.S. Maritime Administration, *Maritime Academies*. <https://www.marad.dot.gov/education/maritime-academies/>

²²⁶ The seven school ships come from the NDRF fleet, however, they are not financed by the Navy because they are not considered military useful. <https://www.marad.dot.gov/ships-and-shipping/strategic-sealift/office-of-ship-operations/national-defense-reserve-fleet-ndrf/>

²²⁷ In addition to commercial ship usage for sea year requirements, USMMA uses the NDRF ship the King's Pointer for shore-side training.

²²⁸U.S. Maritime Administration, *Budget Estimates Fiscal Year 2017: Maritime Administration*. <https://cms.dot.gov/sites/dot.gov/files/docs/MARAD-FY-2017-CI.pdf>

ships leave the fleet. The two oldest ships are 50 and 55 years old, and make up 66 percent of the at-sea training capacity. Given the timeline of the need to pursue recapitalization, MARAD has been pursuing various options for almost a decade. This subsection will explain those options and make a recommendation for MARAD in the provision of school ships.

The options for recapitalization include building a vessel or buying and converting one. In 2014, MARAD began the design process for building new school ships. To meet the requirements of a major systems acquisition,²²⁹ MARAD's Office of Strategic Sealift worked with stakeholders to determine the requirements and mandated cross functionality (applicable use by other federal agencies) of a future MARAD-funded, U.S.-built school ship. The result of that process is the National Security Multi-Mission Vessel (NSMV) project. The NSMV would therefore be relied upon in federal agency provision of Humanitarian Assistance Disaster Relief. Meeting this need, however, would increase the cost of the vessel by an estimated \$16 million.²³⁰ Progress has stalled in the acquisition process due to a lack of funding.

Alternatively, MARAD could buy a used foreign-built vessel from a commercial carrier and convert it to meet training needs. Internationally, the commercial ship market is currently depressed and many ships have entered into foreclosure or are being retired early for recycling.²³¹ These factors serve to greatly decrease the cost at which they can be acquired. The decrease in cost for MARAD, however, results in a loss to U.S. shipyard work. The gain of continuing provision of school ships for mariner training must be weighed against the loss of work for U.S. shipyards. Congress weighed these factors in the recapitalization of the RRF (training ships are a sub- component of the NDRF, and owned by MARAD) and, ultimately, gave support for purchasing foreign built ships at a lower cost in the language of the FY18 NDAA: "The Secretary of Defense may, as part of a program to recapitalize the Ready Reserve Force component of the NDRF and the MSC surge fleet, purchase any used vessel, regardless of where such vessel was constructed if such vessel:

- (i) Participated in the Maritime Security Fleet; and
- (ii) Is available for purchase at a reasonable cost, as determined by the Secretary."²³²

²²⁹ See e.g., generally, Federal Acquisition Regulations, Subpart 534.2 "Earned Value Management Systems", 534.201 (b) definition of a "major acquisition."

<https://www.acquisition.gov/sites/default/files/current/gsam/zip/pdf/GSAM.pdf>

²³⁰ Based on discussions with MARAD officials.

²³¹ United Nations Conference on Trade and Development. 2010. *Review of Maritime Transport*.

http://unctad.org/en/docs/rmt2010_en.pdf

²³² 115 Congress, 1st Session. *National Defense Authorization Act for Fiscal Year 2018*.

<https://www.congress.gov/115/bills/hr2810/BILLS-115hr2810pcs.pdf>

Without legislation, similar to the legislation above, allowing this purchase, the option of buying lower-priced, foreign-built vessels to replace the aging training ships is not an option available to MARAD. Should similar legislation be enacted, MARAD would still need to be appropriated adequate funds to make such a sizable investment. Those funds would need to include money for the purchase of the vessels, as well as, money for the conversion of the vessel to meet training ship needs.

RECOMMENDATION 5-9. The Maritime Administration needs to present the option to buy foreign vessels in the near-term for school ship recapitalization to Congress.

5.4 Enlarge the Cadet Contingent at USMMA to Increase Pool of Certified Mariners

Finally, enlarging the student body at USMMA from its current level of around 950 would over time increase the pool of qualified U.S.-citizen mariners. Doing so would require higher budget investments, especially given the fact that USMMA is already underfunded compared to other service academies - USMMA has operated at a lower relative cost level per cadet than some sister service academies. Besides the costs incurred by MARAD to increase the cadet contingent, other factors, such as availability of jobs, which is connected with the lack of preference commercial cargoes and the small number of U.S.-flag vessels, will impact a decision to take steps in this direction.

Chapter 6: Other MARAD Programs and Functions

We use this chapter to evaluate the effectiveness and efficiency of various programs MARAD currently operates that are separate from sealift and mariner training. This chapter is divided into three sub-sections, each covering a separate mission area: environment, safety, and security; port infrastructure and intermodal development; and shipbuilding and finance. The current MARAD organizational structure has an Associate Administrator leading each of these three offices.

While the basic information on how each program operates is provided in Chapter 2, this chapter offers evaluation of how well each operates and aligns with MARAD's mission. In considering each of these mission areas, the Panel also considers whether there are opportunities for some changes in where the Agency invests its resources that might shift greater attention towards its most mission critical operations. The Panel recommends that Title XI be moved from MARAD to the Build America Bureau at DOT. In addition, MARAD's safety, security and environment work is deemed to be too small to make a difference, and these should be triaged to another federal agency to manage. Moving these are likely to have little impact overall.

6.1 Mission Area: Environment, Safety, and Security

MARAD supports the U.S. maritime industry in areas of environment, safety and security. Unlike other DOT agencies, MARAD does not have regulatory or enforcement functions in environment and safety issues in the maritime transportation system. One might argue that the addition of a regulatory or enforcement function within MARAD would represent a conflict of interest. Having both a promotional and a regulatory responsibility puts two parts of the same Agency potentially at odds. MARAD's current mission in environment, safety, and security is to advocate on behalf of the maritime industry to other federal and international agencies (See Appendix F for information on international administrative comparisons). To administer this mission area, MARAD employs 15 Full-Time Equivalents (FTEs) and three Office Directors, overseen by an Associate Administrator.

6.1.1 Office of Environment

This Office has two objectives: (1) to enable MARAD compliance with all federal environmental requirements; and (2) to facilitate environmental compliance throughout the maritime transportation system. The META program is the main program administered in support of the second mission. Interviews with industry stakeholders indicate great appreciation for the administration of META grants, as well as, research

provided through META grants.²³³ Both internal MARAD officials and industry representatives regard the META program as the research and development branch of the maritime transportation system. Although MARAD officials²³⁴ and industry²³⁵ hold similar views regarding responsible and cost-effective environmental requirements, MARAD does not have any authority to either create or enforce those requirements.²³⁶ MARAD's work in environment, though appreciated, is appropriately limited within the scope of the overall Agency and operates within the bound of its legislative directives.

6.1.2 Office of Safety

MARAD officials advocate for effective and affordable safety requirements in the maritime transportation system and assist in development of international safety standards.²³⁷ The bulk of MARAD activities in this area consist of coordination and collaboration on safety best practices with other organizations, including federal agencies, maritime industry partners, and international organizations. There are also several associations that work to share safety best practices: the United States Marine Safety Association and the National Maritime Safety Association. The distinctly governmental aspect of the work MARAD does in safety is the input provided to international bodies (such as the IMO) on safety-related issues.

6.1.3 Office of Maritime Security

MARAD "collaborates closely with federal and industry partners to maintain maritime domain awareness, minimize the potential for cyber, pirate, and terrorist attacks against maritime assets, and alert the industry expeditiously when such threats appear."²³⁸ In performing this mission, MARAD acts alongside a plethora of federal agencies.²³⁹ This office cites communication between industry and the federal government as their key responsibility in instances of maritime security threats. When asked during interviews with industry representatives, many could not immediately identify the role MARAD played in the maritime security arena. Instead, they often cited the State Department and USCG as the primary source of information for maritime security issues.

²³³ Average annual funding for the META program is \$3 million.

²³⁴ Interviews

²³⁵ Transportation Institute, *Environmental Values*. <https://transportationinstitute.org/about/environmental-values/>

²³⁶ Enforcement responsibilities are divided between the Environmental Protection Agency (EPA) and USCG.

²³⁷ U.S. Maritime Administration, *Office of Safety*. <https://www.marad.dot.gov/environment-and-safety/office-of-safety/>

²³⁸ U.S. Maritime Administration, *Budget Estimates Fiscal Year 2018: Maritime Administration*, p. 48. <https://www.transportation.gov/sites/dot.gov/files/docs/mission/budget/281151/marad-fy-018-cj-budget.pdf>.

²³⁹ U.S. Maritime Administration, *Office of Maritime Security*. <https://www.marad.dot.gov/environment-and-safety/office-of-security/>

RECOMMENDATION 6-1. The Maritime Administration should consider triaging the functions of the Offices of Environment, Safety, and Security by moving them to other departments or agencies that may represent a more appropriate alignment with their mission. Specifically, the Maritime Administration should move the Maritime Environmental and Technical Assistance, a program more appropriately thought of as research and development for the maritime industry, into another existing Maritime Administration office. The Maritime Administration should do so under the overall auspices of streamlining Agency functions and leadership composition (see recommendation 6-4).

6.2 Mission Area: Port Infrastructure and Intermodal Development

6.2.1 Port Development Grant Programs

TIGER grants and INFRA grants (previously called FASTLANE grants) originate in the Office of the Secretary of Transportation. TIGER alone has funded projects valued at \$5.1 billion since it was first created. According to DOT, TIGER grants have generated on average, co-investment of 3.6 dollars (other Federal, State, local, private and philanthropic funds) for every TIGER dollar invested. TIGER includes a special focus on smaller grants for rural areas. The projects must have “a significant impact on the Nation, a metropolitan area, or a region.”²⁴⁰ Maritime and intermodal projects are eligible. By 2017, there had been 48 port projects funded under the TIGER program, with a total funding of \$592 million over 9 years, representing more than 11 percent of all TIGER grant funds awarded over that period.

INFRA grants, according to a recent DOT release,²⁴¹ will make approximately \$1.56 billion in FY2017-2018 INFRA funds available to projects to improve infrastructure, including construction, reconstruction, rehabilitation, acquisition of property, environmental mitigation, equipment acquisition and operational improvements. Again a share of smaller grants is set aside for projects in rural area. As with TIGER grants, INFRA grant projects which focus on highway and freight projects of national or regional significance, may include eligible port and rail projects.

MARAD promotes the existence of these grant programs through presentations to various stakeholders (and in its Port Planning and Investment Toolkit project with the American

²⁴⁰ See generally “U.S. Department of Transportation Announces \$500 million Funding Opportunity through Tiger Program” (September 7, 2017); <https://www.transportation.gov/tiger>

²⁴¹ Build America Bureau, *Infrastructure for Rebuilding America (INFRA) Grants* (August 2, 2017); <https://www.transportation.gov/buildamerica/infragrants>

Association of Port Authorities²⁴²), provides maritime expertise in evaluating grant proposals and is the agency responsible for post-grant administration of projects with a maritime focus that have been accepted. As many as 10-15 MARAD staff members, including budget experts, grant officers, and legal officials specializing in grant administration work on these projects. There are some additional programs specific to MARAD, such as America's Marine Highway Grant Program (with its average annual funding in the range of \$5 million), but the programs may be quite small, although they apparently have strong constituencies in Congress. There are no other federal agencies currently set up to provide this role.

The major grant programs under the auspices of the Transportation Secretary's Office, with help from MARAD in the maritime sector, are substantial and appear to be well-run. They are very competitive and highly popular, based on information collected in interviews. The Panel has no recommendations to offer for improvements.

As for the StrongPorts program, its first major success is as the vehicle for the joint project between MARAD and the AAPA known as the Port Planning and Investment Toolkit. AAPA is on record as saying in a statement to a Congressional Committee that: "AAPA appreciates Sen. Fischer and Sen. Booker for their strong bipartisan work on maritime issues that will benefit all stakeholders in the maritime transportation network. MARAD has become an increasingly important proponent on infrastructure planning and financing issues for ports."²⁴³

6.2.2 Deepwater Ports

The Deepwater Ports licensing process is accurately described as a joint venture by MARAD and the USCG.²⁴⁴ Licensing proceedings ebb and flow with changes in the international energy markets for oil and petroleum products such as liquefied natural gas. The licensing procedure takes about a year to complete. USCG handles the physical inspection, including an extensive review under the National Environmental Policy Act, of the proposed site, and MARAD manages financial issues and coordination with other agencies. Among other things, MARAD makes sure that each applicant has the financial resources to manage the decommissioning of the facility at the end of its 30 year license. This can cost up to \$30 million. The licensing statute requires that the Secretary of Defense, the Secretary of State

²⁴² This is discussed in in the following section of this report and in Chapter 6.

