U.S. Department of Transportation
Maritime Administration

COMPARISON OF U.S. AND FOREIGN-FLAG OPERATING COSTS

September 2011

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Introduction

The Maritime Administration is charged with advocating for the U.S.-flag fleet and promoting the viability of the U.S. merchant marine. To inform the Administration in carrying out this mission, this report compares the operating costs of U.S.-flag vessels engaged in foreign commerce to the costs incurred by foreign-flag vessels.[1] This comparison provides valuable insight to the Maritime Administration and the public regarding the global competitiveness of the U.S.-flag fleet.

As of year-end 2010, the U.S.-flag fleet in foreign commerce was comprised of 60 ships participating in the Maritime Security Program (MSP), and roughly 50 other ships carrying commercial and preference cargo on various routes. By comparison, there were over 540 U.S.-owned vessels registered in 31 foreign countries, a business practice commonly referred to as flying a flag of convenience.[2] The Marshall Islands, Singapore, and Liberia represent the top three registries, accounting for 31, 11, and 10 percent of U.S.-owned vessels, respectively. These registries are examples of "open" registries. A registry is considered "open" when more than 90 percent of its vessels are foreign-owned.[3] Today, roughly 80 percent of the world fleet is operating under a flag of convenience from an open registry.[4]

Open registries generally provide vessel owners with more operating flexibility and lower operating costs than U.S. and other national-flag registries. Typically, open registries offer favorable operating conditions including: (1) the ability to transfer vessels in and out at will; (2) no tax on income; (3) no manning requirements; (4) vessels can be built or repaired anywhere in the world; and (5) no government safety inspections of vessels (safety rests only with the classification society and insurance underwriters).[5]

As part of its ongoing efforts to promote the U.S.-flag fleet, the Maritime Administration determined in mid-2010 that it should examine the various factors which, from the perspective of U.S. owners of U.S. and foreign-flag oceangoing vessels, impact operating costs and may influence their preference for flag of registry. To that end, the Maritime Administration evaluated data from three principal sources: (1) data in the Administration's possession regarding the operating costs of U.S.-flag vessels engaged in foreign commerce (including, but not limited to, proprietary cost information provided by carriers); (2) data independently gathered from private sources regarding the operating costs of foreign-flag vessels engaged in foreign commerce; and (3) information gathered by PricewaterhouseCoopers (PwC) at the request of the Maritime Administration.

The available data, as described further below, show that U.S.-flag carriers face a significantly higher cost regime than do foreign-flag carriers. For instance, the data indicate that the total average cost of operating a U.S.-flag vessel in foreign commerce was 2.7 times higher than the cost incurred by foreign-flag equivalents. These data, as well as the additional information

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[1] For purposes of this report, "operating costs" include costs such as crew cost, maintenance and repair costs, insurance costs, overhead costs, and costs associated with stores and lubes.
[2] Includes oceangoing vessels of 10,000 deadweight tons or greater.
[3] World Trade Organization - Council for Trade in Services. "Maritime Transport Services – S/C/W/315." 2010.
[4] Clarkson Research. www.clarksons.net
[5] Stopford, Martin. Maritime Economics. 3rd Edition. London: Routledge, 2009.

provided in this report, will allow the Maritime Administration to better understand, monitor and promote the viability of the U.S.-flag fleet and inform future U.S. maritime policy.

Data Sources and Methodology

As indicated above, this report is based on three sources of data: (1) data in the Maritime Administration's possession regarding the operating costs of U.S.-flag vessels engaged in foreign commerce (including, but not limited to, proprietary cost information provided by carriers); (2) data independently gathered from private sources regarding the operating costs of foreign-flag vessels engaged in foreign commerce; and (3) data independently gathered by PricewaterhouseCoopers (PwC) at the request of the Administration.

With respect to the first data source, the Maritime Administration has special access to comprehensive data on the costs of operating U.S.-flag vessels in the foreign trade. These data have been instrumental to evaluating actual and potential impediments to operating vessels under the U.S. flag.

In particular, to fulfill its ongoing duties of advocating for U.S.-flag carriers and promoting the viability of the U.S. merchant marine, the Maritime Administration has the authority to "investigate, determine, and keep current records of the relative cost of marine insurance, maintenance, repairs, wages and subsistence of officers and crews, and all other items of expense."[6] Furthermore, as a condition of participation in either Cargo Preference and/or the MSP, U.S.-flag carriers are required to submit vessel operating cost information to the Maritime Administration annually (Appendix A: 46 CFR 382.2 and 46 CFR 296.32).

For the purposes of this analysis, the Maritime Administration conducted an internal evaluation and assessment of 2009 and 2010 unaudited operating cost information provided by U.S.-flag foreign trade carriers. The Maritime Administration aggregated the cost data by vessel type and compared it to similar data for foreign-flag vessels. While included in total average U.S.-flag operating costs, cost data specific to U.S.-flag tankers was omitted to protect the proprietary interests of individual carriers.

With respect to the second data source, foreign-flag carriers are under no obligation to provide the Maritime Administration with operating cost information. In fact, vessel owners and carriers, regardless of flag, are notoriously guarded with respect to proprietary information such as operating costs. Consequently, there are currently no public or government-owned sources of foreign-flag cost data available. The Maritime Administration obtained aggregate foreign-flag operating cost data from the "Ship Operating Costs Annual Review and Forecast," a private source prepared by Drewry Shipping Consultants.

Drewry generates its operating cost data from a combination of its annual "Ship Operating Cost Trending Survey," publicly available corporate annual reports, information from recognized experts in each of the cost categories, and Drewry's own expertise in collecting and interpreting cost data for over three decades. While carrier participation in the "Ship Operating Cost Trending Survey" is voluntary, creating the possibility of a non-response bias, the Drewry report

[6] "Studies on the Operation of Vessels." *United States Code* Title 46, 50106, 2007 ed.

is generally considered by the industry to be the primary source of operating cost information for vessels sailing under "flags of convenience." Due to the proprietary nature of operating cost information, the Drewry report does not provide cost data on an individual flag or individual company basis.

With respect to the third source of data, the Maritime Administration contracted with PwC to independently gather information from carriers that the Administration could use to augment its existing data set. PwC was tasked with soliciting and documenting carrier perspectives on the impediments to flagging vessels under the U.S.-flag registry and potential options that the Maritime Administration may consider to encourage increased participation in the U.S.-flag fleet. PwC gathered its information through roundtable discussions followed by a survey based on individual interviews with certain carriers. To ensure the survey addressed the most relevant and appropriate issues, PwC began its inquiry by holding two roundtable discussions with U.S.-flag carriers representing 99 percent of the U.S.-flag oceangoing foreign trade fleet:

- Carriers operating strictly U.S.-flag vessels in foreign trade (eight carriers); and
- Carriers that operate both U.S. and foreign-flag vessels in foreign trade (five carriers).

PwC followed up the roundtable discussions with one-on-one phone interviews with nine roundtable participants representing 89 percent of the U.S.-flag oceangoing foreign trade fleet. The survey collected the perspectives of the carriers with respect to impediments and disincentives to registering vessels under the U.S. flag.

PwC was not tasked with collecting proprietary operating cost information from carriers. Rather, their findings were used by the Maritime Administration to provide additional context to the Agency's analysis of business confidential operating cost information that is routinely submitted to the Agency by U.S.-flag carriers.[7]

U.S.-Flag Fleet Data

For 2009, the Maritime Administration received operating cost information from 13 U.S.-flag foreign trade carriers accounting for 89 vessels. For 2010, the Maritime Administration received operating cost information from 14 U.S.-flag foreign trade carriers accounting for 84 vessels. A breakdown of reporting by vessel type and calendar year is provided below:

Table 1: Operating Cost Reporting by Vessel Type, 2009 and 2010

	2009		2010	
Vessel Type	# of Vessels	%	# of Vessels	%
Containership	48	54.0%	40	47.6%
RO/RO	22	24.6%	24	28.6%
Bulk Carrier*	11	12.4%	11	13.1%
General Cargo+	6	6.7%	7	8.3%
Total^	89	100.0%	84	100.0%

+ Not included in analysis due to unavailable foreign cost comparisons
* Includes Handymax and Supramax sized vessels (25,000 - 65,000 DWT)
^ Total does not equal 100%. Tanker costs omitted to protect carrier confidentiality

[7] Carriers are required to submit vessel operating cost information to the Maritime Administration annually as a condition of participation in either Cargo Preference and/or the MSP.

Operating Costs

Traditionally, there are three major vessel cost categories: operating costs, voyage costs, and capital costs. Voyage (fuel and port charges) and capital costs are generally not impacted by flag or registry for foreign-trading ships, since all must make use of the same ports and all may purchase vessels on the international market (this is not true, of course, for vessels operating in the U.S. domestic trades).[8] Therefore, this analysis focuses solely on operating costs, or the costs associated with the day-to-day running of the ship. The maritime industry typically defines operating costs to include crew; stores and lubes; maintenance and repair; insurance costs; and overhead costs:[9]

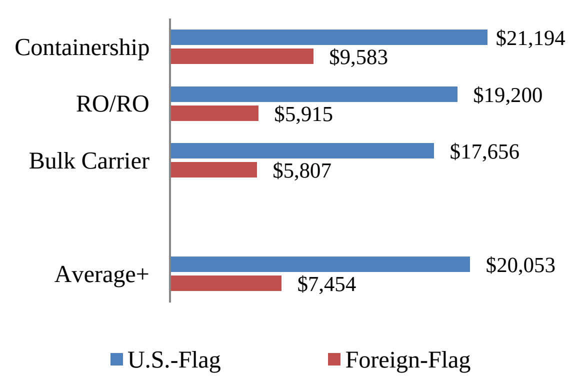
Operating Costs = Crew + Store/Lubes + Maintenance & Repair + Insurance + Overhead Costs

Differences between U.S. and foreign-flag operating costs among these categories will vary primarily by ship type, age, trade route, and labor agreements. Additionally, regardless of flag, the physical condition of the vessel can significantly contribute to the overall operating cost. For instance, within a fleet of similarly sized ships, as a vessel ages, its operating costs will increase relative to newer vessels.