²⁴³ "AAPA Reiterates Vital Partnership As MARAD Reauthorization Bill Is Considered"; <http://www.aapa-ports.org/advocating/PRDetail.aspx?ItemNumber=21288>

²⁴⁴ This is said to come from the time that both agencies were in DOT. It continues to be the case, with both agencies issuing relevant regulations.

and the Secretary of the Army all have to sign off on the application; EPA is involved in the process. The Department of Energy (for export licensing of energy products) and FEMA (for oversight of the construction of the mainland facilities in support of the offshore port) are also involved. Overall, more than a dozen agencies are involved and MARAD is the coordinator.

The process involves hearings in the local area where the deepwater port would be located, and is usually the subject of interest in the state and local governments involved. Hearings are held in the local area, chaired by a facilitator hired by USCG. If the license is denied, the applicant has a right to judicial review. However, the governor of an “adjacent state” also has authority to veto a license application, and that decision is final.

All in all, this is a fairly complex process. It is managed by the MARAD Office of Deepwater Ports, with one office director and one staff member, and the assistance of the Office of Chief Counsel. This program will have to continue to exist and MARAD is as logical as any other agency to take the lead.

Essentially, this program serves to relieve port congestion that arises from the increasing use of very large tankers for energy products. The vessels are getting bigger and harder to manage in existing ports and the deep water ports make the system more efficient.

RECOMMENDATION 6-2. The Maritime Administration should assess its staffing needs to adequately address the deepwater ports program.

6.2.3 Port Conveyance Program

With the rising cost of land in urban areas adjacent to port facilities, and the existence of available land under control of the military, but no longer used, this program has become important to the development of port expansions. The program is mostly devoted to transfer of land from military use to “the perpetual use for maritime purposes.” Under those terms the land is made available to the port authority at no cost.

An environmental assessment under NEPA is once again required. Consultation with GSA is also often required. MARAD works with the community involved, as well as some 10 agencies, including DOD, NOAA and others. MARAD prepares an annual report on this program and makes a point of annual verification of the continued “maritime” use of the land. There is no application fee for ports asking to acquire the land, but there is considerable recordkeeping required at MARAD. It is a detailed and complex program. It appears to work as intended, without complaint from port interests.

6.3 Mission Area: Business and Finance Development

MARAD's mission area of Business and Finance Development administers four programs focused on shipbuilding, port modernization, and providing war risk insurance. This mission area is currently staffed with 28 employees, some of whom not only work on these four programs, but also lend expertise particularly in financial analysis to other MARAD offices.

6.3.1 The Title XI Maritime Loan Guarantee Program

The Title XI program's aim is to re-establish the U.S. shipbuilding industry as self-sufficient and internationally competitive. The program uses taxpayer funds to subsidize and help decrease borrowing costs incurred by U.S. shipping companies in their efforts to re-capitalize their fleets using U.S. shipyards, particularly for larger vessel new-builds. Another way to understand Title XI is to acknowledge that the federal loan guarantee approved by MARAD serves to replace the inherently high repayment risks incurred by private sector lenders with U.S. government risk. Title XI provides for private sector lender risks to be borne by taxpayers.

At the outset, it is important to stress that financing of shipbuilding is one of the more risky areas of lending for financial institutions for several reasons; here we note just three of many dimensions of risk inherent in ship financing. A typical shipbuilding loan is (1) very large in size (a U.S.-built ocean-going large vessel can have a total construction cost exceeding \$300 million); (2) very long-term (and thus riskier) with respect to a repayment schedule (10-12 years or longer); and (3) fraught with repayment risks due to a lack of predictable revenue flows due to myriad economic material impacts from unstable commodity prices, global vessel supply, overall world trade flows, and so on. One can say that such risks, and others not noted above, "come with the territory." Unfortunately, it is a risky industry that MARAD has as its mission to support.

Title XI is a relatively old program, and the flow of transactions under it has ebbed and flowed over time. It actively operated for many years in the 1950s and 1960s. In the early 1990s, it was called the Centerpiece of the National Shipbuilding Initiative²⁴⁵ when that initiative was developed. By 2003, however, the Title XI program had been reviewed by the Inspector General of DOT and GAO, both of which found serious deficiencies in

²⁴⁵ U.S. Maritime Administration. *Title XI is the Centerpiece of the National Shipbuilding Initiative*. https://www.marad.dot.gov/wp-content/uploads/pdf/NMREC_Marketing_Conf_-_Title_XI.pdf

management and recommended a series of improvements, agreed to by MARAD.²⁴⁶ By 2007, Title XI was characterized by a former MARAD Acting Administrator as “not even a shadow of what it was [in 2000] when I left MARAD. Its core constituents, U.S. shipyards, perceive Title XI to be broken, inaccessible, not worth the time, money or effort and basically beyond repair.”²⁴⁷ Interviews indicate that similar views about the program linger today.

The current size of the Title XI portfolio is \$1.45 billion, with 24 loan guarantees extended to 18 different borrower companies. The last loan guarantee transaction approved under the program was in 2015.

Given the risks inherent in new ship construction financing, there have been several defaults in the program. Since its inception, the Title XI program has paid out under the federal guarantee on 15 transactions for a total of \$800 million, with a total net loss to the taxpayer after collection of all recoveries and fees of \$558 million.²⁴⁸

From the viewpoint of DOT, and its total portfolio of loan programs, this program has major challenges with respect to risk of loss. DOT’s Treasury Report on Receivables in 2016 listed 12 MARAD Title XI loan guarantees as “currently not collectible” totaling \$638.6 million from 2000 through 2010. At the time, this figure represented 87.8 percent of the total reported DOT-level delinquent debt amount of \$733.1 million.²⁴⁹

Our approach to evaluating the program has several dimensions, including a careful review of what applicants say about it, examination of how the program has performed with respect to achieving public policy objectives while protecting taxpayers from loss, and how the shipbuilding market operates given that Title XI exists as just one option among others to finance new vessels. The Panel considers the following important issues when evaluating the effectiveness and efficiency of the Title XI program.

1. From the viewpoint of applicants, interviews indicate that the timeline for program application decision-making by the Federal government is too long. It can take up to 24 months, or even longer, to receive a final determination on an application. The

²⁴⁶ See, e.g., *Reform of the TITLE XI maritime loan guarantee program*; hearing before the Senate Committee On Commerce, Science, And Transportation (JUNE 5, 2003) <https://www.gpo.gov/fdsys/pkg/CHRG-108shrg75221/html/CHRG-108shrg75221.htm>

²⁴⁷ Statement of John E. Graykowski, former MARAD Administrator, On Behalf of the Shipbuilders Council of America Before the Subcommittee on Seapower and Expeditionary Forces House Armed Services Committee March 15, 2007; <http://www.turnerpollard.com/wp-content/uploads/2012/03/HASC-Testimony.pdf>

²⁴⁸ Data provided by MARAD program office.

²⁴⁹ Ibid.

excessively long decision-making process is slow, and is often too slow to have utility for some private sector companies that need to move more expeditiously deciding on capital investments of this magnitude (as noted, a single large ocean-going ship might cost as much as \$300 million or more). Some shipping companies choose not to use Title XI for this reason.

MARAD, on the other hand, has a somewhat different view on the problem of slow deliberation. The Agency sees each application as complicated, requiring careful analysis and sufficient time to evaluate each completed application. The time taken to ensure an application is complete, and time needed to conclude thorough transaction structure, credit analysis, and other risk analyses, are essential evaluative components required of each application.

2. Again, from the viewpoint of applicants, the program rules also pose a serious timing-related challenge in that U.S.-flag vessels must carry imported equipment due to be installed in a new-build vessel that is covered by the Title XI program. This stipulation complicates an already complex financial transaction because some foreign-sourced equipment for the new-build, at times, might best be ordered in advance of knowing whether MARAD accepts the application to proceed with a Title XI loan guarantee. Given the cost differential between having a U.S.-flag carrier versus foreign-flag carrier, some applicants face sizable shipping cost increases for imported equipment used in the new-build without certain knowledge that MARAD will ultimately approve the application. Some shipping companies choose not to use Title XI for this reason.
3. This program's success has been somewhat offset by high default rates. While the total number of performing loans (that have not defaulted) may be reasonable relative to the number of loans in portfolios of other federal loan guarantee programs (this point was not a part of the report research), the total amount of defaulted debt where the federal guarantee has paid out is troublingly high for this program, as already mentioned above. In addition to already defaulted transactions, the existing portfolio includes a loan guarantee approved in 2011 amounting to \$240 million to finance five vessels for Boldini S.A. (the vessels were built in the U.S. but are not used in the U.S.; they were exported for use in Latin America). Based on interviews, the credit quality of this investment has deteriorated and this loan is close to being in default. Potential federal losses are uncertain.

These large losses serve as a reminder of how complicated and inherently risky investments into new ship construction can be. It also raises a prudent question about how well this program can function so that taxpayer funds at risk are

adequately protected. On the other hand, there is a public policy objective to bear in mind. Title XI is purposed to balance risk/reward through a financing transaction with the aim to support the U.S. shipyard construction industry. In fact, other countries, most notably China, have similar policies to subsidize domestic ship construction. It is this tension that is being weighed in this discussion. Finally, no matter how well developed MARAD's program team's credit analysis skills are, the decision to extend loan guarantees to cover financing risks in this complicated industry constitutes a major challenge.

4. In addition to problems with Title XI that applicants face, and substantial losses in the program over the past several decades, another issue to consider is whether the program actually achieves the objective of re-establishing the U.S. shipbuilding industry as it currently operates. In this respect, we note that Congress has not funded the program adequately to allow new guarantee transactions. There have been only five new transactions since 2010. Funds appropriated by Congress have been at such a low level that no new loan guarantee application has been approved since August 2015. In the past several years, funding has been consistently at \$3 million, which only covers the costs for administration of the existing portfolio.

However, the fact that U.S. shipyards continue to construct new commercial ocean-going vessels in spite of Title XI remaining relatively dormant suggests that the program does not have a material impact on the U.S. commercial shipbuilding industry for oceangoing vessels. According to data provided to the study team, deliveries of commercial oceangoing vessels built by U.S. shipyards starting in 2010-2016 averaged more than 14 per annum. In addition to commercial oceangoing vessels, there were many other commercial ships built in U.S. shipyards as well, averaging more than 24 per year during the same period. Ships somehow get built, but perhaps at higher financing costs incurred by the owners than might be achieved through Title XI federal guaranteed financing. While the number of new-build ships in U.S. shipyards that have an economic size to meet logical threshold to tap into the Title XI program (the smallest transaction for this program is around \$50 million) ebbs and flows each year, the number financed through Title XI program is relatively small in comparison to the total number of ships built in U.S. shipyards each year. An argument can be made that the industry does not rely on Title XI, but companies and shipyards can certainly benefit from a federal guarantee.

Summit, a consulting company, prepared a review of the Title XI program submitted in January 2017 with the following six recommendations:

1. Modernize risk rating tool, recovery estimation method, and cash flow model.

2. Transition lending from private lenders who seek guarantees to the Federal Financing Bank (the Federal Financing Bank is a government corporation, created by Congress in 1973 under the general supervision of the Secretary of the Treasury. The FFB was established to centralize and reduce the cost of federal borrowing, as well as federally-assisted borrowing from the public).
3. Re-establish Title XI's mission statement and risk tolerances that flow from the revised mission statement.
4. Draft new credit policies, including streamlining program operations, that reflect the mission statement and risk tolerances defined above.
5. Draft new program rule.
6. Conduct industry outreach to explain the revisions and reforms accomplished above.

Interviews discussing the Summit report confirm MARAD's commitment to move forward to implement each of the report's recommendations. Corresponding work on each element is underway. The Panel concurs with MARAD's plans to implement each of these recommendations.

RECOMMENDATION 6-3. The Maritime Administration should request that Congress consider enactment of new legislation that would move the Title XI program out of the Maritime Administration to the Department of Transportation's Build America Bureau in order to create synergies and utilize financing expertise existing already within the Department of Transportation. The Bureau operates in such a way that its staff will ensure that the requisite maritime industry expertise available to support the complexities of applications and to assess transaction risks will be available.

6.3.2 Capital Construction Fund (CCF)/ Construction Reserve Fund (CRF)

According to MARAD's program office, as of August 2017, there were 155 companies in the CCF program with a total balance among all companies exceeding \$2.1 billion and 10 companies in the CRF with a total balance as of December 2016 exceeding \$289 million. Between 2011 and 2017, there have been over \$2,060 million of withdrawals from various CCF accounts used for deferring federal taxes connected with vessel sales for vessel construction or reconstruction by companies. The CRF program, focused on purchasing new vessels, is an older, less used program that is utilized by companies whose trades do not qualify to establish a CCF.

The Panel evaluates that these programs are actively used by many in the maritime industry and they operate in the way they are intended. Customers generally favor these programs, finding them responsive to industry needs to recapitalize vessel fleets. The Panel does not have a recommendation specific to this program.

6.3.3 Small Shipyard Grants (SSG)

Since the first year of this program in 2008, each year the SSG has extended about \$10 million in grants, averaging about \$1 million each. A few years show sizably higher grant awards (2009 and 2010). Since there are more than 250 small shipyards (according to statute, a small shipyard employs less than 1,200 production employees) that qualify to submit an SSG application, one can conclude that the program is quite small considering the size of the small shipyard community and the capital needs for upgrading facilities. The annual demand for grant funds as measured by the number of applications MARAD receives underscores this point. On average, about 120 SSG applications are submitted per year, with total funds requested in applications averaging each year around \$100-120 million. Based on demand and interviews, it is clear that multiples of \$10 million per year could be used by small shipyards in America to upgrade facilities if the program would be expanded.