Based on the cost data provided to the Maritime Administration by carriers for 2009 and 2010, the total average daily operating cost of a U.S.-flag vessel was roughly $21,774 and $20,053, respectively. By comparison, average daily foreign-flag operating costs in 2009 and 2010, worldwide, were roughly $7,410 and $7,454, respectively (Appendix B). With average vessel operating costs roughly 2.7 times higher than their foreign-flag counterparts (2010), U.S.-flag carriers are at a distinct disadvantage in their ability to compete in international transportation markets.

U.S. and foreign-flag operating costs can be examined further by vessel type and cost category. For 2010, containerships and roll-on/roll-off (RO/RO) vessels, which make up over 75 percent of the U.S.-flag foreign trade fleet, reported average daily operating costs 2.2 and 3.3 times higher, respectively, than comparable foreign-flag vessels. Similarly, U.S.-flag bulk carriers average operating costs were generally 3.0 times higher (Figure 1).

Figure 1: Average Daily Operating Costs by Vessel Type, 2010*



*US-flag costs are weighted by the number of vessels in each operator's U.S.-flag fleet.
+Tanker costs omitted to protect operator confidentiality.

While for some cost categories U.S.-flag vessel types may have costs comparable to, or less than, foreign-flag vessels, these cost categories are generally uninfluenced by flag and represent a

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8 Taxes are not generally included as an operating cost. In any case, the tonnage tax provides a predictable tax liability for the U.S.-flag fleet because it is based on tonnage rather than on annual income – consistent with foreign-flag operators.

9 Stopford, Martin. Maritime Economics. 3rd Edition. London: Routledge, 2009.

fraction of total operating costs. The significant comparison is that of the aggregate average total operating costs for all reported U.S. vessel types, which were 2.7 times more than the aggregate average costs for all foreign-flag vessel types reported in 2010.

Figures 2 and 3 below provide the cost structure of U.S. and foreign-flag vessels:

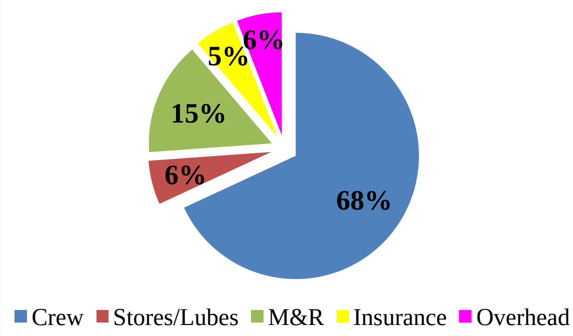


Figure 2: U.S.-Flag Operating Cost Structure, 2010

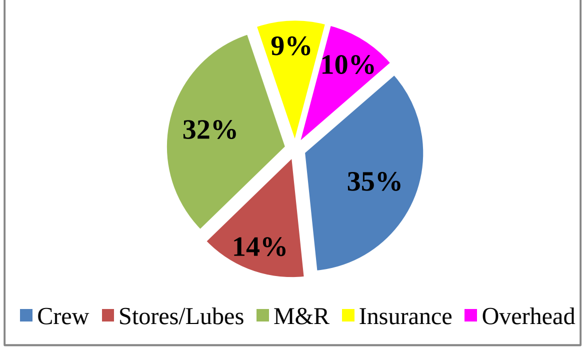


Figure 3: Foreign-Flag Operating Cost Structure, 2010

Crew Costs

Crew costs are often determined by the size of the crew and the employment policies of the carrier and flag state.[10] As identified in the roundtable discussions and surveys, carriers perceived the following as sources of higher U.S. crew costs:

- Citizen Crew Requirement
- Work rules and manning requirements in the United States

While U.S.-flag vessels are required to hire U.S.-citizen crews, carriers operating under a foreign registry may be able to shop around the world for the cheapest crews available, should they have the necessary skills. Essentially, foreign-flag shipowners have more influence in the determination of their crewing costs than U.S.-flag shipowners. Sixty-seven percent of carriers participating in the PwC survey revealed that the "Citizen Crew Requirement" negatively impacted their decision to register under the U.S. flag. As is true for most industries employing U.S. citizens, carriers suggested that the "Citizen Crew Requirement" results in higher manning requirements, higher wages, and higher benefits compared to foreign registries. Some carriers reported that payroll taxes for U.S. crews also contribute to their operating costs for U.S.-flag vessels. They further noted that in some other countries mariners do not have to pay income tax, which adds to cost differentials for U.S.-flag operators. Essentially, carriers noted that the standard of living in the U.S. and the social benefits provided to mariners contribute to U.S.-flag wages being significantly higher than foreign-flag wages. There are several other components that contribute to overall U.S.-flag crewing costs that may or may not be applicable to foreign-flag vessels, such as mariner education or training and union fees.

[10] Crew costs generally include basic wages, subsistence, overtime, travel costs, training, pensions, and union fees.

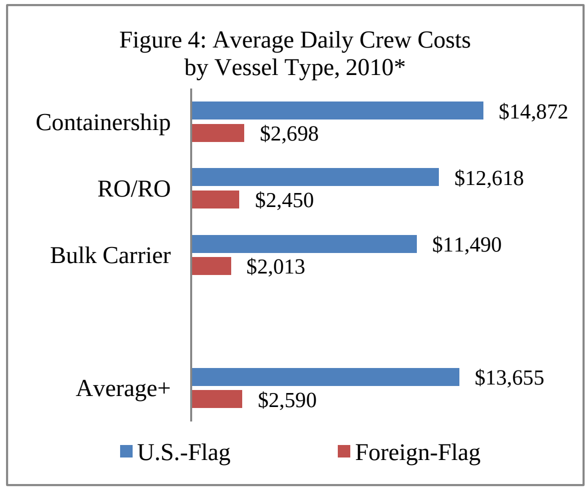
Carriers also highlighted work rules and manning requirements in the United States that affect labor productivity and crewing flexibility. Work rules specifically identified by carriers included restrictions on the number of hours a mariner can work and the type of work he or she can perform. As indicated by the carriers, the combination of the requirements mentioned above result in overall crewing costs that contribute approximately $12,000 to $15,000 per day to total U.S.-flag operating costs.

Table 2: Avg. Crew Size by Flag & Vessel Type, 2010

Type	Foreign-flag	U.S.-flag
Container	22.4	22.0
Dry Bulk	22.7	21.3
Product Tanker	23.5	22.9
Ro-Ro/Vehicle Carrier	23.0	21.5
General Cargo	22.7	20.8

Notes: Based on average crew size per entrance at U.S. ports by vessels of 10,000 GT or greater.
Source: U.S. Customs and Border Patrol, Vessel Entrances.

The Maritime Administration's internal analysis of operating cost data revealed that U.S.-flag crewing costs were roughly 5.3 times higher than foreign-flag vessels in 2010. On average, crewing costs accounted for about 68 percent of total U.S.-flag operating costs in 2010 (Figure 2). By comparison, crewing costs represented 35 percent of the total foreign-flag costs. As Table 2 demonstrates, the size of the crew is slightly smaller on U.S.-flag vessels, on average, than foreign-flagged vessels. Therefore, crew size does not seem to be the determining factor of higher U.S.-flag crewing costs.



*US-flag costs are weighted by the number of vessels in each operator's U.S.-flag fleet.
+Tanker costs omitted to protect operator confidentiality.

Figure 4 provides a breakdown of crewing costs by vessel type. U.S.-flag containerships and RO/RO vessels were commonly 5.5 and 5.2 times higher than foreign-flag vessels, respectively. Additionally, crewing costs associated with bulk carriers were 5.7 times higher.[11] Of note, crewing costs for U.S.-flag containerships represented about 70 percent of their total operating costs in 2010. By comparison, crewing costs for foreign-flag containerships accounted for 28 percent of their total operating costs (Appendix B).

Many of the factors identified by the carriers that contribute to higher crew costs for U.S.-flag vessels, such as the standard of living and wage rates of mariners, are reflective of the U.S. economy.[12] Furthermore, carriers expressed their opposition to changes to the "Citizen Crew Requirement" and rejected the notion of implementing a second register similar to Denmark, Norway and Germany, all of which have implemented international registries to compete with open registries and maintain a shipping industry under their national flag.[13]

[11] Handysize = 25,000 – 40,000 DWT; Supramax = 50,000 – 65,000 DWT
[12] Cost data available to the Maritime Administration does not provide costs for each crew cost component individually.
[13] International registries (also referred to as secondary registries) are created by countries wishing to maintain a national flag fleet for strategic reasons, but offering fiscal and labor benefits comparable to those of open registries (World Trade Organization - Council for Trade in Services. "Maritime Transport Services – S/C/W/315." 2010).