The program is enhanced by the requirement that shipyards must match a minimum of 25 percent of the grant amount, which means that MARAD grant funds are multiplied, to some extent, by the equity jointly invested and independently sourced by shipyard grantees.

The Panel evaluates that this program is actively used by shipyard owners and the program, as a whole, operates effectively and efficiently. Customers generally favor this program, finding it responsive to industry needs to upgrade small shipyards. The Panel does not have a recommendation specific to this program.

6.3.4 War Risk Insurance

This program's purpose is to ensure that commercial sea lines of communication remain open and accessible during times of war. Even if a commercial carrier has standard war risk insurance coverage, insurance companies retain the right under policies to terminate war risk insurance (called automatic cancellation clauses) in particular geographic zones where there are events like active combat or radiological attack, or if one of the five major world powers is engaged in fighting. Underwriters reserve the right to unilaterally terminate war risk coverage within a 48 hour grace period, allowing for a ship that may be in the exclusion zone at the time of the decision. Faced with policy cancellation, U.S.-flag commercial ships serving strategic sealift needs face unacceptable risk of loss with respect to the ship, its cargo, and crew members. Like a number of other countries, the U.S. government can quickly fill the resulting catastrophic and debilitating gap in loss protection, and resulting, often exponential, increase (up to 500 times in price) in war zone insurance rates, so that the U.S.-flag commercial vessel, its cargo, and crew serving DoD in exigent circumstances can complete its mission.

There are three benefits to this program that are critical to DoD and U.S.-flag carriers: (1) DoD is not charged for MARAD's services in managing this program; (2) war risk coverage will not be cancelled; and (3) there are material cost savings from this program's war risk insurance rate over prevailing commercial rates, if commercial war risk insurance is even available at all in a particular conflict zone. An illustration of the benefits of this program can be seen in the following quote: "During Operations Desert Shield/Desert Storm, MARAD wrote war risk insurance on 388 U.S. and foreign-flag vessels covering over \$20 billion in insured risk and at savings to the Department of Defense of \$436.3 million, with no reported losses."²⁵⁰

While government risks insured by MARAD are funded by an indemnity agreement for the DoD, commercial risks are backed by a \$48 million fund (held at the Department of the Treasury) built up from collected premiums paid by commercial carriers.

This program is an appropriate and essential piece of MARAD's overall set of programs to support sealift, allowing MARAD to address critical maritime industry risks during exigent circumstances when private commercial companies choose to either abandon a troubled market, or to charge exorbitantly high fees to provide acceptable coverage. Given Agency staff industry expertise, and its active engagement with the maritime industry, MARAD is well-placed to operate this program. The Panel evaluates that this program is actively used and it operates in the way intended. Customers, including DoD, favor this program, finding it responsive to industry needs to support strategic sealift operations critical to the nation's security, and in close consultation with DoD. The Panel does not have a recommendation to MARAD specific to this program.²⁵¹

6.4 Chapter Summary

MARAD's expansive mandate to support the maritime industry leaves the Panel with a question regarding the prudent approach to using finite resources. Should MARAD continue to implement all of these relatively small programs, most of which make relatively modest, albeit positive, contributions to the maritime transportation sector? The review of various programs in this chapter leads to the conclusion that most, but not all, should be maintained by MARAD. However, the Panel recommends that modest changes be made to the current program set.

²⁵⁰ Zack Phillips. January 4, 2009. *U.S. Authorizes Ship War Risk Cover*. [Business Insurance](#).

²⁵¹ While the Panel does not have a recommendation to MARAD specific to this program, there is merit to explore whether there are alternative approaches to replace the current policy of DoD indemnification of actual insured losses with an alternative approach in which DoD pays an annual actuarially-established premium to MARAD sufficient to pay expected losses over a rolling ten-year projection period.

The Panel's consideration of the activities discussed generally in this report, and this chapter in particular, is also informed by the President's Executive Order of March 13, 2017 on a Comprehensive Plan for Reorganizing the Executive Branch. Its purpose is to consider ways that agencies can improve efficiency, effectiveness, and accountability of the executive branch. As a part of this Executive Order, agencies are asked to determine whether (1) some or all of agency functions are redundant when compared to those of another agency; (2) certain administrative capabilities necessary for operating an agency are redundant with those of another agency; and (3) whether the costs of continuing to operate an agency are justified by the public benefits it provides.²⁵²

The programs reviewed in this chapter are connected with the commercial side of MARAD's work (distinct from its national security work) and are intended to support maritime infrastructure development and industry more generally. Those programs supporting port infrastructure and intermodal development are deemed effective and should be maintained as an important contribution in fulfilling MARAD's mission to support the maritime industry. The same is true for several of the Business and Finance Development programs, with the exception of Title XI. The Panel believes Title XI is best managed in the Build America Bureau in DOT. Work in the areas of safety, and security (and possibly maritime environmental review) can be shifted to other agencies or eliminated altogether, as they do not appear to make a substantive contribution to the maritime sector.

By taking these actions, MARAD has the opportunity to combine staff into smaller mission areas that oversee them. Having three Associate Administrators for these programs seems excessive and bureaucratic for the overall contribution they make outside of sealift.

RECOMMENDATION 6-4. The Maritime Administration should re-evaluate its organizational structure to conform to its mission statement, align its business processes against that mission, and support its mission areas after triaging its programs. The resulting restructuring must bolster its core programs for enduring mission support.

²⁵² E.O. 13781. March 13, 2017. *Presidential Executive Order on a Comprehensive Plan for Reorganizing the Executive Branch*. <https://www.whitehouse.gov/the-press-office/2017/03/13/presidential-executive-order-comprehensive-plan-reorganizing-executive>

THIS PAGE INTENTIONALLY LEFT BLANK.

Chapter 7 Conclusions

MARAD has three primary missions:

1. **The National Security Mission:** It coordinates the merchant marine side of sealift for military missions and emergencies. This involves the Maritime Security Program, the Ready Reserve Fleet, the Voluntary Intermodal Sealift Agreement program, and cargo preference requirements, with residual responsibilities to manage the ship disposal program.
2. **The Maritime Industry Support Mission:** It provides technical expertise in advising the maritime role in the national freight strategy and promotes improvements in port infrastructure and intermodal port services. This involves a selection of Maritime Administration programs including port infrastructure and intermodal development grants, management of projects such as StrongPorts and the StrongPorts toolkit, the marine highways program, licensing of deep water ports, the port conveyance program, and the maritime environmental research and the development grants program called Maritime Environmental and Technical Assistance.
3. **The Maritime Education Mission:** It operates the U.S. Merchant Marine Academy and plays a major role in assessing the needs for U.S. mariners to provide the crews for the U.S.-flag fleet generally and in the case of emergency.

At a high level, MARAD's principal role is to ensure that the country has a sufficient number of U.S.-flag vessels and U.S.-citizen qualified mariners to support both maritime industry and national security needs. Considering this exacting aim and looking at vessel and mariner numbers, MARAD is not succeeding in meeting either of these goals. The Panel does not, however, conclude that the MARAD fails in its mission. While reports and testimony indicate there are shortages in both, evaluation of the current status must not only take into account the raw numbers of vessels and credentialed mariners, but also economic cycles and changing national defense policy, to name only two drivers among many outside of MARAD's control. Our country's long-standing defense policy to rely upon commercial vessels and civilian mariners, instead of dedicated military assets, adds to the challenges that the Agency faces to achieve its stated mission. This report clearly states that MARAD adds substantial value in operating within this complicated tapestry of economic, political, and defense forces. Its value-add far exceeds the Agency's small budget and staff.

With respect to national security, MARAD plays an important and effective role. Its contribution can be calculated as multiples of the budgeted funds compared to its small size, added value, and cost savings. The Agency works collaboratively with the U.S. Transportation Command and the Department of Defense (as well as with the many other federal agencies involved in the maritime transportation space outside of the military sphere). Report recommendations in this area of MARAD's operations focus mostly on the need to recapitalize the Ready Reserve Force ships and the school ships for training mariners at the State Maritime Academies, as well as the 15 Military Sealift Command U.S. Naval Ship merchant type ships in the Surge Sealift Fleet.

MARAD's role to support the maritime industry, broadly aimed at industry promotion and infrastructure development, is a daunting task. In the Panel's view, MARAD's statutory scope of work offers many more program opportunities than the level of allocated resources. Agency staffing and program funding is relatively small. Within these parameters, MARAD must determine which programs are essential, and which may be secondary and tertiary. The Panel sees the Agency's civilian-oriented work as having less focus, fewer resources, and less overall impact than its national security work. It administers a number of small programs that, for the most part, have relatively modest impact. We argue that a few programs do not optimally align with the mission, and should be transferred to other agencies or to the Department of Transportation's Build America Bureau with little negative impact. Mission areas that remain should align on-going activities so that the Agency integrates its operations effectively on a sustained basis.

Several high profile problems and challenges surrounding MARAD's management of the U.S. Merchant Marine Academy have a negative impact on the Agency's reputation and threatens its ability to provide an adequate number of credentialed mariners. The Panel believes MARAD is best suited to operate the U.S. Merchant Marine Academy and agrees with statements made by the current Administrator and Transportation Secretary Chao that the U.S. Merchant Marine Academy must be a priority for addressing challenges and driving continuous improvement. The report has seven recommendations on how to enhance Agency efforts to improve the U.S. Merchant Marine Academy.

The report argues that there is an overall lack of clarity around the Agency mission as a whole, and generally poor alignment of program work across the Agency that has clear and consistent connection with MARAD's mission. Thus, the Panel recommends that it devise and regularly reinforce across the Agency a new mission statement. The report stresses that performance enhancement should include careful prioritization of all existing programs, paring back the number as appropriate.

MARAD's work largely sails under the radar screen of many Americans. Its strong Department of Defense-related performance is commended. The nation will incur security risks if the MARAD is unable to provide an adequate number of ships and qualified mariners to serve the national defense needs of the nation. Due to the rather amorphous nature and small size of its commercial industry-related work, the Agency must add further focus to its activities to align with a clear mission that is effectively communicated to federal agencies, the Congress, other stakeholders, and the broader American populace.

THIS PAGE INTENTIONALLY LEFT BLANK.

Appendix A: Panel Member and Study Team Biographies

PANEL

Vice Admiral Lewis Crenshaw, Chair * – Vice Adm. Crenshaw (retired) is President and Founder of Crenshaw Consulting Associates LLC. He is Chairman for the Navy Safe Harbor Foundation. He has worked as a former Principal and as an Executive Director in Defense and Intelligence for the Global Public Sector at Grant Thornton LLP. Vice Adm. Crenshaw has also had an extensive career in the United States Navy. He has served as Deputy Chief of Naval Operations for Resources, Requirements and Analysis (N8) and as Commander for Navy Region Europe. He also served as a Deputy Commander for U.S. Naval Forces Europe and as Director in the Assessment Division (N81) for Navy Staff at the Pentagon. He assumed duties as Deputy Commander Joint Task Force-Southwest Asia and also assumed command as Commander of Carrier Group Six/Commander of the *John F. Kennedy* Battle Group. His first flag assignment was as Deputy Director for the Assessments Division (N81D) in the Office of the Chief of Naval Operations when selected for flag rank. Additional shore assignments he has held include tours on the Strategic Plans and Policy Directorate of the Joint Staff in Washington DC; Executive Assistant to the Commander in Chief for the U.S. Atlantic Fleet; and Executive Assistant and Naval Aide to the Secretary of the Navy. Vice Adm. Crenshaw graduated from the United States Naval Academy in 1974 with a B.S. in Ocean Engineering.

Mortimer Downey III* – Mr. Downey is President of Mort Downey Consulting LLC. He is the former Principal Director and the Vice Chair of the Washington Metropolitan Area Transit Authority. He has worked as a Senior Advisor to Parsons Brinckerhoff, providing advisory and management consulting services to the firm and to its client base. Mr. Downey has also served on the Transportation Policy Committee for the Obama presidential campaign. During the presidential transition, he was selected as leader of the Department of Transportation Agency Review Team. Mr. Downey held the position of U.S. Deputy Secretary of Transportation and has served on the President's Management Council as Chairman of the National Science and Technology Council's Committee on Technology, as a member of the Trade Promotion Coordinating Council, and as a member of the Board of Directors of the National Railroad Passenger Corporation (Amtrak). In a prior Administration, he served as an Assistant Secretary of the Department. Previously, Mr. Downey was the Executive Director and Chief Financial Officer of the New York Metropolitan Transportation Authority (MTA). He has also worked at the U.S. House of Representatives Committee on the Budget and at the Port Authority of New York and New Jersey. Mr. Downey graduated from Yale University with a B.A. in Political Science and earned his master's degree in Public Administration from New York University. He also completed the Advanced Management Program at the Harvard Business School.