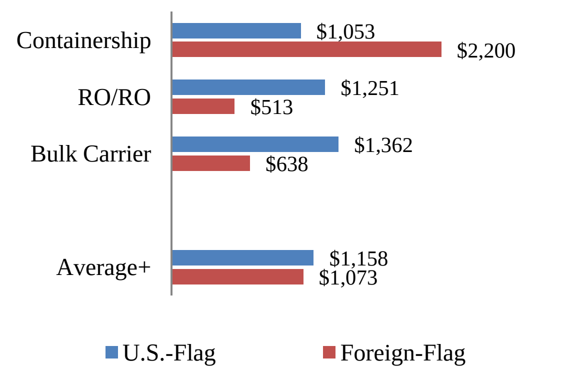
Stores and Lubes

Stores and lubes are another cost of operating a vessel and is generally broken down into three main categories and elements:

1) Marine and Deck Stores – Paints, ropes, wires, tools, etc.
2) Engine Room Stores – Lubricating oils, greases, chemicals, washers, gaskets, etc.
3) Steward's Stores – Cleaning equipment and materials, galley supplies, laundry needs, etc.

Of the three, the main cost driver is lubricating oils. To a large extent, crude oil prices influence lube prices. Consequently, owners and carriers attempt to synchronize lube consumption and fuel consumption, thereby linking lube purchases with bunker purchases. Their ability to do so will impact whether owners are able to take advantage of long-term contract agreements with major lube suppliers, or are forced to purchase lubes on a spot basis. As such, stores and lubes are not generally impacted by flag or registry. Therefore, it is not entirely evident why U.S.-flag costs were higher than their foreign-flag competitors in 2010 and will require further analysis.

Figure 5: Average Daily Stores/Lubes by Vessel Type, 2010*



*US-flag costs are weighted by the number of vessels in each operator's U.S.-flag fleet.
+Tanker costs omitted to protect operator confidentiality.

Also impacting the purchasing of stores and lubes is location, or the nature of the trade. The location of delivery is impacted by the vessel's trading pattern and anticipated time spent in port. This is further complicated when vessels are trading in a tramp service.[14] For example, the cost of stores and lubes for bulk carriers (usually engaged in tramp services) were the highest among U.S.-flag vessels (Figure 5).

Maintenance and Repair

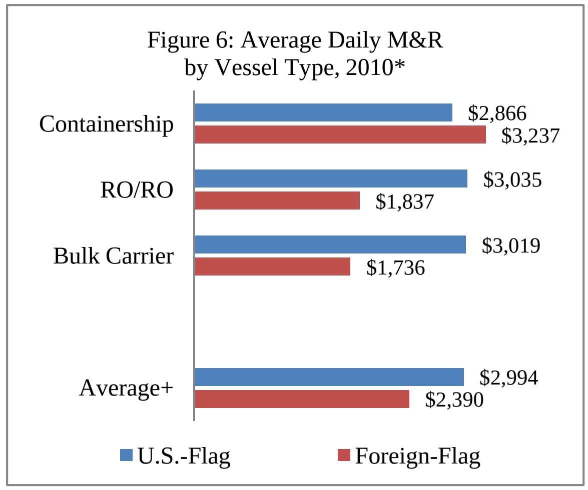
Maintenance and repair (M&R) costs generally cover interim drydockings, special surveys, and the routine repairs needed to maintain the vessel to the standards required by company policy and its classification society. It is important to note that all elements of maintenance and repair costs increase substantially as a vessel ages. Furthermore, owners who actively engage in preventative maintenance may incur lower lifecycle costs relative to vessels that are poorly maintained.

As set forth in the Tariff Act of 1930, a 50 percent ad valorem duty is imposed on U.S.-flag shipowners for non-emergency repairs of U.S.-flag vessels that are conducted in foreign shipyards.[15] Congress enacted the duty to provide jobs in American shipyards by encouraging U.S.-flag shipowners to use American shipyards for repairs. The duty is neither indexed nor time sensitive. Rather, the duty has remained fixed at 50 percent since its inception. As repairs

[14] Tramp services include vessels that do not operate on a fixed schedule. They are available to call at any port should cargo become available.
[15] "Tariff Act of 1930." *United States Code* Title 19, 1466, 2007 ed.

are needed, U.S.-flag owners and carriers must weigh cost factors (in addition to the duty), such as: (1) scheduling; (2) vessel placement; and (3) yard availability, among others.

Carriers participating in the PwC survey rated maintenance, repair, and shipyard costs as the second biggest driver of higher U.S.-flag operating costs (behind crew costs). Eighty-nine percent of survey participants indicated that the ad valorem duty negatively impacts their decision to flag under the U.S. registry. In fact, the carriers stated that foreign shipyards are still used for American-flag ship repairs since the cost of having repairs performed overseas and paying the duty is often lower than the cost of having the repairs performed in U.S. shipyards.



*US-flag costs are weighted by the number of vessels in each operator's U.S.-flag fleet.
+Tanker costs omitted to protect operator confidentiality.

Seventy-eight percent of carriers participating in the PwC survey also revealed that restrictions on foreign riding gangs have a negative impact on decisions to flag U.S.[16] The carriers felt that the regulations requiring vessel repairs be performed in a shipyard prove costly and time consuming when compared to completing repairs during the course of normal operations.

In 2010, M&R costs represented roughly 15 percent of total U.S.-flag operating costs (significantly higher U.S.-flag crewing costs tend to diminish the importance and impact of M&R costs on U.S.-flag vessels). While M&R costs for foreign-flag vessels accounted for 32 percent of their total operating costs, U.S.-flag M&R costs were roughly 1.3 times higher. Figure 6 provides a further breakdown of M&R costs by vessel type.

Although the results in Figure 6 showing higher U.S.-flag costs are generally in keeping with the perceptions of carriers participating in the roundtable discussions and surveys, M&R costs for U.S.-flag containerships were actually less than their foreign-flag counterparts. Furthermore, for 2010, cost data submitted by U.S.-flag carriers indicated a 25 percent decline in M&R costs from 2009. More investigation is therefore needed to determine if this finding is attributable to the particular accounting practices of some U.S.-flag carriers or to operating cost data issues. Carriers typically accrue large M&R costs across the life of the repair or service. However, some carriers appear to have reported accrued or annualized estimates of M&R costs, while other carriers appear to have reported M&R cash outlays for the specific calendar year in question. Reporting cash outlays for a specific calendar year will tend to significantly overstate the M&R costs for that particular year, while underestimating costs in other years.

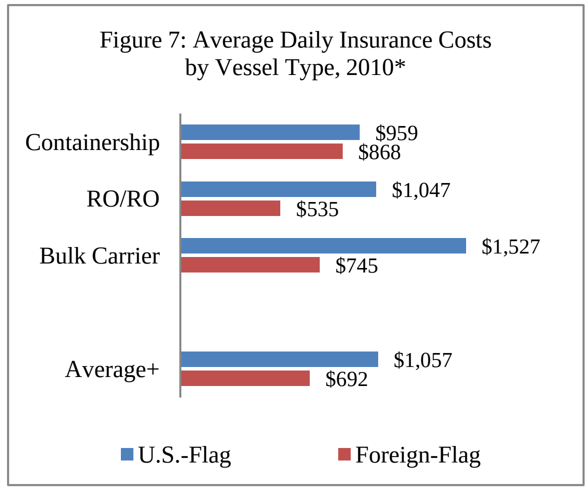
Insurance Costs

While likely to vary from ship to ship based on a number of factors, insurance costs are typically divided into two groups: Hull and Machinery (H&M), and Protection and Indemnity (P&I). H&M protects the owner of the vessel against physical loss or damage. P&I, also known as

[16] Riding gangs perform maintenance and repair work on the vessel while at sea.

"third party insurance," provides coverage against third party liabilities such as injury or death of crew members and/or passengers, pilferage or damage to cargo, collision damage, pollution, and other matters that cannot be covered in the open insurance market. Other emerging types of voluntary insurance include war risk insurance and kidnap/ransom coverage.

Carriers participating in the PwC survey revealed that insurance costs in the U.S. can be four to five times higher than vessel insurance costs under foreign registries, with protection and indemnity insurance premiums the major contributor to this difference. In the opinion of the carriers, high carrier insurance premiums compared to foreign carriers reflect the increased liability costs associated with mariner personal injury for U.S. carriers and the higher insurance costs can discourage carriers from flagging under the U.S. registry.



*US-flag costs are weighted by the number of vessels in each operator's U.S.-flag fleet.
+Tanker costs omitted to protect operator confidentiality.

While the level of insurance is often influenced by a number of variables, including the individual owner's claims record, overall U.S.-flag vessel insurance costs were roughly 1.5 times higher than foreign-flag vessels in 2010.[17] This amount is somewhat less than expected based on carrier perspectives revealed in the PwC survey. Insurance cost differentials were highest for U.S.-flag RO/ROs and bulk carriers at about 2.0 and 2.1 times higher than foreign-flag vessels, respectively (Figure 7).

Overhead Costs

Included in this category of "general" costs are:

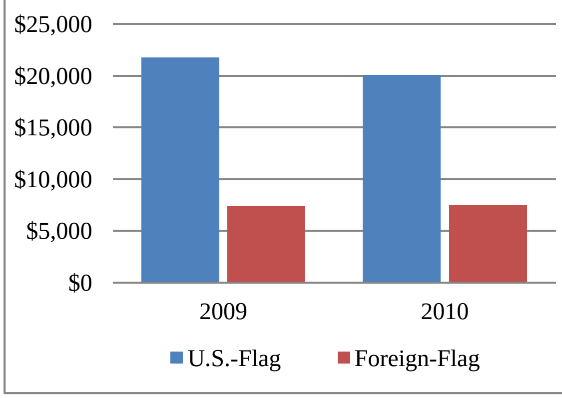
1) Shore-Based Administrative – Accounting, legal, communications, marketing, policy and planning, etc.
2) Shore-based Management – Ship operations/functions, procurement needs, employment/chartering decisions, etc.
3) Flag Registration Fees

In 2010, overhead costs for U.S.-flag vessels were roughly 1.7 times higher than foreign-flag vessels. The extent of the variation individual carriers' overhead will depend on the type and scale of vessel operations. For example, a small tramping company operating two or three vessels will have relatively minimal overhead, whereas a large liner company will carry a much more substantial administrative overhead due in large part to additional shore-based staff. In general, overhead costs are subject to significant variability between carriers, even within the U.S.-flag fleet. As a result, caution should be exercised when attempting to draw conclusions based on a comparison of overhead costs between vessel types and flag registries. Moreover, the magnitude of these costs as a barrier to U.S.-flag vessel registry is uncertain and requires further research to determine the extent they impact flag registry decisions.

[17] Detailed cost data available to the Maritime Administration does not provide H&M and P&I costs separately. Further research is needed to determine the extent each impacts U.S. and foreign-flag insurance costs.

While not specifically related to operating costs, some carriers interviewed for the PwC survey reported that the scrapping approval process required by the U.S. can be more costly when compared to processes adopted by foreign registries due to the additional U.S. environmental regulations. They also reported that there is no single regulatory authority overseeing the disposal of vessels, requiring carriers to coordinate with multiple government authorities in order to comply with regulations. Such factors could result in higher capital and transaction costs when selling, transferring, or disposing of vessels. The magnitude of these costs as a barrier to U.S.-flag vessel ownership is uncertain and requires further research to determine the extent of the costs.

Figure 8: Average Daily Operating Costs by Flag, 2009 and 2010*



*US-flag costs are weighted by the number of vessels in each operator's U.S.-flag fleet.

Cost Variation

Analysis of the operating cost data provided by the U.S.-flag carriers revealed a degree of variance in the reporting that may serve to explain the 7.9 percent decrease in U.S.-flag operating costs from 2009 to 2010. For example, some carriers reported annualized M&R costs over intervening years, while others reported M&R outlays for the specific calendar year in question. Irrespective of the dissimilarity in carrier reporting, this analysis confirms that U.S.-flag operating costs are roughly three times that of foreign-flag vessels (Figure 8).

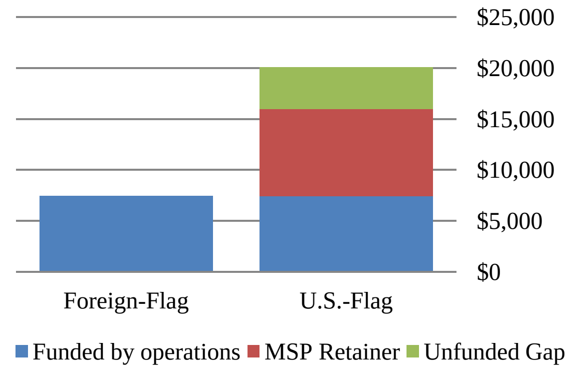
Reasons for Remaining Under U.S.-Flag in Foreign Trades

Carriers participating in the roundtable discussions and surveys indicated that there are two critical factors that affect their decision to register vessels under the U.S.-flag fleet: 1) the operating cost differential between U.S.-flag vessels and foreign-flag vessels; and 2) the availability of cargoes. With regard to higher U.S.-flag operating costs, the carriers reported that Maritime Security Program (MSP) payments play a critical role in lessening the competitive gap in operating costs when compared to foreign-flag carriers in the foreign trades.

The Maritime Security Act of 1996 created the MSP. The MSP provides a fixed retainer payment to U.S.-flag vessel owners in exchange for providing the Department of Defense with assured access to their vessels and related transportation services and infrastructure during times of war, national emergency, or when otherwise deemed necessary by the Secretary of Defense. The Act, reauthorized in 2003, allocated funds to the MSP for an additional 10 years: FY2006 through FY2015. The Act of 2003 also expanded the program from 47 to 60 vessels and authorized a three-tiered schedule for appropriation escalation to protect against inflation. Program funding is appropriated annually by Congress.

As of October 1, 2011, the MSP retainer payments is authorized to increase from $2.9 million to $3.1 million per vessel per year, or about $8,500 per day (based on 365 days in a year). As is evident from Figure 9, the MSP payment covers only a portion of the approximately $12,600 per day in higher U.S.-flag vessel operating costs relative to a foreign-flag vessel. On average the unfunded gap for each vessel will be approximately $4,100 per day. It should be noted however, that this example is based on averages and will vary by vessel type and size. This finding is consistent with statements made by carriers in the roundtable discussions and surveys, which suggest that the current MSP retainer payment addresses half to two-thirds of the operating cost differential with foreign-flag vessels.

Figure 9: Average Daily Operating Costs by Flag, 2010*



*US-flag costs are weighted by the number of vessels in each operator's U.S.-flag fleet.

With regard to the availability of cargoes, the portion of U.S.-flag operating costs not covered by MSP retainer payments is defrayed by the ability of such ships to carry preference cargoes at rates that are significantly higher than commercial rates. The PwC survey revealed carrier concerns about future tonnage levels of preference cargoes.

Apart from issues concerning the availability of cargoes, carriers also asserted that the efficacy of the MSP is hurt by uncertainty surrounding the timing of annual appropriations of MSP retainer payments, which can discourage long-term investment in U.S.-flag vessels.[18] Carriers also noted that scheduled adjustments to the retainer payments do not reflect fluctuations in the operating costs for U.S.-flag vessels.[19] Furthermore, carriers reported that there are currently no economic incentives provided for U.S. firms to contract with U.S.-flag vessels over foreign-flag vessels for their commercial cargo needs.

Conclusion

Regardless of flag, vessel operating costs are a reflection of a global operating environment that is constantly changing in response to a myriad of social, political, and economic pressures. This report, and continued consultations with carriers, are intended to explore the impact of those changes on the operating environment of the U.S.-flag foreign trade fleet. As the roundtable discussions and surveys revealed, carriers reported that the costs of operating under the U.S. flag place them at a competitive disadvantage for the carriage of commercial cargoes in international trade.

Based on the unaudited operating cost data provided to the Agency by U.S.-flag carriers, the total average cost of operating a U.S.-flag vessel in foreign trade is estimated to be 2.7 times higher, on average, than foreign-flag equivalents. The operating cost data available to the Maritime Administration, as well as the additional information laid out in this report, allow the Agency to better understand, monitor and promote the competitiveness of U.S.-flag carriers. The information will also be used to inform future U.S. maritime policy.

[18] Annual requests and enacted amounts have been consistently at authorized levels.

[19] MSP payments were not intended to reflect short-term, year-over-year operating cost fluctuations; rather, the adjustments were intended to recognize the impact of inflation on long-term purchasing power.

Appendices

Appendix A: MSP and Cargo Preference Reporting Requirements

46 CFR 296.32 (2009):
Reporting Requirements of the Maritime Security Program: "The Contractor shall submit to the Director, Office of Financial and Rate Approvals, Maritime Administration, 400 Seventh St., SW., Washington, DC 20590[+], one of the following reports, including management footnotes where necessary to make a fair financial presentation:

(a) Form MA-172: Not later than 120 days after the close of the Contractor's semiannual accounting period, a Form MA-172 on a semiannual basis, in accordance with 46 CFR 232.6; or

(b) Financial Statement: Not later than 120 days after the close of the Contractor's annual accounting period, an audited financial statement in accordance with 46 CFR 232.6 and the most recent vessel operating cost data submitted as part of its EPA, or if not current year data, a Schedule 310 of the MA-172."[20]

46 CFR 382.2 (2009):
Data Submission for the Determination of Fair and Reasonable Rates for the Carriage of Bulk and Packaged Preference Cargoes on U.S.-Flag Commercial Vessels:

(a) "General. The operators shall submit information, described in paragraphs (b) and (c) of this section, to the Director, Office of Costs and Rates, Maritime Administration, Washington, DC 20590. [+]

(b) Required vessel information.

  8. Operating cost information, to be submitted in the format stipulated in 46 CFR 232.1, on Form MA-172, Schedule 310. Information shall be applicable to the most recently completed calendar year.
  9. Number of vessel operating days pertaining to data reported in paragraph (b)(8) of this section for the year ending December 31. For purposes of this part, an operating day means any day on which a vessel or tug/barge unit is in a seaworthy condition, fully manned, and either in operation or standing ready to begin pending operations."[21]

[+] Offices, titles, and addresses have since changed.

[20] "Maritime Security Program (MSP)." *Code of Federal Regulations* Title 46, Pt. 296.32, 2009 ed.

[21] "Determination of Fair and Reasonable Rates for the Carriage of Bulk and Packaged Preference Cargoes on U.S.-Flag Commercial Vessels." *Code of Federal Regulations* Title 46, Pt. 382.2, 2009 ed.