Beverly Godwin* – Ms. Godwin recently retired as a Senior Advisor for the U.S. Department of State. She formerly served as a former Director for the Federal Citizen Information Center in the Office of Citizen Services and Innovative Technologies for the U. S. General Services Administration. Prior to these positions she worked as Director of New Media and Citizen Engagement for the U.S. General Services Administration and as Director for USA.gov and Web Best Practices for eight years in the General Services Administration. She was also Director for the Online Resources and Interagency Development in the Office of New Media for the White House. Ms. Godwin graduated from Columbia University with a B.A. in Political Science from Barnard College. She also earned her master’s degree in Public Policy from the University of Michigan.

William Kenwell – Mr. Kenwell is Vice Chairman of the National Defense Transportation Association. He also worked as the Senior Vice President and Chief Commercial Officer for Maersk Line, Limited and has full responsibility for MLL’s U.S. flag linear fleet and associated logistics support operations. He serves as MLL’s primary liaison to USTRANSCOM, Surface Deployment and Distribution Command and DLA as well. Prior to these positions he worked as the Vice President of Sales for CSX Transportation. He was Vice President of Partner Relations at GT Nexus and has also worked for Sea-Land Service Inc. as the Vice President of Sales. Mr. Kenwell graduated from Villanova University with a B.A. in English. He also completed the executive marketing program at the Amos Tuck School at Dartmouth College and is a life member of the National Defense Transportation Association.

Marvin Phaup* – Dr. Phaup has worked as a Professional Lecturer and Research Scholar at the Trachtenberg School of Public Policy and Public Administration at George Washington University for 15 years. He is a former consultant for the Peterson-Pew Commission on Budget Reform. Prior to these he was a Director for the Federal Budget Reform Initiative at The Pew Charitable Trusts. He was previously a consultant for the Arthur S. Fleming Awards to Federal Employees in Applied Science, Mathematics, and Engineering and for the Organization for Economic Cooperation and Development. He has held multiple positions with U.S. Congressional Budget Office including, Deputy Assistant Director for Financial Studies Group in Macro Analysis Division; Deputy Assistant Director for the Special Studies Division; Chief for the Budget Process Unit; and a Principal Analyst. He is a former Senior Economist for Federal Reserve Bank of Cleveland. Dr. Phaup has also worked as a Lecturer for the University of Lancaster and as an Assistant Professor for Roanoke College. He graduated from Roanoke College with a B.A. in Economics and earned his M.A. and Ph.D. in Economics from the University of Virginia.

**Academy Fellow*

STUDY TEAM

Joseph P. Mitchell, III, *Director of Academy Programs* – Dr. Mitchell leads and manages NAPA’s studies program and serves as a senior advisor to NAPA’s President and CEO. He has served as Project Director for past Academy studies for the Government Printing Office, the U.S. Senate Sergeant at Arms, USAID/Management Systems International, the National Park Service’s Natural Resource Stewardship and Science Directorate, and the USDA Natural Resources Conservation Service. During his 16 years at the Academy, Dr. Mitchell has worked with a wide range of federal cabinet departments and agencies to identify changes to improve public policy and program management, as well as to develop practical tools that strengthen organizational performance and assessment capabilities. As the Academy’s studies director, he has provided executive-level leadership, project oversight, and subject matter expertise to over 50 highly regarded organizational assessments and studies, consulting engagements, and thought leader engagements. He holds a Ph.D. from the Virginia Polytechnic Institute and State University, a Master of International Public Policy from The Johns Hopkins University School of Advanced International Studies, a Master of Public Administration from the University of North Carolina at Charlotte, and a B.A. in History from the University of North Carolina at Wilmington.

Roger Kodat, *Project Director* – Mr. Kodat has led 15 projects as a consultant to the Academy, several focusing on strategic planning and organizational transformation. He brings 20 years of commercial and investment banking experience with JPMorganChase, and six years of senior level federal government experience at the Department of the Treasury. He was appointed by President George W. Bush in 2001 to serve as Deputy Assistant Secretary of Treasury, responsible for Federal Financial Policy. Some of his tasks at Treasury included: policy formulation for the 2006 Postal Accountability and Enhancement Act; rule-making and oversight of Federal loan and loan guarantee programs; and managing the Federal Financing Bank (a \$32 billion bank at that time). Mr. Kodat holds a BS in Education from Northwestern University and both an MBA in Finance and MA in Political Science from Indiana University.

Joe Tasker, *Senior Advisor* – Mr. Tasker joined the Academy as a Senior Advisor for the U.S. Census Bureau project. Joe graduated with a BA in Sociology from the University of Oklahoma and earned a law degree from George Washington University here in the District. He spent the first 16 years of his career as a practicing lawyer in both the public and private sectors, litigating antitrust cases for the Federal Trade Commission (6 years) and practicing international trade, intellectual property, and government procurement law for 10 years as an associate and partner in a major DC law firm. In 1990, he opened a Washington government affairs office for a major producer of personal computers. After the company merged with Hewlett Packard in 2000, he became the General Counsel and

Senior Vice President of Government Affairs for the Information Technology Association of America (ITAA). After ITAA merged itself out of existence, he has consulted on a number of projects, most recently providing technical trade advice on the expansion of the WTO Information Technology Agreement.

Emily Fay, *Research Associate* – Ms. Fay joined the Academy staff in August 2016 and is assisting with the Academy’s review of National Nuclear Security Administration governance and management reform efforts. She previously worked on the Academy’s white paper on project management for the Project Management Institute, a review of best practices for the Transportation Security Administration’s Office of Acquisition, and on an assessment of the Bureau of Safety and Environmental Enforcement (BSEE) of the U.S. Department of the Interior. She previously worked with the Peace Corps as a volunteer in Botswana and for the George Mason University School of Policy, Government, and International Affairs. She received her Master of Public Administration degree from George Mason University and holds a B.A. in International Affairs from James Madison University.

Hailey Ellsworth, *Research Associate* – Ms. Ellsworth joined the Academy staff in August and is currently assisting with the Academy’s reviews of the National Academies of Sciences, Engineering and Medicine, the Department of Transportation’s Departmental Office of Human Resource Management, and the Oklahoma Corporation Commission. She previously held positions as a Project Manager for an online startup company and as an intern for Pinnacle Bank. She recently graduated from Brigham Young University, receiving a B.S. in Economics along with a minor in Business Management.

Michaela Halasova, *Intern* – Ms. Halasova participated in an Academy internship this past summer. She will soon receive her M.Sc. in Business Administration from the University of Amsterdam along with a minor in Digital Business. She is interested in digital marketing and technology in business. For her master’s thesis she analyzed the perceptions of digital marketing on Facebook by various generations.

Appendix B: Interviews

Aker Philadelphia Shipyard

Nerbovik, Steiner – President and CEO

American Association of Port Authorities

Godwin, Jean – Senior Vice President and General Counsel

American President Lines Ltd.

Abrams, John – Compliance, Government Trade

Lee, Jin – Business Analysis and Marketing Manager/ Government Trade

Magnusson, Lars – Senior Director Military and Government Trade/ Guam

Mensing, Eric – Senior Vice President Government/ Guam Trade

O'Neill, Patricia - Attorney

American Roll-On Roll-Off Carrier Group

Ebeling, Eric – President and CEO

American Waterways Operators

Allegretti, Tom – President and CEO

Colona Shipyard, Norfolk

Godfrey, Tom – CEO

Cook Maritime Finance

Cook, Clayton – Attorney & Counselor at Law

Crowley Maritime Corporation

Burke, Tim – Ship Superintendent

Cosgrove, Cole – Vice President, Chartering

Goloka, Mike – Vice President, Government Services

Pennella, William – Executive Vice President

Tronti, John – Director, Contracts

Varghese, Paul – Government Services

Warner, Dan – Senior Vice President, Treasurer

EMR Group

Berry, Robert – Vice President at International Shipbreaking

Higginbotham, Douglas – Transportation Director at Southern Recycling

Krepp, Denise – Government Relations Counsel

General Dynamics NASSCO

Graney, Kevin – President

Wetherald, Tom – Director, Business Development

Georgetown University

Breul, Jonathon – Adjunct Professor

Heritage Foundation

Sargeant, Michael – Policy Analyst, Transportation and Infrastructure

HMS Global Maritime

Jaenichen, Chip – Chief Operation Officer, former MARAD Administrator

House Committee on Transportation and Infrastructure

Bruce, Bonne – Professional Staff

Jansen, David – Minority Staff Director

Rayfield, John Clark – Staff Director, Subcommittee on Coast Guard and Maritime Transportation

Rieg, Kevin – Research Assistant

Kaiser Associates, Inc.

Lawrence, Paul – Public Sector Vice President

Maersk Line Ltd.

Kenwell, Bill – Senior Vice President and Chief Commercial Officer (retired)

Woodhour, William – President and CEO

Marine Engineers' Beneficial Association

Ainley, Marshall – National President

Dwyer, Matt – Director, Government Affairs

Djusberg, Nils – Legal and Legislative Director

Gallagher, Mark - Contracts

Maritime Administration

Brand, Lauren – Associate Administrator for Intermodal Systems Development

Bouchard, Bob – Director, Office of Infrastructure Development and Congestion Mitigation

Buzby, Mark RADM. - Administrator, Maritime Administration

Cahill, William – Deputy Associate Administrator for Federal Sealift

Criman, Branden – Director, Inland Waterways Gateway Office

Davis, Delia – Associate Administrator for Administration

Doherty, Owen – Administrator for Business and Finance Development

Fisher, Anthony – Deputy Associate Administrator for Commercial Sealift

Gilmore, David – Director, Title XI Program

Helis, James, Adm. – Superintendent, USMMA

Heller, David – Program Director

Kohlman, Kevin – Director, Office of Safety

Kishiyama, Lonnie – Director, Office of International Activities

Kumar, Shashi – Deputy Associate Administrator

Morefield, Wade – Analyst, Office of Deepwater Ports

Ladd, Daniel – Director, Office of Financial Approvals

McDonald, Doug – Director, Office of Policy and Plans
Moore, Chris – Senior Advisor, Strategic Sealift
Paape, Bill – Director, Office of Gateways
Pixa, Rand – Deputy Chief Counsel
Quinn, John – Associate Administrator for Environment and Compliance
Serafin, Eileen – Title XI Program Analyst
Sok, Seneca – Transportation Specialist, Office of Ports and Waterways Planning
Szabat, Joel – Executive Director
Tokarski, Kevin – Associate Administrator for Strategic Sealift

Maritime Commission

Dye, Rebecca – Commissioner

Maritime Industry Consultants

Graykowski, John – Principal

Massachusetts Institute of Technology

Marcus, Henry – Professor Emeritus, Mechanical Engineering

Moran Towing Corporation

Moran, Ned – Senior Vice President

Office of Management and Budget

Connolly, David – Branch Chief for DOT

Nelson, Kim – MARAD Examiner

Sailors’ Union of the Pacific

Connolly, David – Vice President

Seafarers International Union

Tellez, Augustine – Executive Vice President

Senate Committee on Commerce, Science and Transportation

Barnhart, Devon – Transportation Counsel

Costello, Chance- Staff Assistant

Fuchs, Patrick – Senior Professional Staff Member

Gibbons, Fern – Professional Staff Member

Shipbuilder’s Council of America

Paxton, Matthew – President

Reeves, Paula – Senior Defense Advisor

Smith Advocacy Group

Smith, Duncan, President, and RADM Ret USCG

The Spectrum Group

Reilly, Robert –Retired Rear Admiral – Former Surface Warfare Flag Officer

Texas Department of Transportation

Harmon, Dan – Maritime Division Director

Transportation Institute

Henry, James – Chairman and President

Strosahl, Andrew - Vice President for Government Relations

United States Air Force Academy

Jones, Larry – Deputy Director, Admissions

Primas, Arthur Col. - Director, Admissions

United States Army Corps of Engineers

Jackson, Edward – Deputy Commanding General

United States Coast Guard

Calhoun, Scott – Executive Assistant

Kelly, Scott – Chief, Office of Operating and Environmental Standards

Medina, Mayte – Chief, Office of Merchant Mariner Credential

Thomas, Paul – Rear Admiral, Assistant Commandant for Prevention Policy

United States Committee on the Marine Transportation System

Brohl, Helen – Executive Director

United States Department of Defense

Washington, Keithen A. – Assistant Director, Officer Commissioning Programs, Office of the Undersecretary of Defense for Personnel and Readiness

United States Department of State

Miller, Stephen – Team Leader, Maritime and Land Transport (Former)

United States Department of Transportation Office of the Secretary

Bohnert, Roger – Director, Office of Outreach and Project Development, The Build America Bureau

Bouril, Michael – Director, Office of Credit Oversight and Risk Management

Endorf, Ryan –Economist

Hurdle, Lana –Deputy Assistant Secretary for Budget and Programs

Nelson, Keith – Deputy Assistant Secretary for Finance and Budget

United States Department of Treasury

Burner, Gary – Chief Financial Officer, Federal Financing Bank

United States Government Accountability Office

Winger, Tatiana - Assistant Director

United States Transportation Command

Lyons, Stephen – Deputy Commanding General

United States Ocean Line LLC

Terrill, Will – President and CEO

University of Southern California

Knatz, Geraldine – Professor of the Practice of Policy and Engineering

Winston and Stawn, LLC

Gardner, Bryant E. - Attorney

Papavizas, Charlie - Attorney

Virginia Hospital and Healthcare Association

Connaughton, Sean – President and CEO, former MARAD Administrator

THIS PAGE INTENTIONALLY LEFT BLANK.