Appendix B: Comparison of U.S. and Foreign-Flag Operating Costs

	Containership				Ro/Ro			
	U.S.		Foreign		U.S.		Foreign	
Cost Categories	2009	2010	2009	2010	2009	2010	2009	2010
Daily Wages*	$14,620	$14,872	$2,671	$2,698	$12,288	$12,618	$2,426	$2,450
% of Total	63.7%	70.2%	28.2%	28.2%	61.7%	65.7%	41.5%	41.4%
Magnitude	5.47	5.51			5.07	5.15		
Daily Stores/Lubes	$1,328	$1,053	$2,143	$2,200	$1,065	$1,251	$493	$513
% of Total	5.8%	5.0%	22.6%	23.0%	5.3%	6.5%	8.4%	8.7%
Magnitude	0.62	0.48			2.16	2.44		
Daily M&R	$3,529	$2,866	$3,118	$3,237	$4,294	$3,035	$1,778	$1,837
% of Total	15.4%	13.5%	33.0%	33.8%	21.6%	15.8%	30.4%	31.1%
Magnitude	1.13	0.89			2.41	1.65		
Daily Insurance	$1,024	$959	$960	$868	$1,250	$1,047	$582	$535
% of Total	4.5%	4.5%	10.1%	9.1%	6.3%	5.5%	10.0%	9.0%
Magnitude	1.07	1.11			2.15	1.96		
Daily Overhead	$2,446	$1,444	$571	$581	$1,012	$1,249	$569	$580
% of Total	10.7%	6.8%	6.0%	6.1%	5.1%	6.5%	9.7%	9.8%
Magnitude	4.29	2.49			1.78	2.15		
Daily Operating Costs	**$22,947**	**$21,194**	**$9,462**	**$9,583**	**$19,909**	**$19,200**	**$5,848**	**$5,915**
% Change		**-7.6%**		**1.3%**		**-3.6%**		**1.1%**
Magnitude	**2.43**	**2.21**			**3.40**	**3.25**		

Cost Categories	Bulk Carrier+				Average - All Vessel Types^			
	U.S.		Foreign		U.S.		Foreign	
	2009	2010	2009	2010	2009	2010	2009	2010
Daily Wages*	$11,962	$11,490	$1,993	$2,013	$13,616	$13,655	$2,565	$2,590
% of Total	58.3%	65.1%	34.8%	34.7%	62.5%	68.1%	34.6%	34.8%
Magnitude	6.00	5.71			5.31	5.27		
Daily Stores/Lubes	$1,681	$1,362	$620	$638	$1,303	$1,158	$1,041	$1,073
% of Total	8.2%	7.7%	10.8%	11.0%	6.0%	5.8%	14.1%	14.4%
Magnitude	2.71	2.14			1.25	1.08		
Daily M&R	$5,049	$3,019	$1,680	$1,736	$3,976	$2,994	$2,294	$2,390
% of Total	24.6%	17.1%	29.4%	29.9%	18.3%	14.9%	31.0%	32.1%
Magnitude	3.01	1.74			1.73	1.25		
Daily Insurance	$1,643	$1,527	$765	$745	$1,158	$1,057	$817	$692
% of Total	8.0%	8.6%	13.4%	12.8%	5.3%	5.3%	11.0%	9.3%
Magnitude	2.15	2.05			1.42	1.53		
Daily Overhead	$198	$257	$663	$676	$1,722	$1,189	$693	$709
% of Total	1.0%	1.5%	11.6%	11.6%	7.9%	5.9%	9.4%	9.5%
Magnitude	0.30	0.38			2.48	1.68		
Daily Operating Costs	**$20,532**	**$17,656**	**$5,721**	**$5,807**	**$21,774**	**$20,053**	**$7,410**	**$7,454**
% Change		**-14.0%**		**1.5%**		**-7.9%**		**0.6%**
Magnitude	**3.59**	**3.04**			**2.94**	**2.69**		

*Crew costs generally include basic wages, subsistence, overtime, travel costs, training, pensions, and union fees.

+Includes Handymax and Supramax sized vessels (25,000 - 65,000 DWT).

^While costs specific to U.S.-flag tankers were omitted to protect carrier confidentiality, tankers were included in average costs for all U.S.-flag vessels.

Appendix C: Summary Report of PwC Interviews with Carriers

Study of the Impediments to U.S.-Flag Registry

Final Report

September 20, 2011

Limitations

This publication was prepared by PricewaterhouseCoopers LLP (PwC) under contract with the support of the United States Department of Transportation, Maritime Administration, under contract no. GS-10F-0466N / DTMA1F10136.

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Study of the Impediments to U.S.-Flag Registry

Final Report

September 20, 2011

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1 Executive Summary

1.1 Background and Approach

The Maritime Administration (MARAD) is an agency within the U.S. Department of Transportation (DOT), promoting the viability of the U.S. merchant marine, and acting as an advocate for U.S.-flag carriers. MARAD is committed to maintaining a waterborne transportation industry that is capable of acting as a naval auxiliary to meet U.S. national security needs and support our economic interests.[1]

MARAD has initiated a Study of the Impediments to U.S.-Flag Registry (the study) to provide timely information and gain a better understanding of the factors that significantly impact the ability of U.S.-flag vessels to compete effectively in international transportation markets. The scope of the study includes the following tasks:

- Consider the legislative and regulatory environment for U.S.-flag fleets;
- Solicit and document carrier views on impediments to flagging under the U.S. registry; and
- Identify improvements to U.S. policies and regulations that may increase participation in the U.S.-flag fleet.

This report presents the study outcomes, focusing on the improvements to U.S. policies and regulations that MARAD may consider in encourage increased participation in the U.S.-flag fleet. The information and research collected throughout the study provides the basis for the proposed options for improvement as well as the prioritized options presented in this report.

1.2 The Current State of the U.S.-Flag Fleet

The U.S. oceangoing merchant marine fleet has declined by 82 percent since 1951, when the fleet peaked at 1,268 vessels. The decline has occurred despite the U.S. government implementing legislation and programs to support the fleet. As of year-end 2009, the U.S.-flag oceangoing fleet accounted for approximately one percent of the global fleet.[2]

1.2.1 The Legislative and Regulatory Environment

Much of the legislation and amendments that apply to today's fleet was introduced during the twentieth century,[3] including the Merchant Marine Act of 1936 that establishes four main objectives in its preamble:

"It is necessary for the national defense and development of its foreign and domestic commerce that the United States shall have a merchant marine:

1) sufficient to carry its domestic water-borne commerce and a substantial portion of the water-borne export and import foreign commerce of the United States and to provide shipping service on all routes essential for maintaining the flow of such domestic and foreign water-borne commerce at all times.

2) capable of serving as a naval and military auxiliary in time of war or national emergency.

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[1] Maritime Administration (MARAD)
[2] Lloyd's Register; Fairplay
[3] 'Compilation of Maritime Laws', MARAD, 2008: Military Cargo Preference Act of 1904 (10 U.S.C. 2631.), pg. 338; Merchant Marine Act of 1920 (46 U.S.C.), pg. 40; Merchant Marine Act of 1936: (46 U.S.C. 109) pg. 3, (46 U.S.C. App. 1271) pg. 15, (46 U.S.C. 53301) pg. 242; Cargo Preference Act of 1904 (10 U.S.C. 2631), pg. 338

3) owned and operated under the United States flag by citizens of the United States insofar as may be practicable.
4) composed of the best-equipped, safest, and most suitable types of vessels, constructed in the United States and manned with trained and efficient citizen personnel."[4]

Legislation such as the Merchant Marine Act of 1936 was established when the merchant marine industry was different from today's industry. Containerization, international vessel sharing agreements, logistics efficiencies, and the introduction of open registries have impacted carrier operations.[5]

The following are among the many laws that apply to the U.S. maritime industry:

- **The Merchant Marine Act of 1936** established direct and indirect subsidies through the Operating Differential Subsidies (ODS) and the Construction Differential Subsidies (CDS) programs provided to U.S.-flag vessel owners. These programs were designed to help offset the higher costs of operating under a U.S. flag and constructing vessels in U.S. shipyards, and expired during the mid-1990s.[6]
- **The Military Cargo Preference Act of 1904**, which required 100 percent of items owned, procured, or used by military departments or defense agencies be carried on U.S.-flag vessels.[7]
- **The Maritime Security Act of 1996** established the Maritime Security Program (MSP). The MSP provides financial support to U.S.-flag vessels in return for their support of the U.S. Department of Defense (DoD) during times of war and national emergencies. This support includes access to vessels and vessel capacity, as well as associated commercial transportation resources. Through the MSP, DoD and the U.S. government gains access to a U.S.-owned and U.S. citizen crew manned fleet that can provide a total global intermodal transportation network, which includes logistics management services, infrastructure, and terminal facilities. [8]

1.2.2 Carrier Views on the Economic Impediments to Operating Under the U.S. Flag

To conduct the study, industry consultations via roundtable discussions and surveys were held to seek the U.S.-flag carriers' views on the economic impediments to operating under the U.S. flag. MARAD selected a total of 13 carriers to participate in the industry consultation process, representing 99 percent of the U.S.-flag oceangoing foreign trade vessels in the U.S.-flag fleet.[9] During the industry consultations, the carriers indicated that there are two critical factors that affect their decision to register vessels under the U.S.-flag fleet: the availability of preference cargo, and the operating cost differential between U.S.-flag vessels and foreign-flag vessels.

Summary of Key Impediments

Carriers agreed that cargo preference is critical in providing the U.S.-flag fleet with a solid revenue stream that significantly contributes to the commercial viability of the fleet. Military cargo preference programs operated by the DoD, and civilian preference cargo programs operated by the United States Export-Import Bank (EX-IM Bank), the Department of Energy (DoE), the United States Department of Agriculture (USDA) and the United States Agency for International Development (USAID) supplement the commercial operations of vessels that participate in the MSP.

Carriers noted that the U.S.-flag fleet experiences higher operating costs than foreign-flag vessels due to regulatory requirements on vessel labor, insurance and liability costs, maintenance and repair costs, taxes

[4] 'Compilation of Maritime Laws', MARAD, 2008: 46 U.S.C. 50101, pg. 149
[5] Stopford, M., 2009
[6] 'Compilation of Maritime Laws', MARAD, 2008: 46 U.S.C. 57516, pg. 409
[7] 'Compilation of Maritime Laws', MARAD, 2008: 10 U.S.C. 2631, pg. 338
[8] 'Compilation of Maritime Laws', MARAD, 2008: 46 U.S.C. 53107, pgs. 231-232
[9] Clarkson Research, Vessel Register

and costs associated with compliance with environmental law. Foremost among all contributing factors is the standard of living in the U.S. and labor agreements negotiated with mariner unions, which contribute to higher wage rates and social benefits provided for U.S. mariners compared to mariners from overseas jurisdictions.[10] Carriers agreed that the operating cost differential between U.S.-flag vessels and foreign-flag vessels has increased over the past five years, further reducing the capacity of the U.S.-flag fleet to compete with foreign-flag vessels for commercial cargo and increasing the importance of U.S. preference cargo which is shipped at rates that are higher than commercial cargo rates.

The majority of the carriers that participated in the study utilize government programs and financial support to partially offset the higher operating costs of their U.S.-flag vessels.[11] Approximately half of the carriers indicated that they have transferred a U.S.-flag vessel to a foreign registry in the past five years and/or are planning to transfer a U.S.-flag vessel in the next five years. Carriers cited a decline in the volume of preference cargo and increasing operating costs for U.S.-flag vessels as the two key issues impacting this decision.

Table 1 outlines the key economic impediments to U.S.-flag registry identified by the carriers.

Table 1: Carrier Views on the Key Impediments to U.S.-Flag Registry

Availability of Preference and Commercial Cargoes
Overall agency performance with cargo preference requirements impacts carriers total revenue stream from preference cargo.
Projected long-term declines in military cargo volumes due to the military drawdown in Iraq and Afghanistan and the BRAC effort.[12]
Certain vessel types, such as tankers, which are more reliant on cargo preference, are experiencing excess capacity.
The inability of the higher priced U.S-flag vessels to compete for commercial cargo at commercial shipping rates.
The absence of economic incentives for U.S. firms to engage U.S.-flag vessels over foreign-flag vessels for their commercial cargo.

Impediments Associated with the Maritime Security Program (MSP)
In the absence of robust preference cargo volume at rates that exceed commercial cargo rates, the financial support provided by MSP is insufficient to offset the additional costs associated with operating under the U.S. flag.
The scheduled adjustments to the retainer payment do not reflect fluctuations in the operating costs for U.S.-flag vessels.[13]
Uncertainty surrounding the annual appropriation of the MSP retainer payments can discourage long-term investment in the carriers' vessels in the program.[14]

[10] Based on information obtained during industry consultations
[11] Ibid
[12] MARAD notes that projected long-term declines in food aid cargo volumes are also expected due to program contraction as a part of reduced overall discretionary spending.
[13] MARAD notes that MSP payments were not intended to reflect short-term, year-over-year operating cost fluctuations; rather, the adjustments were intended to recognize the impact of inflation on long-term purchasing power.
[14] MARAD notes that this concern is not a registry issue, at least in terms of operating cost differentials. Moreover, any actual issue would be only timing since request and enacted amounts are consistently at authorized levels.

Labor Costs
U.S.-flag vessels must utilize U.S. labor under the Citizen Crew Requirement. The standard of living in the U.S., labor agreements negotiated with mariner unions, mariner union work rules, social benefits included in overall compensation, and government manning requirements all contribute to U.S. mariner wages being significantly higher than foreign mariners.

Maintenance, Repair and U.S. Shipyard Costs
The ad valorem duty assessed for nonemergency maintenance and repairs performed in foreign shipyards contributes to the high maintenance and repair costs for U.S.-flag vessels, rather than encouraging the work to be performed in U.S. shipyards. Carriers frequently pay the duty as the total cost of maintenance and repairs performed overseas can often be lower than the cost for the work to be performed by high-cost U.S. shipyards which prevents scale economies and increases already high labor costs.

Insurance and Liability Costs
The Jones Act provides mariners with the ability to file a lawsuit against carriers for personal injury, which has increased the number of claims and the amounts awarded for job-related personal injuries, resulting in high carrier premiums compared to foreign competitors.

Taxes
Many mariners in other countries do not have to pay individual income tax, while U.S. mariners do pay individual income tax and this contributes to higher wage cost differentials for U.S.-flag vessels.

Environmental Costs
The vessel flagging out and disposal process can be costly and time consuming when compared to the process adopted by foreign registries due to the U.S. environmental regulations and the requirement for approvals from multiple federal agencies.
Differing regulations between EPA and state and local environmental agencies regulations creates difficulty for carriers in complying with both levels of regulation.[15]
The environmental scrapping approval process can be costly and time consuming when compared to the process adopted by foreign registries due to the additional U.S. environmental regulations.

1.3 Options to Improve U.S. Policies and Regulations to Increase Participation in the U.S.-Flag Fleet

Based on the outcomes of the industry consultations conducted as part of this study, options for improvements to U.S. policies and regulations, on a Federal level, have been identified that may address the impediments identified by the carriers and increase participation in the U.S.-flag fleet. The options have been identified by the carriers to address a broad range of impediments identified as part of this study, and include amendments to U.S. legislation, as well as budgetary changes and changes in the coordination between entities associated with the U.S.-flag fleet.

[15] MARAD notes that any vessel calling at U.S. ports, U.S.-flag or foreign, would be subject to the same regs contemplated in this statement.

1.3.1 Priority Options that MARAD May Consider in Seeking to Encourage Growth in the U.S.-Flag Fleet

To align with the key objective of the study, the options for improvement proposed by the carriers were assessed to identify the priority options that MARAD may consider seeking to encourage growth in the U.S.-flag fleet. The options have been prioritized by the following factors:

1. The issue that the options seek to address;
2. The likelihood that the option may address the impediments identified by the carriers, influence carrier registry decisions and encourage growth in the U.S.-flag fleet; and
3. The level of complexity in delivering the option.

The options assessment is based on the information provided by the carriers during the industry consultations. Source documents from MARAD and other U.S. government agencies were also utilized in considering the level of complexity in implementing each option. The options identified in Table 2 below reflect the priority improvements to U.S. federal policies and regulations that may increase participation in the U.S.-flag fleet. Further detail on the process conducted to identify the priority options is provided below.

The issue that the options seek to address: As part of the industry consultations, carriers identified the key issues affecting the U.S.-flag fleet. The federal government's support of the industry through cargo preference and the MSP were identified as critical to the commercial viability of the fleet. The operating cost differential between U.S. and foreign-flag vessels was also identified as having a significant impact on the fleet's capacity to compete in international transportation markets. During the study survey, carriers rated the following issues by their influence on registry preference:

1. Availability of Preference and Commercial Cargoes (greatest influence on registry preference)
2. MSP
3. Labor Costs
4. Maintenance, Repair and U.S. Shipyard Costs
5. Insurance and Liability Costs
6. Taxes
7. Environmental Costs (lowest influence on registry preference)

The options for improvement provided in Table 2 are prioritized by the issue that the options seek to address.

The likelihood that the option may address the impediments identified by the carriers, influence carrier registry decisions and encourage growth in the U.S.-Flag Fleet: For each issue, consideration has been given to how each option may affect the carriers' decision to register additional vessels under the U.S. registry and encourage growth in the U.S.-flag fleet. Consideration was also given to the impact on the current U.S.-flag fleet, as carriers noted during the industry consultations that many of the options may also provide benefits for the existing fleet and encourage carriers to retain their U.S.-flag vessels.

The level of complexity in delivering the option: Consideration has also been given to how the various government entities, such as the Congress, MARAD and other government agencies, and non-government entities such as mariner labor unions, may be involved with the delivery of each option. An estimated timeframe for implementation was also considered, based on the number and type of entities involved in implementing the option, and the level of Congressional involvement. In estimating the timeframe for implementation, a period of five years or longer has been considered, to provide time for changes to flow through to the market.

Table 2 presents the priority options that MARAD may consider in seeking encourage growth in the U.S.-flag fleet.

Table 2: Priority Options in Seeking to Encourage Growth in the U.S.-Flag Fleet

Availability of Preference and Commercial Cargoes
Improve Cargo Preference Performance[16]
Increase Civilian Cargo Preference Requirement to 100 Percent
Clarify Interpretation of Cargo Preference Requirements to Improve Compliance
Economic Incentives for U.S. Firms Contracting with U.S.-Flag Vessels
Additional Tanker Preference Cargo
Trade Promotion and Missions that may Increase Commercial Cargo Volumes
Promotional Campaign for U.S. Firms to Contract with U.S.-Flag Vessels
Impediments Associated with the Maritime Security Program (MSP)
Increase MSP Financial Support and Number of Vessel Slots
Labor Costs
Amend Labor Work Rules And Manning Requirements
Shift Health Insurance to Carrier Company Plan
Shift Mariner Pension Plans to Defined Contribution Plans
Maintenance, Repair and U.S. Shipyard Costs
Eliminate the Ad Valorem Duty
Improve and Expand the Capital Construction Fund (CCF)
Insurance and Liability Costs
Tort Reform to Reduce Mariner Litigation
Switch to Workers' Compensation System
Reduce Mariner Liability Limits
Taxes
Foreign Earned Income Exclusion
Environmental Costs
Adopt IMO Environmental Standards for Vessel Flagging Out and Disposal

A discussion of each option identified during the study is provided in Sections 4 through 10 of this report.