Appendix C: Bibliography

- American Maritime Partnership. *Domestic Maritime Industry*.
<https://www.americanmaritimepartnership.com/domestic-maritime-industry/>
- Authorization of Coast Guard and Maritime Transportation Programs*, Committee on Transportation and Infrastructure, Subcommittee on Coast Guard and Maritime Transportation, U.S. House of Representatives (2017) (testimony of Joel Szabat, Executive Director, Maritime Administration, U.S. Department of Transportation).
https://transportation.house.gov/uploadedfiles/2017-04-04_szabat_testimony.pdf
- Brooke, James. *Canada Goes Aboard Ship to Retrieve its Weapon*, The New York Times, August 4, 2000. <http://www.nytimes.com/2000/08/04/world/canada-goes-aboard-ship-to-retrieve-its-weapons.html?mcubz=0>
- Build America Bureau. *Infrastructure for Rebuilding America (INFRA) Grants*, August 2, 2017. <https://www.transportation.gov/buildamerica/infragrants>
- Cavanaugh, J. Michael, Eric Lee. *History Doesn't Bode Well for New Commercial Cargo Preference Bill*, Holland & Knight, March 21, 2017.
<https://www.hklaw.com/publications/history-doesnt-bode-well-for-new-commercial-cargo-preference-bill-03-21-2017/>
- Chao, Elaine L. *Letter to the Honorable Bill Shuster*, August 2, 2017.
https://transportation.house.gov/uploadedfiles/2017_fastlane.pdf
- Corporate Missions, Inc. *Dr. Chris Bart, FCPA*. <http://corporatemissionsinc.com/dr-bart>
- Cuff, Denis. *Last Ghost Fleet ship leaves Suisun Bay after long pollution fight*, East Bay Times, August 3, 2017. <http://www.eastbaytimes.com/2017/08/03/last-ghost-fleet-ship-leaves-suisun-bay-after-long-pollution-fight/>
- Defense Logistics Agency. *DLA Troop Support Subsistence, Humanitarian Daily Ration (HDR)*. <http://www.dla.mil/TroopSupport/Subsistence/Operational-rations/hdr/>
- Econometrica, Inc. *Maritime Security Program Impact Evaluation*, July 2009.
https://www.marad.dot.gov/wp-content/uploads/pdf/MSP_Revised_Final_Report_Transmitted_07-24-09.pdf
- Federal Highway Administration. *Fixing America's Surface Transportation Act or 'FAST Act'*, February 2016. <https://www.fhwa.dot.gov/fastact/factsheets/fastlanegrantsfs.cfm>
- Foreign Trade Data Dissemination Branch. *Foreign Trade: Data, Top Trading Partners*, April 21, 2009. <https://www.census.gov/foreign-trade/statistics/highlights/toppartners.html>

Garamendi, John. *Our maritime industry is too important to ignore*, TheHill, February 28, 2017. <http://thehill.com/blogs/congress-blog/economy-budget/321678-our-maritime-industry-is-too-important-to-ignore>

General Services Administration. *Fly America Act*, August 13, 2017. <https://www.gsa.gov/policy-regulations/policy/travel-management-policy/fly-america-act>

George, Rose. *90 Percent of Everything, Inside Shipping, the Invisible Industry That Puts Clothes on Your Back, Gas in Your Car and Food on Your Plate*, Dewane L. Vanleuven, 2013.

GlobalSecurity.org. *Military, Desert Shield/Desert Storm*, July 22, 2011. <https://www.globalsecurity.org/military/systems/ship/sealift-ds.htm>

GlobalSecurity.org. *Military, Northern Distribution Network [NDN] Northern Ground Line of Communication (NGLOC)*, August 22, 2016. <https://www.globalsecurity.org/military/facility/ndn.htm>

Internal Revenue System. *Capital Construction Fund (CCF)*, August 17, 2017. <https://www.irs.gov/businesses/small-businesses-self-employed/capital-construction-fund-ccf>

International Chamber of Shipping. *Shipping and World Trade*, ICS | Shipping and World Trade, 2017. <http://www.ics-shipping.org/shipping-facts/shipping-and-world-trade>

Kumar, Shashi. *U.S. Merchant Marine and World Maritime Review*, U.S. Naval Institute, May 2015. <https://www.usni.org/magazines/proceedings/2015-05/us-merchant-marine-and-world-maritime-review>

Matthews, James K., Cora J. Holt. *So Many, So Much, So Far, So Fast, United States Transportation Command and Strategic Deployment for Operation Desert Shield/Desert Storm*, U.S. Transportation Command. <http://www.jcs.mil/Portals/36/Documents/History/Monographs/Transcom.pdf>

Merriam Webster. *billet*. <https://www.merriam-webster.com/dictionary/billet>

Merriam Webster. *mission statement*. <https://www.merriam-webster.com/dictionary/mission%20statement>

Military Today. *Top 10 Largest Military Cargo Aircraft*. http://www.military-today.com/aircraft/top_10_cargo_aircraft.htm

Military.com. *Joint Direct Attack Munition JDAM*.

<http://www.military.com/equipment/joint-direct-attack-munition-jdam>

Navy Crane Center. *Navy Crane Center, NAVFAC P-307 Training, General Crane Safety Web Based Training Student Guide*, NCC-GCS-03, Naval Facilities Engineering Command.

https://www.navfac.navy.mil/content/dam/navfac/Specialty%20Centers/Navy%20Crane%20Center/PDFs/Training/WBT/14_01_16_GCS_SG_Rev03.pdf

Office of Inspector General. *Audit Reports, Better Program Management and Oversight are Required for USMMA's Efforts to Address Sexual Assault and Harassment*, October 23, 2014. <https://www.cg-dev2.com/dot/htdocs/library-item/32214>

On Behalf of the Shipbuilders Council of America, Subcommittee on Seapower and Expeditionary Forces, House Armed Services Committee (2007) (statement of John E. Graykowski). <http://www.turnerpollard.com/wp-content/uploads/2012/03/HASC-Testimony.pdf>

On the State of Command, Senate Armed Services Committee (2015) (statement of General Paul J. Selva, United States Air Force Commander, United States Transportation Command). https://www.armed-services.senate.gov/imo/media/doc/Selva_03-19-15.pdf

On the State of Command, Senate Armed Service Committee (2017) (statement of General Darren W. McDew, United States Air Force Commander, United States Transportation command). https://www.armed-services.senate.gov/imo/media/doc/McDew_05-02-17.pdf

Reagan, Ronald. *Statement on Signing the Maritime Act of 1981*, August 6, 1981.

<https://reaganlibrary.gov/archives/speeches/29-crchives/speeches/1981/532-80681f>

The State of U.S. Maritime Industry: The Federal Role, Senate Committee on Commerce, Science and Transportation, Subcommittee on Surface Transportation, and Merchant Marine Infrastructure, Safety, and Security (2016) (statement of Paul J. Jaenichen, Administrator, Maritime Administration, U.S. Department of Transportation).

https://www.commerce.senate.gov/public/_cache/files/f6b12ff6-bb5c-4616-ba72-6a817da76fe2/63470C053E33DFE56BA633BF169957F5.administrator-jaenichen-testimony-3.8.16.pdf

The White House. *Presidential Executive Order on a Comprehensive Plan for Reorganizing the Executive Branch*, Executive Order, March 13, 2017.

<https://www.whitehouse.gov/the-press-office/2017/03/13/presidential-executive-order-comprehensive-plan-reorganizing-executive>

- Transportation Institute. *Environmental Values, Second to None on Environment and Safety Compliance*. <https://transportationinstitute.org/about/environmental-values/>
- U.S. Department of Commerce, National Oceanic and Atmospheric Administration. *How important is the ocean to our economy?* October 08, 2008. <https://oceanservice.noaa.gov/facts/oceaneconomy.html>
- U.S. Department of Transportation. *TIGER Discretionary Grants, U.S. Department of Transportation Announces \$500 Million Funding Opportunity through TIGER Program*, September 7, 2017. <https://www.transportation.gov/tiger>
- U.S. Department of Transportation. *Transforming Communities in the 21st Century*, 2017. https://www.transportation.gov/sites/dot.gov/files/docs/DOT_BH2017_508%5B2%5D.pdf
- U.S. Government Accountability Office. *International Food Assistance, Cargo Preference Increases Food Aid Shipping Costs, and Benefits are Unclear*, GAO-15-666, August 2015. <http://www.gao.gov/assets/680/672181.pdf>
- U.S. Government Accountability Office. *Maritime Administration, Proceeds from the Sale of Obsolete Vessels Were Accounted for, Allocated, and Disbursed Consistent with Applicable Law*, GAO-17-280, February 2017. <http://www.gao.gov/assets/690/682980.pdf>
- U.S. Government Accountability Office. *Navy Readiness, Actions Needed to Maintain Viable Surge Sealift and Combat Logistics Fleets*, GAO-17-503, August 2017. <https://www.gao.gov/assets/690/686733.pdf>
- U.S. Government Accountability Office. *United States Merchant Marine Academy: Internal Control Weaknesses Resulted in Improper Sources and Uses of Funds; Some Corrective Actions are Under Way*, GAO-09-635, August 10, 2009.
- U.S. Government Printing Office. *Federal Register*, January 11, 2017. <https://www.gpo.gov/fdsys/pkg/FR-2017-01-11/pdf/2017-00249.pdf>
- U.S. Government Printing Office. *Reform of the Title XI Maritime Loan Guarantee Program*, Senate Hearing 108-939, June 5, 2003. <https://www.gpo.gov/fdsys/pkg/CHRG-108shrg75221/html/CHRG-108shrg75221.htm>
- U.S. House of Representatives. *National Defense Authorization Act for Fiscal Year 2017, Report of the Committee on Armed Services House of Representatives on HR 4909 together with Additional Views*, May 4, 2016. <https://www.congress.gov/114/crpt/hrpt537/CRPT-114hrpt537.pdf>

- U.S. House of Representatives Committee on Appropriations. *Appropriations Committee Releases Fiscal Year 2018 Transportation, Housing and Urban Development Funding Bill*, July 10, 2017.
<https://appropriations.house.gov/news/documentsingle.aspx?DocumentID=394975>
- U.S. Maritime Administration. *A Report to Congress: Impacts of Reductions in Government Impelled Cargo on the U.S. Merchant Marine*, April 21, 2015.
<https://www.marad.dot.gov/wp-content/uploads/pdf/04-21-2015-Report-to-Congress-on-the-Impact-of-Reduction-in-Government-Impelled-Cargo-on-the-US-Merchant-Marine.pdf>
- U.S. Maritime Administration. *A Report to Congress: Maritime Education Program Evaluation*, April 2003.
- U.S. Maritime Administration. *About Us*. <https://www.marad.dot.gov/about-us/>
- U.S. Maritime Administration. *About Us, Maritime Administration – Careers*.
<https://www.marad.dot.gov/about-us/maritime-administration-careers/>
- U.S. Maritime Administration. *Approved Applications and Operational Facilities*.
<https://www.marad.dot.gov/ports/office-of-deepwater-ports-and-offshore-activities/approved-applications-and-operational-facilities/>
- U.S. Maritime Administration. *Budget Estimates, Fiscal Year 2016*, February 2, 2015.
<https://cms.dot.gov/sites/dot.gov/files/docs/FY2016-BudgetEstimate-MARAD.pdf>
- U.S. Maritime Administration. *Budget Estimates Fiscal Year 2017*, February 9, 2016.
<https://cms.dot.gov/sites/dot.gov/files/docs/MARAD-FY-2017-CJ.pdf>
- U.S. Maritime Administration. *Budget Estimates, Fiscal Year 2018*, May 23, 2017.
<https://www.transportation.gov/sites/dot.gov/files/docs/mission/budget/281151/marad-fy-018-cj-budget.pdf>
- U.S. Maritime Administration. *By the Capes around the World: A Summary of World Cabotage Practices*. <https://www.hsdl.org/?abstract&did=455295>
- U.S. Maritime Administration. *MARAD Banner v.2*.
<https://www.marad.dot.gov/environment-and-safety/office-of-security/>
- U.S. Maritime Administration. *Maritime Academies*.
<https://www.marad.dot.gov/education/maritime-academies/>
- U.S. Maritime Administration. *Maritime Security Program (MSP)*.
<https://www.marad.dot.gov/ships-and-shipping/strategic-sealift/maritime-security-program-msp/>