Many of the priority options require Congress to amend existing statutes, and may be highly complex for MARAD to implement, due to the level of coordination required with a number of government agencies, including DoD, DoE, USDA, USAID, EX-IM Bank, the Environmental Protection Agency (EPA), the United States Coast Guard (USCG), the United States Department of State (State Dept) and the Defense Security Cooperation Agency (DSCA) Foreign Military Sales (FMS).[17]

[16] MARAD notes that although industry consistently says non-compliance is an issue, data shows that overall compliance is at or above minimum statutory requirements.
[17] Based on information obtained during industry consultations; Sullivan, J., 2007

In developing a maritime strategy focused on growing the U.S.-flag fleet, MARAD may consider the following options that seek to address the key issue of cargo availability and may require minimal involvement from other agencies and Congress:

- Implement trade promotion and missions to secure additional streams of commercial cargo to be carried on U.S.-flag vessels
- Introduce a promotional campaign to encourage U.S. companies to use U.S.-flag vessels and support American industry and jobs
- Identify additional tanker preference cargo to encourage additional tankers to join the U.S.-flag fleet
- Provide information on annual cargo preference volumes to assist carriers with their business planning

These options may also have the potential of encouraging existing carriers to remain in the U.S.-flag fleet.[18] MARAD may seek to implement these options, while working to implement higher priority options identified in Table 2.

Based on the outcomes of this study, MARAD may also consider streamlining the administrative processes that support the maritime industry, in addition to the priority options. Working to coordinate approval processes and sharing of data between agencies to reduce the carriers' administrative requirements, which may also encourage existing carriers to remain in the U.S.-flag fleet.[19]

1.4 Summary of Key Findings

The study identifies a number of key impediments to operating under the U.S. flag. Impediments such as vessel crew requirements and insurance and liability requirements contribute to U.S.-flag vessels experiencing higher operating costs than vessels under foreign registries.[20] Other impediments are reflective of the nature and maturity of the U.S. economy, with the standard of living, wage rates and benefits provided to mariners higher than in overseas jurisdictions.[21]

The study also indicates that the government programs and financial support for the U.S.-flag fleet is effective in providing a naval auxiliary for the U.S. government.[22] However, the higher costs of operating under the U.S. flag impacts the fleet's capacity to carry a substantial portion of the U.S. water-borne export and import commerce, as anticipated in the preamble of the Merchant Marine Act of 1936.[23]

The study identifies options that may address the impediments raised by the carriers, through statutory changes, budgetary changes, as well as coordinating with government entities and non-government entities involved in the merchant marine industry. The options identified and the assessment of the options is limited to the data collected for this study, and may not consider issues affecting registry preference that were not discussed or researched during the study.

Based on the study outcomes, MARAD may continue to consult widely with the merchant industry, as well as government and non-government entities in further investigating and developing a strategy focused on encouraging growth in the U.S.-flag fleet. MARAD may also prepare implementation plans for each of the options for improvement that it seeks to implement, to communicate its actions in pursuing the objective of maintaining a fleet capable of carrying a substantial portion of the water-borne export and import foreign commerce of the U.S. Finally, regular communication and surveys (e.g.: semi-annual or annual surveys) of the U.S. maritime industry are encouraged to assess progress in addressing the impediments to

[18] Based on information obtained during industry consultations
[19] Ibid
[20] Ibid
[21] Ibid
[22] Ibid
[23] Ibid

industry participation, and also to inform MARAD's strategy and implementation plans of new issues affecting the merchant marine industry.

2 Introduction

2.1 Background

The Maritime Administration (MARAD) is dedicated to achieving and maintaining a strong U.S.-flag fleet to meet our national security needs and support our economic interests through industry promotion and U.S.-flag carrier advocacy.[24] The objectives of this study are to provide timely information on factors that impact the ability of U.S.-flag vessels to compete effectively in the international transportation markets. The results of the study may assist MARAD in adequately monitoring the state of the maritime industry.

2.2 Current State of U.S. and Foreign-Flag Fleets

2.2.1 Maritime Industry Overview

International law requires that vessels be documented under a flag of registry. By registering a vessel under a flag, the vessel is bound by the regulations of that particular country.[25] Compared to the rest of the world, the number of vessels registered under the U.S. flag relative to its trade volume is extremely low.[26] U.S.-flag vessels carried about 1.5 percent of U.S. foreign trade in 2009. As of year-end 2009, the U.S.-flag oceangoing fleet accounted for about one percent of the global fleet.[27]

Overall, the commercial maritime industry is vital to the U.S. in times of war and national crises, as it allows the U.S. military to have assured access to vessels and related transportation resources owned and operated by the vessel owner.[28] The benefit of this fleet to our national security has been exhibited in the recent conflicts in Iraq and Afghanistan where the merchant marine fleet has been instrumental in transporting supplies to, from, and between conflict zones.[29] Historically, this fleet has provided crucial support by delivering supplies during World War I, the Great Depression, and World War II. In early 2010, the U.S. merchant marine responded after the Haitian earthquake, when traditional shipping capacity was unavailable or diverted, in order to sustain the flow of seaborne trade and humanitarian aid to help with relief, rebuilding, and recovery efforts.[30]

2.2.2 Overview of U.S.-Flag Fleet Legislation and Current Regulatory Environment

The formative legislation for the U.S. merchant marine was enacted in response to national and international crises, such as wars and humanitarian crises, and also to support national security priorities.[31] Many of these laws that were enacted in the twentieth century still apply to the U.S.-flag fleet. Over this time the global maritime industry has seen significant change, with the development and adoption of containerization, the development of vessel sharing agreements and improved logistics efficiencies in managing excess vessel capacity, and a significant increase in global trade and expansion of multinational shipping lines.[32]

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[24] Maritime Administration (MARAD)
[25] Stopford, M., 2009
[26] Clarkson Research, Vessel Register; Journal of Commerce, PIERS Global Intelligence
[27] Lloyd's Register; Fairplay
[28] Maritime Administration (MARAD)
[29] Ibid
[30] Ibid
[31] 'Compilation of Maritime Laws', MARAD, 2008: 10 U.S.C. 402, pgs. 341-342; 10 U.S.C. 404 pgs. 342-343; 46 U.S.C. 56301, pg. 365
[32] Stopford, M., 2009

- The following are among the many laws that apply to the U.S. maritime industry: **Military Cargo Preference Act of 1904 -** This Act established the requirement for 100 percent of items owned, procured, or used by military departments or defense agencies be carried on U.S.-flag vessels. Legislation introduced in later years would make similar requirements of U.S. foreign food aid and other civilian government cargoes that are financially supported or procured through government lending programs. [33]
- **Merchant Marine Act of 1920 (Jones Act) -** This Act formally established government support for and construction of the U.S.-flag merchant marine to improve both the U.S. shipping industry and support national defense. It requires that the greater portion of U.S. foreign trade be transported by U.S.-flag vessels owned and crewed by U.S. citizens, and that these U.S.-flag vessels could also serve as a military auxiliary when appropriate and as needed. The Act committed the U.S. government to support its merchant marine so that the fleet acts in the capacity of both foreign trade carriage and as a military auxiliary. The Act also established the personal injury and liability compensation for mariners. [34]
- **Merchant Marine Act of 1936 -** This Act established direct and indirect subsidies provided by the U.S. government to U.S.-flag vessel owners to help offset the higher costs of operating under a U.S. flag and building ships in U.S. shipyards. The Act established the Operations Differential Subsidy (ODS) program and the Construction Differential Subsidy (CDS) programs that expired in the mid-1990s.[35]
- **Cargo Preference Act of 1954 -** This Act extended the cargo preference guidelines established by the Military Cargo Preference Act of 1904 to non-military agencies, requiring at least 50 percent of gross tonnage of civilian government agencies cargo to be transported on privately-owned U.S.-flag commercial vessels.[36]
- **Maritime Security Act of 1996 -** This Act established the Maritime Security Program (MSP) that provides a retainer payment to U.S. vessels in return for assured access to vessels and transportation related resources to meet sustained military sealift needs. Unlike the ODS and CDS programs, which supported both the military and commercial aspects of the merchant marine fleet, the MSP focuses on the military aspects of the fleet. [37]

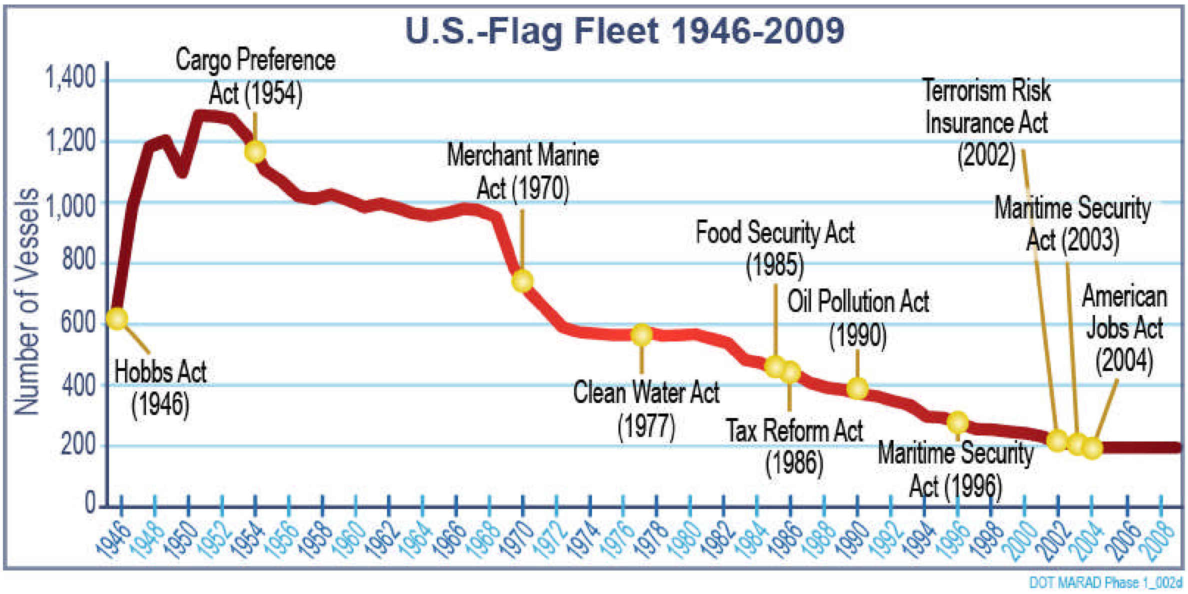
In addition to these laws, the following laws also apply to the U.S.-flag fleet: [38]

- Shipping Act of 1916
- Merchant Marine Act of 1920
- Tariff Act of 1930 (Smoot-Hawley Act)
- Hobbs Act of 1946
- Agricultural Trade Development and Assistance Act of 1954 (Food for Peace Act)
- Merchant Marine Act of 1970
- Clean Water Act (CWA) of 1977
- Shipping Act of 1984
- The Food Security Act of 1985
- Tax Reform Act of 1986
- Oil Pollution Act of 1990
- Ocean Shipping Reform Act of 1998
- Terrorism Risk Insurance Act (TRIA) of 2002
- Maritime Security Act of 2003
- American Jobs Act of 2004

Figure 1 illustrates the decline in vessels from 1946 to 2009 of privately-owned U.S.-flag vessels and highlights the years in which key legislation was introduced.