- U.S. Maritime Administration. *National Defense Reserve Fleet*.
<https://www.marad.dot.gov/ships-and-shipping/strategic-sealift/office-of-ship-operations/national-defense-reserve-fleet-ndrf/>
- U.S. Maritime Administration. *National Defense Reserve Fleet Inventory for the Month Ending, August 31, 2017*. <https://www.marad.dot.gov/wp-content/uploads/pdf/i170831.pdf>
- U.S. Maritime Administration. *National Defense Reserve Fleet Inventory For the Month Ending, May 31, 2017*. <https://www.marad.dot.gov/wp-content/uploads/pdf/i170531.pdf>
- U.S. Maritime Administration. *Office of Safety*.
<https://www.marad.dot.gov/environment-and-safety/office-of-safety/>
- U.S. Maritime Administration. *Office of Ship Disposal Program, Annual Report for Fiscal Year 2016, December 2016*. <https://www.marad.dot.gov/wp-content/uploads/pdf/2016-Program-Annual-Report.pdf>
- U.S. Maritime Administration. *Port Planning and Investment Toolkit, January 2017*.
<https://www.marad.dot.gov/wp-content/uploads/pdf/Port-Planning-and-Investment-Toolkit-2.pdf>
- U.S. Maritime Administration. *Sinkex Program*.
<https://www.marad.dot.gov/ships-and-shipping/ship-disposal/sinkex/>
- U.S. Maritime Administration. *Small Shipyard Grants, May 19, 2017*.
<https://www.marad.dot.gov/ships-and-shipping/small-shipyard-grants/>
- U.S. Maritime Administration. *Strategic Sealift*.
<https://www.marad.dot.gov/ships-and-shipping/strategic-sealift/>
- U.S. Maritime Administration. *Suisun Bay Reserve Fleet*.
<https://www.marad.dot.gov/about-us/maritime-administration-history-program/vessels-of-the-maritime-administration/suisun-bay-reserve-fleet-history/>
- U.S. Maritime Administration. *The Maritime Administration's Ready Reserve Force*.
<https://www.marad.dot.gov/ships-and-shipping/strategic-sealift/office-of-ship-operations/ready-reserve-force-rrf/>
- U.S. Maritime Administration. *The Maritime Security Program, Meeting National Sealift Needs, July 1, 2017*. <https://www.marad.dot.gov/wp-content/uploads/pdf/MSP-Brochure-7-1-2017.pdf>

- U.S. Maritime Administration. *Title XI is the Centerpiece of the National Shipbuilding Initiative*. [https://www.marad.dot.gov/wp-content/uploads/pdf/NMREC Marketing Conf - Title XI.pdf](https://www.marad.dot.gov/wp-content/uploads/pdf/NMREC_Marketing_Conf_-_Title_XI.pdf)
- U.S. Merchant Marine Academy. *Governance and Oversight*, November 6, 2015. <https://www.usmma.edu/governance-and-oversight>
- U.S. Merchant Marine Academy. *United States Merchant Marine Academy, 2014-2015 Catalog*. <https://www.usmma.edu/sites/usmma.edu/files/docs/New%20Curriculum%20Catalog%20%28Class%20of%202017%20and%20beyond%29.pdf>
- U.S. Navy. *Sealift Program (PM5)*, U.S. Navy's Military Sealift Command. <http://www.msc.navy.mil/PM5/>
- U.S. White House Office. *National Security Directive 28: National Security Directive on Sealift*, October 5, 1989. <https://www.hsdl.org/?abstract&did=458560>
- Wikipedia. *United States Merchant Marine*, September 17, 2017. [https://en.wikipedia.org/wiki/United States Merchant Marine](https://en.wikipedia.org/wiki/United_States_Merchant_Marine)

THIS PAGE INTENTIONALLY LEFT BLANK.

Appendix D: Legal Authorities

Mission 1: Strategic Sealift, AKA “NATIONAL SECURITY”

- DoD Requirements that U.S. flag ships provide supplies in case of military conflict/national emergency:
 - 10 U.S.C. § 2631. Military Cargo Preference Act of 1904. Supplies: preference to United States vessels
 - National Security Directive 28 (The President, October 5, 1989): MARAD promotes “merchant marine readiness”
- Maritime Security Fleet – Maritime Security Act of 1996
 - 46 USC §53101 – 53110 et seq. Establishment of Maritime Security Fleet, operating agreements, payments and other rules for privately-owned vessels
- National Defense Reserve Fleet/Ready Reserve Force--§ 11, Merchant Ship Sales Act of 1914, codified in
 - 46 USC §57101 and 50 USC § 4405. National Defense Reserve Fleet owned by MARAD and National Defense Reserve Fleet in “Merchant Ship Sales”:
 - Ready Reserve Fleet/Force: Established in 1977 by a Memo between Navy and MARAD; a component of the National Defense Reserve Fleet. :
- Ship Disposal Program; authorities based on Federal Property and Administrative Services Act of 1949, codified at 40 USC 101 et seq.; see also reference to uses of proceeds upon disposal: 54 USC §308704(a)
- Voluntary Intermodal Sealift Agreement (VISA): Defense Production Act of 1950; Maritime Security Act of 2003
- Cargo Preference requirements: Military cargo preference (see above); Cargo Preference Act of 1954, Pub. L. 83-664; Pub. Res. 17 also known as 46 USC § 55304
- Vessel Operations Revolving Fund: 46 USC §50301
- War Risk Insurance, 46 U.S.C. chapter 539

Mission 2: Mariner Education

- United States Merchant Marine Academy -- 46 U.S.C. Chapter 513 (51301 et seq.)
- P.L. 110-417 (2011), an action to address sexual harassment and violence at the USMMA,
- State Maritime Academy Support Program -- 46 U.S.C. Chapter 515 (Section 51501 et seq.)
- Other Support for Merchant Marine Training (46 U.S.C. Chapter 517) (These provisions date to the Shipping Act of 1936).

Mission 3: Environment and Compliance

- Marine Environmental and Technical Assistance (META) program—Pub. L. 112-213, Title IV, 126 Stat. 1569, codified at 46 U.S.C. Section 50307 (2012)
- Vessel Disposal Program--Pub. L. 110-181; Section 3502 of Title XXXV of the National Defense Authorization Act for FY 2008
- NS *Savannah* decommissioning process. MARAD manages NS *Savannah* (Inactive nuclear-powered commercial ship) for the federal government as a national historic landmark and has been complying with Nuclear Reg. Com. rules for decommissioning a nuclear power plant in NRC regulations (10 CFR, part 20 subpart E, and parts 50.75, 50.82, 51.53, and 51.95).

Mission 4: Intermodal Development

- Port Infrastructure Development
 - TIGER (Transportation Investment Generating Economic Recovery) grants; American Recovery and Reinvestment Act, Pub. L. 111-5 (2009) and annual consolidated appropriations acts
 - INFRA grants under the authority of the “Fixing America’s Surface Transportation (FAST) Act”, Public Law 114-94 (2015)
 - Public Benefit Port Conveyance Program: Federal Property and Admin. Services Act of 1949, as amended by Pub.L. 103-160, § 2927.
- Short Sea transportation Program (America’s Marine Highways): 46 USC Chapter 556 (§1121 of the Energy Independence and Security Act of 2007)
- Deepwater Ports Act of 1970, as amended—33 U.S.C. § 1501 et seq.
- StrongPorts Program—Section 3512 of the National Defense Authorization Act for FY 2010, Pub. L. 111-84.

Mission 5: Shipbuilding and Financing

- Maritime Guaranteed Loan Program—Title XI (of the Merchant Marine Act of 1936)—46 USC Chapter 537
- Assistance to Small Shipyards and Maritime Communities--46 USC §54101; § 3508(a) of Title XXXV of the Nat’l Defense Authorization Act for FY 2008
- Capital Construction Fund—46 USC Chapter 535, originally part of the Shipping Act of 1936

Other Authorities:

- Merchant Marine Act of 1920, also known as the Jones Act, codified at 46 USC sections 50101 et seq.
- Maritime Act of 1981, “An Act to Revise the laws pertaining to the Maritime Administration”, Section 2, Pub.L. 97-31, 95 Stat. 151, moving MARAD from Commerce Department to Department of Transportation.

Appendix E: Eliminated MARAD Programs

The following information is supplied to provide insights into some of the ways MARAD operated before the adoption of the Maritime Security Program in 1994.²⁵³

Operating Differential Subsidy Program

- These were subsidies to U.S.-flag ships based on the differential between the costs of U.S. and foreign carriage.
- This program was replaced in 1996 by the Maritime Security Program, which takes a different approach and is estimated by the Transportation Institute to cost about half that of the subsidy program.²⁵⁴ Rather than variable subsidies, MSP makes fixed annual payments (in monthly installments) to owners of participating U.S.-flag ships in return for their agreement to make that ship available immediately to the government in the event of national emergency or war.²⁵⁵ Section 616 of the Maritime Security Act states: “After the date of enactment of the Maritime Security Act of 1996, the Secretary of Transportation shall not enter into any new contract for operating-differential subsidy under this subtitle.”

Ocean Freight Differential Program

- This was the amount reimbursed when the difference in ocean freight cost between U.S.-flag vessels and foreign flag vessels exceeded 20 percent of specified program costs.
- Public Law 112-41, the “Moving Ahead for Progress in the 21st Century Act”, eliminated the requirement for the incremental freight differential reimbursement. It reduced the U.S. flag cargo preference for food and commodities from 75% to 50%. Later, the Bipartisan Budget Act of 2013 (Pub L. 113-76) repealed MARAD’s mandatory borrowing authority. These two actions eliminated funding for a 20% excess cost differential reimbursement program for USDA and USAID that had been in effect.
- As of FY 2016, MARAD’s budget request did not include anything for this category.

Construction Differential Subsidy Program

- Eliminated by operation of law.

“Business USA.gov” notes program superseded/unfunded for more than 30 years (as of 2011), explaining that the rationale for deleting references from the Code of Federal Regulations is to remove any confusion the public may have as to the existence of the program.²⁵⁶

²⁵³ Information derived from the historical sections of Title 46 of the United States Code.

²⁵⁴ Transportation Institute

²⁵⁵ The MSP is described at length in Chapters 2 and 4 of this report.

²⁵⁶ <https://business.usa.gov/content/operating-differential-subsidy-and-construction-differential-subsidy-programs-rrr-0>

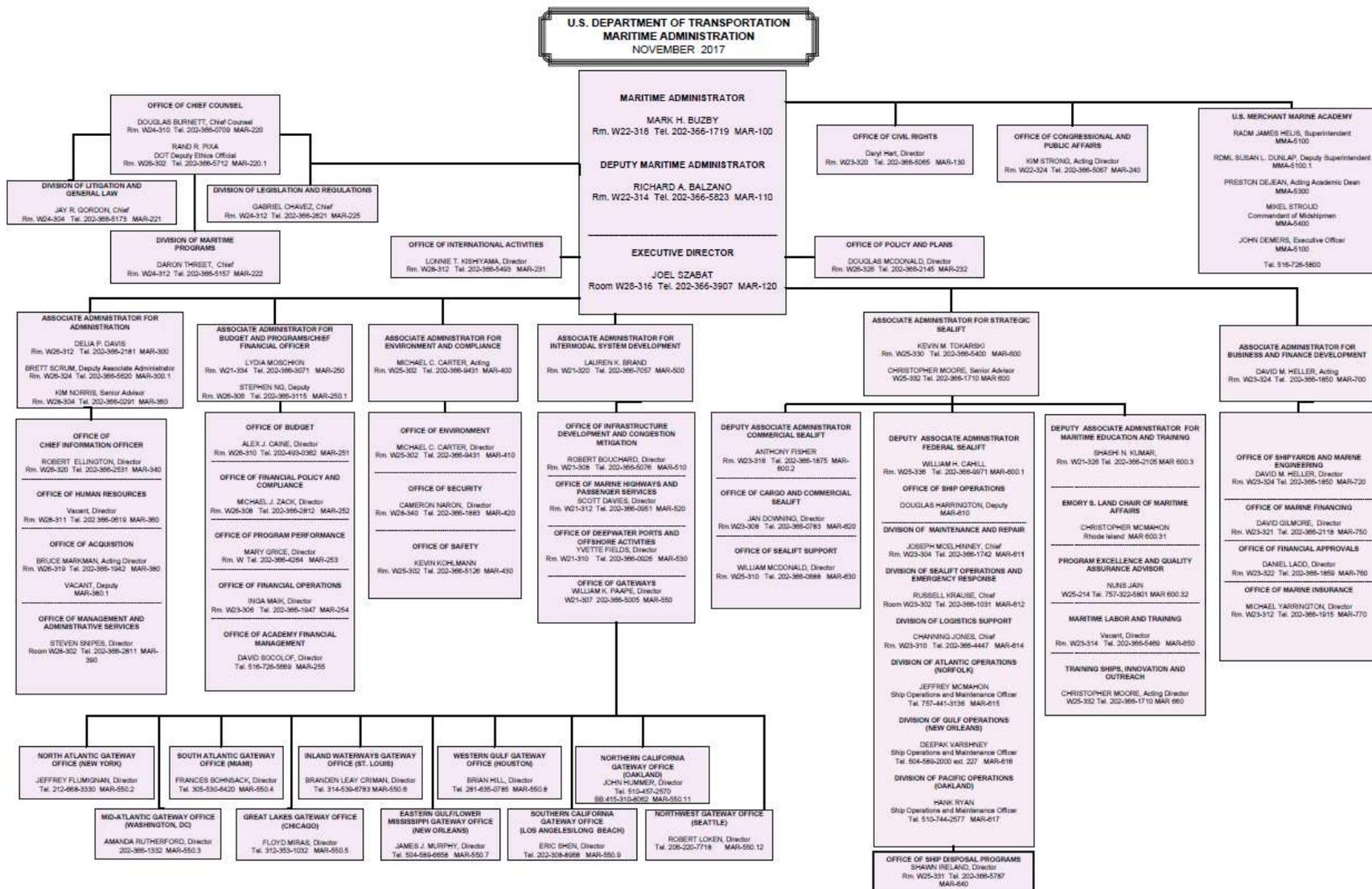
THIS PAGE INTENTIONALLY LEFT BLANK

Appendix F: Committee on the Maritime Transportation System’s Standard Matrix of the Federal Marine Transportation System by Department/Agency

FEDERAL INTEREST	MAJOR CATEGORIES	USDA				DOC				DoD		DOE	DOI		DOJ	DOL		DHS			DOS	DOT					Treasury	FMC	NTSB	EPA						
		FAS	FSA	APHIS	NRCS	AMS	BIS	Census	EDA	ITA	NOAA	USACE	Navy	TRANSCOM		USFWS	BOEM	BSEE	USGS		BLS	OSHA	TSA	USCG	FEMA	CBP		OST	BTS/RITA	SLSDC	FHWA	MARAD	FRA		FMC	NTSB
Enhance Safety	Safety								X	X	X				X	X	X		X	X					X			X	X	X				X	X	
Protect the Environment	Environmental Protection			X	X			X	X	X	X			X	X	X	X	X					X	X			X		X	X	X					X
Facilitate Commerce	Trade Facilitation	X	X	X		X	X	X	X					X								X		X		X	X	X	X	X				X	X	
	Trade Promotion	X	X	X		X		X																			X	X	X				X	X		X
	Vessel Construction																						X		X		X			X	X					
	Vessel Operations									X							X		X				X		X		X		X	X						X
	Federal Channels, Waterways, and Sea Lanes									X	X			X	X								X	X			X	X	X				X			X
	Port/Modal Transfer Infrastructure						X	X	X				X									X				X			X	X	X	X				X
Ensure National Security	Security								X	X	X	X	X		X		X				X	X	X	X	X	X	X			X						
Cross-Cutting	Research & Development					X		X	X	X	X	X	X		X	X	X					X				X	X			X						X
	Human Resources								X	X	X										X	X					X									

THIS PAGE INTENTIONALLY LEFT BLANK.

Appendix G: MARAD Organizational Chart



THIS PAGE INTENTIONALLY LEFT BLANK.

Appendix H: Glossary of Relevant Maritime Terms

Auxiliary crane ship – A vessel of the United States Military Sealift Command designed to operate where port facilities are limited or damaged to transfer cargo between themselves, other vessels, and piers.

Barge-carriers – Ships designed to carry barges; some are fitted to act as full containerships and can carry a varying number of barges and containers at the same time. At present this class includes two types of vessels LASH and Sea-Bee.

Billet – An official order directing that a member of a military force be provided with board and lodging (as in a private home).

Break bulk – To unload and distribute a portion or all of the contents of a rail car, container, trailer, or ship. – Loose, non-containerized mark and count cargo. – Packaged cargo that is not containerized.

Bulk carrier - All vessels designed to carry bulk homogeneous cargo without mark and count such as grain, fertilizers, ore, and oil.

Cabotage – Water transportation term applicable to shipments between ports of a nation; commonly refers to coastwise or intercoastal navigation or trade. Many nations, including the United States, have cabotage laws which require national flag vessels to provide domestic interport service.

Cargo preference – Cargo reserved by a Nation's laws for transportation only on vessels registered in that Nation. Typically the cargo is moving due to a direct or indirect support or activity of the Government.

Coastwise – Water transportation along the coast of a nation.

Commercial transport vessel – Any ship which is used primarily in commerce (1) For transporting persons or goods to or from any harbor(s) or port(s) or between places within a harbor area; (2) In connection with the construction, change in construction, servicing, maintenance, repair, loading, unloading, movement, piloting, or salvaging of any other ship or vessel.

Container ship – Ships equipped with permanent container cells, with little or no space for other types of cargo.

Crane ship – A ship with a crane specialized in lifting heavy loads.

Deepwater ports – A “non-vessel, fixed or floating manmade structures that are used as ports or terminals for the loading, unloading, or handling of oil for transportation to a State.

Embarkation ports – The geographic point in a routing scheme from which cargo or personnel depart.

Ferry ships – A merchant vessel used to carry passengers, and sometimes vehicles and cargo as well, across a body of water

Flag of convenience – A flag of a country under which a ship is registered in order to avoid financial charges or restrictive regulations in the owner's country.

Foreign-flag – (Especially of a ship) Owned by a national of one country and registered under the maritime laws of another country.

Freighters – Breakbulk vessels both refrigerated and unrefrigerated, containerships, partial containerships, roll-on/roll-off vessels, and barge carriers. A general cargo vessel designed to carry heterogeneous mark and count cargoes.

Full sealift activation – The RRF can be activated in four, five, 10 or 20 days. MSC inspects the ships and accepts them.

When fully activated, RRF ships come under the operational control of the MSC.

General cargo carriers – Breakbulk freighters, car carriers, cattle carriers, pallet carriers and timber carriers. A vessel designed to carry heterogeneous mark and count cargoes.

Heavy lift ship – A vessel designed to move very large loads that cannot be handled by normal ships

U.S. Marine Highway – Consists of our Nation’s navigable waterways including rivers, bays, channels, the Great Lakes, the Saint Lawrence Seaway System, coastal, and open-ocean routes.

Mariner – A sailor.

Maritime – Business pertaining to commerce or navigation transacted upon the sea or in seaports in such matters as the court of admiralty has jurisdiction.

Merchant Marine – The fleet of ships which carries imports and exports during peacetime and becomes a naval auxiliary during wartime to deliver troops and war materiel.

Midshipmen – A naval cadet in the U.S. Navy.

Non-combatant government ships – A ship crewed by civilian mariners under the United States Navy’s Military Sealift Command used to preposition tanks, trucks and other supplies needed to support an Army heavy brigade.

Noncontiguous domestic trade – Transportation (except with regard to bulk cargo, forest products, recycled metal scrap, waste paper, and paper waste) subject to regulation by the Surface Transportation Board involving traffic originating in or destined to Alaska, Hawaii, or a territory or possession of the United States.

Onshore tank farm – Collection of large number of tanks which store crude oil and petroleum products at the same site.

Port facility – A specific location in a port where passengers or commodities are transferred between land and water carriers or between two water carriers, including wharves, piers, sheds, warehouses, yards, and docks.

Product tanker – A liquid cargo vessel typically between 10,000 to 60,000 dwt. Often built with many segregated, coated cargo tanks and thus sometimes called a “drugstore tanker.”

Ready Reserve Force – Owned, crewed, and maintained by the civilian United States Maritime Administration, but come under control of the Military Sealift Command when activated.

Reserve fleet – A collection of naval vessels of all types that are fully equipped for service but are not currently needed, and thus partially or fully decommissioned.

Roll-On/Roll-Off vessels (Ro/Ro) - A method of ocean cargo service using a vessel with ramps which allows wheeled vehicles to be loaded and discharged without cranes. Also refers to any specialized vessel designed to carry Ro/Ro cargo.

Sealift – The use of cargo ships for the deployment of military assets, such as weaponry, vehicles, military personnel, and supplies.

Short sea shipping – The movement of cargo by sea between ports situated in geographical Europe or between those ports situated in non-European countries having a coastline on the enclosed seas bordering Europe (Baltic, Mediterranean and Black). It is a successful mode of transport in Europe.

Liquefied natural gas (LNG) carriers – A tank ship designed for transporting liquefied natural gas (LNG).

Supply vessels – A ship specially designed to supply offshore oil and gas platforms.

Tankers – Ships fitted with tanks to carry liquid bulk cargo such as crude petroleum and petroleum products, chemicals, Liquefied gasses (LNG and LPG), wine, molasses, and similar product tankers.

Sustained operations – prolonged working timetable in demanding situations of urgency.

Territorial sea – A belt of coastal waters extending at most 12 nautical miles (22.2 km; 13.8 mi) from the baseline (usually the mean low-water mark) of a coastal state.

U.S.-flag vessel – A vessel:

(1) Registered and operated under the laws of the United States,

(2) Used in commercial trade of the United States,

(3) Owned and operated by U.S.-citizens, including a vessel under voyage or time charter to the Government, and

(4) A Government-owned vessel under bareboat charter to, and operated by, U.S.-citizens.

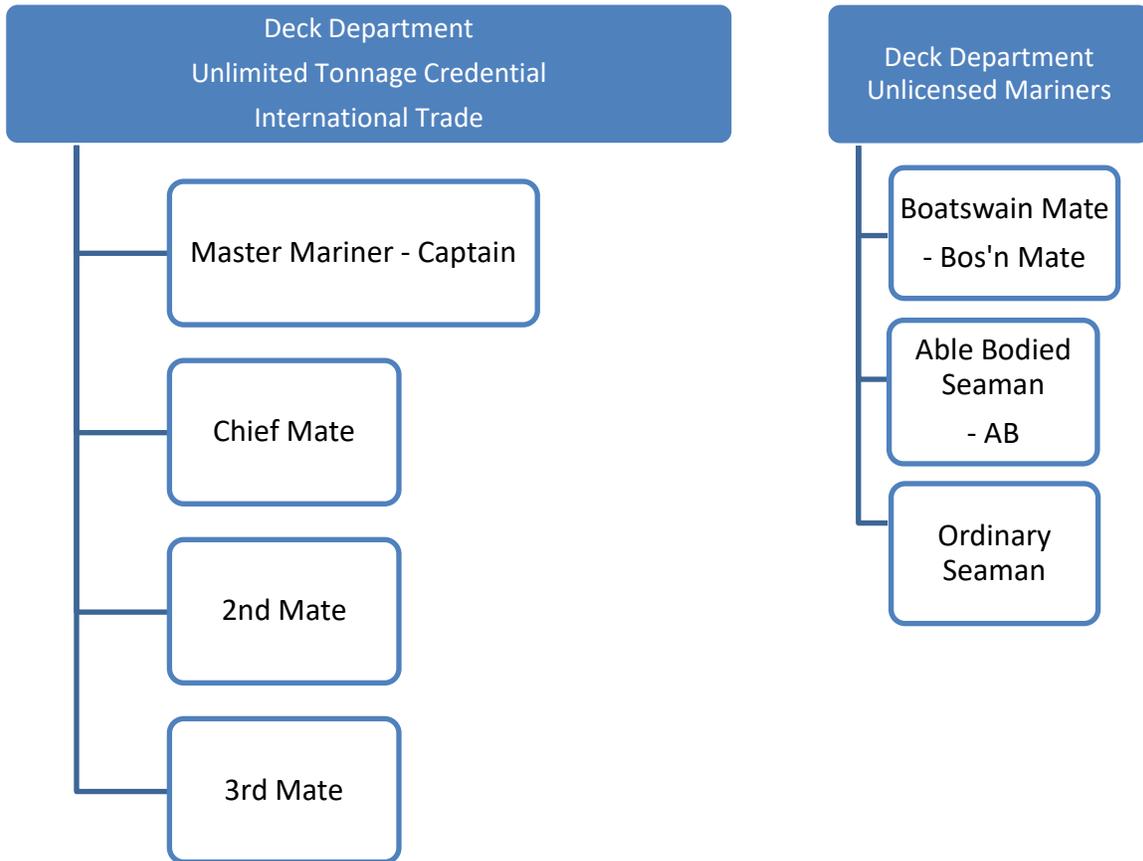
War risk – Insurance coverage for loss of goods resulting from any act of war.

Waterborne transportation – The use of ferries or other waterborne vessels in the transportation of passengers via waterways (sea, rivers, lakes, lagoons, canals, etc.)

THIS PAGE INTENTIONALLY LEFT BLANK.

Appendix I: Merchant Mariner Career Progression²⁵⁷

Deck Positions Progression for Merchant Marine²⁵⁸

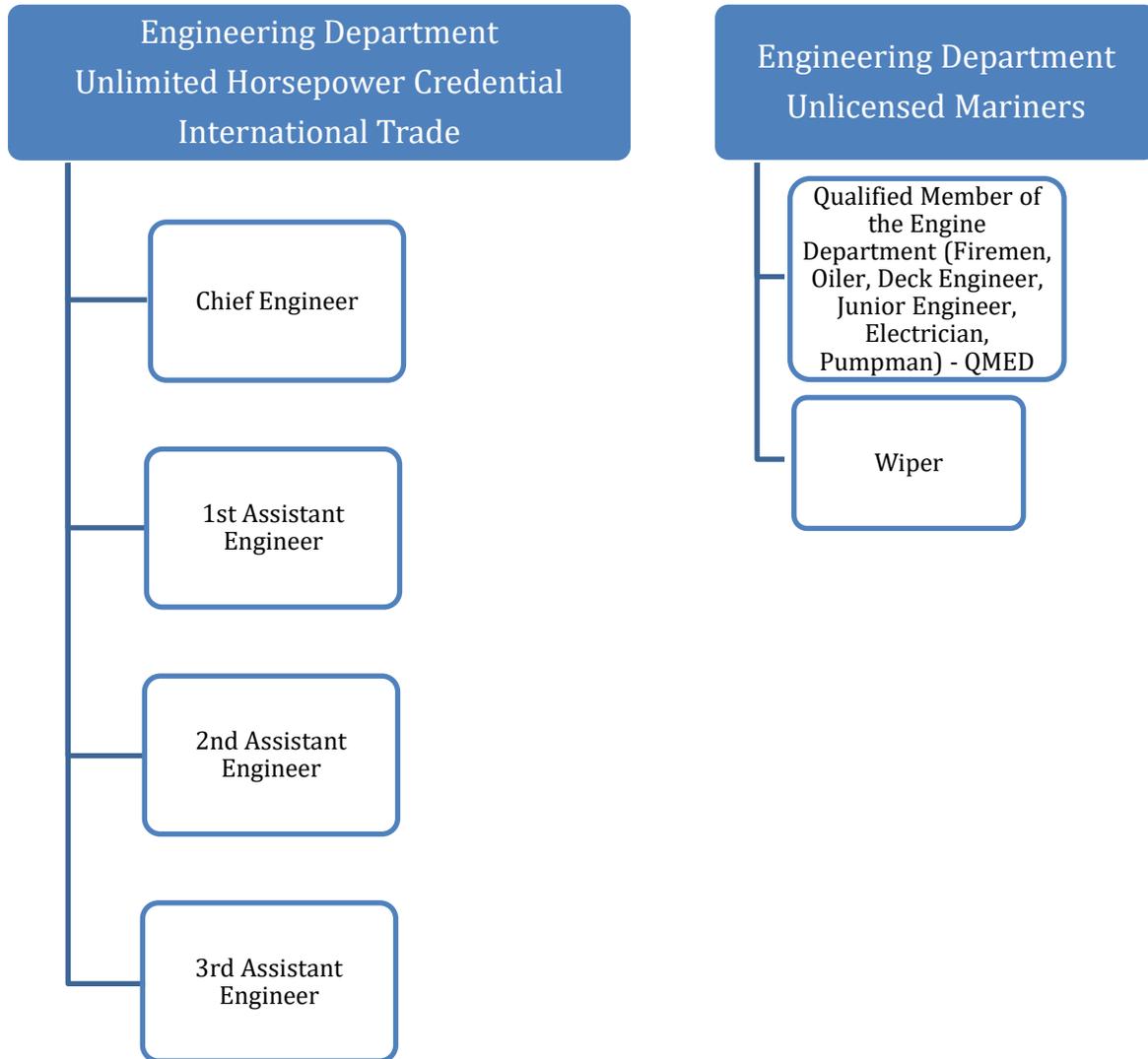


²⁵⁷ 46 U.S.C. § 10.403

²⁵⁸ Varies with Gross Registered Tonnage Experience

Appendix I Continued

Engineer Position Progression for Merchant Marine²⁵⁹



²⁵⁹ 46 U.S.C. § 10.501

Appendix J: International Information

Administrative Comparison

	UNITED STATES	AUSTRALIA	CHINA	INDIA	UNITED KINGDOM	SOUTH KOREA	JAPAN
National Maritime Organization	Maritime Administration	Australian Maritime Safety Authority	Maritime Safety Administration of the People's Republic of China	Directorate of General Shipping	Maritime & Coastguard Agency	Ministry of Oceans and Fisheries	Maritime Bureau
Mission – as described by each country's respective Maritime website.	Promote the development and maintenance of an adequate, well-balanced United States merchant marine, sufficient to carry the Nation's domestic waterborne commerce and a substantial portion of its waterborne foreign commerce, and capable of serving as a naval and military auxiliary in time of war or national emergency.	<ul style="list-style-type: none"> ▪ Promoting maritime safety and protection of the marine environment; ▪ Preventing and combating ship-sourced pollution in the marine environment; ▪ Providing infrastructure to support safety of navigation in Australian waters; and ▪ Providing a national search and rescue service to the maritime and aviation sectors. 	<ul style="list-style-type: none"> ▪ Drafting and implementing national policies, laws and regulations and standards; ▪ Supervising waterborne traffic safety and preventing pollution from ships; ▪ Administrating the survey of ships and off-shore facilities, examining qualifications of survey organizations, supervising the representatives offices of foreign ship survey organizations ▪ Conducting registration, certification, inspection and certificate endorsement of Chinese flag ships, supervising foreign-flag ships' entry into and exit, and conducting safety supervision; ▪ Administering seafarers and pilots' training, examination and certification; ▪ Supervising waterborne traffic order and navigation condition; ▪ Navigational service; and ▪ Implementing international maritime conventions; fulfilling obligations of flag State, port State and coastal State; conducting international cooperation and exchanges.²⁶⁰ 	<ul style="list-style-type: none"> ▪ Provide an effective supervisory and regulatory regime conducive to: ▪ Provide support to the government in developing and implementing a maritime development program that has a positive impact on the national economy; ▪ Develop and implement policies that facilitate an environment that promotes investment in expanding a modern merchant flagged fleet and develop globally competitive ship building and repair facilities; ▪ Develop and sustain a high quality human resource management catering to the needs of global including national maritime industry for competent seafarers; ▪ Ensure good governance by adhering to the highest standards of integrity, quality and efficiency in delivery of shipping services through constant innovation, technology upgrades and value addition; and ▪ Develop measures to ensure compliance of relevant international instruments relating to safety and security of ships, protection of environment and welfare of seafarers. 	<ul style="list-style-type: none"> ▪ Safety of everybody in a vessel in UK waters; ▪ Safety of all seafarers on UK-flag vessels; ▪ Making sure all equipment on UK vessels is fit for purpose; ▪ Making sure all seafarers on UK vessels have correct documentation; ▪ Environmental safety of UK coast and waters; ▪ Accuracy of hydrographic data on UK charts; and ▪ Overseeing coastal rescue volunteers, hydrographics, seafarer certification and port state control inspection regime. 	The MOF will: <ul style="list-style-type: none"> ▪ Put job creation first before anything else, ▪ Turn maritime and fisheries industries into more dynamic and innovative businesses, ▪ Expand global maritime-economic industry, ▪ Transform our seas, coasts and islands into a nest of happiness for all, ▪ Make safer and cleaner seas that people can trust, ▪ Ensure that marine tourism and culture will flourish, and ▪ Gain confidence from the public by performing competently. 	<ul style="list-style-type: none"> ▪ Assurance of stable international marine transport; ▪ Securing and nurturing human resources to take a major role in the maritime industry; ▪ Tackling environmental problems in maritime transport; ▪ Promotion of coastal shipping and domestic passenger ships; ▪ Efforts to ensure safe navigation in the straits of Malacca and Singapore and so forth; and ▪ Tackling other main policy tasks.
Status of Licensed Mariners	Decreasing	Decreasing	Decreasing	Decreasing	Decreasing	Decreasing	Decreasing
Number of Government Maritime Universities	7	6	6	4	10	2	10
Number of Private Maritime Universities	1	6	0	22	6	0	0
Main Issues and Challenges		<ul style="list-style-type: none"> ▪ Death of Great Barrier Reef. ▪ Maritime security challenges. 	<ul style="list-style-type: none"> ▪ Currently trying to expand its maritime presence. ▪ Competing claims in the South China Sea. ▪ Neighbors are expanding their militaries. ▪ Percentage of transport by flag-vessels is decreasing. 	<ul style="list-style-type: none"> ▪ Security challenges due to political instability in neighboring countries and the Indian Ocean. ▪ In the process of developing a centralized National Maritime Policy. 	Uncertainty about the future of trade because of Brexit.	Increasing maritime security issues given current disputes with both China and Japan.	Protection of surrounding waters given the increasing maritime assertiveness of China.

²⁶⁰ Taken from the Maritime Safety Administration of the People's Republic of China website and edited for formatting.

Legislative Comparison

This chart displays a comparison of the U.S., Australia, China, India, the United Kingdom, South Korea, and Japan with regards to their legal requirements for cabotage, crewing, ownership restrictions, domestic construction provisions, reflagging restrictions, and cargo preference. A "yes" indicates that the country has a legal requirement in this area; a "no" indicates it does not. As defined in this report, cabotage is "trade or transport in coastal water or airspace or between two points within a country." This coastal trade is usually regulated by the host nation to protect domestic shipping from foreign competition. Crewing requirements refer to whether the ship's crew members have to be citizens of the host nation. A country with ownership restrictions requires that ships in their nation's fleet be owned and operated by organizations controlled by citizens of the host country. Countries with domestic construction provisions require that fleet of ships be built and repaired within their country's borders by their citizens. Reflagging restrictions are a set of requirements that a ship's national registry must be changed, "reflagged," in order to join that nation's fleet. Cargo preference is a set of legal requirements for government-impelled cargo to be carried on vessels flagged within the registry of that nation in order to promote a national merchant marine.

	UNITED STATES	AUSTRALIA	CHINA	INDIA	UNITED KINGDOM	SOUTH KOREA	JAPAN
Cabotage	Yes	Yes – Coastal Trading Act 2012	Yes	Yes – relaxed for 5 years to move cargo on the coastline	Yes – currently governed by EU cabotage policy	Yes	Yes
Crewing Requirements	Yes	Yes	Yes	Yes	Yes	No	Yes
Ownership Restrictions	Yes	No	Yes	Yes	No	Yes	Yes
Domestic Construction Provisions	Yes	No	No	No	No	No	No
Reflagging Restrictions	Yes	No	Yes	Yes	No	Yes	Yes
Cargo Preference	Yes	Yes	No ²⁶¹	Yes	Yes	No ²⁶²	No ²⁶³

²⁶¹ In 1992, China and the U.S. agreed to gradually open China's shipping market. In 1996, China stopped these bilateral agreements and now there is no cargo sharing and cargo preference policy in China. As a result, the percentage of transport by national flag vessels is continuing to decrease. See the APEC Transportation Working Group's report, *Cargo Preference and Restrictions Applying to Specific Trades*, 2014.

²⁶² After 1990, the Korean government implemented liberalization policies follow the trend of globalization. APEC report.

²⁶³ With Japan's participation to the OECD in 1964, Japan cancelled its governmental restrictions or made cargo preference regulations. APEC report.

Key Comparison Takeaways

- The U.S. administrative structure is much more complicated and dispersed, likely as a result of the U.S. role as the world's leading military and economic power as well as its political tendency to disperse power and responsibility.
- Each country displayed is experiencing a decrease in the number of licensed merchant mariners.
 - Some countries have enacted policies to make it more attractive to pursue a career as a mariner.
 - Some policy tools that other countries to maximize the number of mariners are using are not available to MARAD. For example, the European Union does not require their mariners to pay social taxes.²⁶⁴ These would require other actors in the federal government to make decisions.
- Many countries have maritime training academies. Some smaller countries send their cadets to U.S. maritime academies.
- Compared to the other countries reviewed, the U.S. has the strictest and most protective set of statutory and regulatory requirements. As shown above, the U.S. is the only country that answers yes in every category, i.e. cabotage, crewing requirements, ownership restrictions, domestic construction provisions, reflagging restrictions, and cargo preference.

²⁶⁴ Interview.

THIS PAGE INTENTIONALLY LEFT BLANK.

Appendix K: U.S. Federal Service Academies Cost Comparison

(Dollars in Thousands)

	USMMA FY18 Request	USMMA FY19 Updated Request	USCGA FY16	USMA FY16	USNA FY16	USAFA FY16
Student Enrollment	930	1,026	898	4,348	4,525	4,111
Civilian Faculty/Staff	288	288	254	1,784	918	1,387
Military Personnel Staff	0	0	360	1,082	715	1,760
Total Staff	288	288	614	2,866	1,633	3,147
Operating Costs						
Civilian Personnel Costs	\$36,375	\$38,001	\$72,000	\$166,200	\$104,000	\$115,520
Estimated Military Personnel Costs (\$100K per officer)	\$0	\$0	*	\$108,200	\$71,500	\$176,000
Non-Personnel Costs	\$30,025	\$33,118	\$36,606	\$110,300	\$176,000	\$195,582
TOTAL Operating Costs	\$66,400	\$71,119	\$108,606	\$384,700	\$351,500	\$487,102
Operating Cost per Student	\$71.40	\$69.32	\$120.94	\$88.48	\$77.68	\$118.49
Capital Project/Improvements	\$18,000	\$18,000	Not available	\$153,800**	Not available	\$39,396

*\$72 million personnel costs for USCGA include both civilian and military personnel.

**\$153.8 million capital improvements may include costs that other academies report under Non-Personnel Operating Costs.

Source: MARAD

OTHER IMAGES CREDITS

Cover Image: Provided by the Maritime Administration



1600 K Street NW
Suite 400
Washington, D.C. 20006
Phone: (202) 347-3190
Fax: (202) 223-0823
Website: www.napawash.org