[33] 'Compilation of Maritime Laws', MARAD, 2008: 46 U.S.C. 55314, pgs. 348-349
[34] 'Compilation of Maritime Laws', MARAD, 2008: 46 U.S.C. 30104 and 46 U.S.C. 30106, pg. 69
[35] Glossary of Shipping Terms (2008), MARAD
[36] 'Compilation of Maritime Laws', MARAD, 2008: 46 U.S.C. 55305, pg. 345
[37] 'Compilation of Maritime Laws', MARAD, 2008: 46 U.S.C. 53102, pg. 218
[38] U.S. House of Representatives Committee on Transportation and Infrastructure, Subcommittee on Coast Guard and Maritime Transportation, July 19, 2010 Hearing Summary of Subject Matter accessed on 10/19/2010: http://transportation.house.gov/Media/file/Coast%20Guard/20100719/SSM_CG_7-19-10.pdf; U.S. Maritime Administration Cargo Preference Laws and Regulations accessed on 10/19/2010: http://www.marad.dot.gov/ships_shipping_landing_page/cargo_preference/cargo_laws_and_regulations/Laws_Regs.htm; 'Compilation of Maritime Laws', MARAD, 2008: Hobbs Act of 1946 (49 U.S.C. 336), pg. 82;

Figure 1: U.S.-Flag Oceangoing Fleet 1946-2009
(Privately-Owned Vessels of 1000 Gross Tons or More)[39]
Sources: Lloyd's Register; 'Compilation of Maritime Laws', MARAD, 2008



The legislation impacts the current regulatory environment for the following fleet activities:[40]

- **Maritime Safety Convention, Vessel Crewing and Terms of Employment** - Administrative authority over the U.S.-flag vessel owners, insurance requirements for vessel owners, and workers' compensation laws for seamen aboard U.S.-flag vessels.
- **Taxation and Government Subsidies** - U.S. government direct and indirect taxes and subsidies for U.S.-flag vessel owners.
- **Naval Auxiliary** - Guidelines and qualifications for vessels coming under the control of the U.S. government in a time of war.
- **Environmental Requirements** - Restrictions and requirements for U.S.-flag vessel owners through environmental legislation.
- **Cargo Preference** - There are minimum requirements for specific government programs to ship cargo on U.S.-flag vessels.

2.3 Summary of Carrier Views on Impediments

The industry consultations were conducted with a sample size of 13 carriers. The 13 carriers participated in the roundtable discussion and nine carriers were surveyed as a follow up to the roundtable discussion. The views expressed by the carriers were broadly consistent across the roundtable discussion and the surveys, with the surveys providing the opportunity for carriers to offer detailed information on specific topics such as cargo preference and labor costs.

The following sections provide an overview of the key comments expressed by carriers during the survey.

2.3.1 Survey Participant Characteristics

The carriers selected by MARAD to participate in the surveys indicated the following characteristics:

[39] Does not include government owned vessels
[40] 46 U.S.C. Shipping

- High level of participation in the MSP and cargo preference program;
- More than 10 years of experience operating U.S.-flag vessels in U.S. foreign trade;
- Participate in the International Sale and Purchase Market and the International Charter Market in order to obtain vessels for their fleet; and
- Have experienced an increase in the number of U.S.-flag vessels in their fleets over the past five years.

2.3.2 Government Programs Influencing Registry Preference

Carriers highlighted government programs such as cargo preference and MSP as a significant source of support and revenue for their U.S.- flag vessels. The following table presents the carriers' key comments on the impediments and other factors influencing registry preference during the industry survey.

Table 3: Government Programs Influencing Registry Preference

<table>
<tr><th>Government Program</th><th>Key Carrier Comments</th><th>Additional Comments</th></tr>
<tr><td rowspan="4">Cargo Preference</td><td>Cargo preference is a critical revenue stream that significantly contributes to the commercial viability of U.S.-flag vessels as it assists in offsetting the higher operating costs for U.S.-flag vessels.</td><td rowspan="4">Carriers described cargo preference as one of the most significant sources of revenue for U.S.-flag vessels.
BRAC seeks to consolidate military bases both within and outside the U.S. As a result, carriers noted that DoD is moving less military personnel and equipment to and from bases abroad.
Carriers also noted that it is difficult for vessels such as tankers to operate in the cargo preference market because there is a very small stream of government tanker cargo.</td></tr>
<tr><td>For government cargo, agency budgets and preference program performance is significant for carriers that rely, in whole or in part, on the U.S. government for a revenue stream.</td></tr>
<tr><td>With the military drawdown in Iraq and Afghanistan and the Base Closure and Realignment (BRAC) effort, the pool of military cargo and revenue for U.S.-flag vessels is declining and has a significant impact for carriers that rely on U.S. cargo for a revenue stream.</td></tr>
<tr><td>The types of vessels needed to transport preference cargo largely reflect the requirements of the food aid program and military cargo. Certain vessel types, such as tankers, are experiencing a shortage of preference cargo.</td></tr>
<tr><td rowspan="3">MSP</td><td>The financial support of the MSP provides a steady source of revenue and assists in reducing the cost differential between U.S. and foreign-flag vessels.</td><td rowspan="3">Carriers agreed that the military benefits from the ready naval auxiliary that the MSP fleet provides in additional capacity and support during times of emergency and national crises.</td></tr>
<tr><td>Uncertainty surrounding the timing of annual appropriations can discourage long term investment in the MSP fleet.</td></tr>
<tr><td>MSP provides the U.S. military with a dependable and cost effective network for transporting cargo in times of emergency and national crisis.</td></tr>
</table>

2.3.3 Costs Influencing Registry Preference

Carriers reported that labor costs are one of the most significant reasons why U.S. carriers have difficulty competing for international commercial cargo. While carriers acknowledge that other costs such as insurance and liability costs contribute to the cost differential between U.S. and foreign-flag vessels, they agreed that changes affecting labor costs need to be prioritized among any proposed statutory changes.

The following table presents the carriers' key comments on operating costs from the industry survey.

Table 4: Costs Influencing Registry Preference

Operating Cost Category	Key Carrier Comments	Additional Comments
Labor	The Citizen Crew Requirement under the Merchant Marine Act of 1920 (the Jones Act) necessitates that U.S.-flag vessels utilize U.S. citizen crews. The standard of living in the U.S. and agreements with organized labor contribute to U.S. mariner wages being significantly higher than foreign mariners.	The high wages of U.S. mariners and social benefits such as pensions and medical insurance contribute to the cost differential between U.S. and foreign-flag vessels.
	Work rules established by unions and government regulations implemented by agencies such as the United States Coast Guard (USCG) limit the flexibility of crew operating hours and tasks when compared to foreign mariners.	
Maintenance, Repair, and U.S. Shipyard	The ad valorem duty is a 50 percent duty on non-emergency maintenance and repair work performed on U.S.-flag vessels overseas. The duty is designed to encourage U.S.-flag vessels to have their repairs performed at U.S. shipyards. [41] However, the duty raises the overall maintenance and repair costs for U.S.-flag vessels. Carriers continue to pay the duty as the cost of having the work performed overseas since paying the duty is often lower than the cost of having the same repairs performed in the U.S.	Carriers noted that the ad valorem duty, regulations against foreign personnel as members of riding gangs (who conduct maintenance and repair work while a vessel is at sea), and U.S. vessel construction and shipyard costs has a negative impact on decisions to flag vessels under the U.S. registry.
	When compared to foreign competitors, U.S. shipyards have significantly higher cost and build times.	
	U.S-build demand is primarily driven by the Jones Act of 1920, which requires that vessels operating in domestic trade be U.S.-built vessels.	
	The high cost of repairs in U.S. shipyards reflects a lack of scale economies and the higher cost of labor in the U.S.	

[41] 'Compilation of Maritime Laws', MARAD, 2008: 19 U.S.C. 1466, pg. 541

Operating Cost Category	Key Carrier Comments	Additional Comments
Insurance and Liability	The Jones Act established the ability for mariners to file a lawsuit against carriers for personal injury that result in costly claims.[42]	The carriers agreed that the liability from mariner claims is a significant factor in the cost differential between U.S. and foreign operations. Also mariners employed on a U.S.-flag vessel are not subject to standard workers' compensation laws that apply to most other U.S. workers ashore.
	Higher insurance premiums for U.S.-flag vessels reflect the increased risk and liability from mariner personal injury for U.S-flag vessels.	
Taxes	The tonnage tax provides a predictable tax liability for the U.S.-flag fleet because it is based on tonnage rather than on annual income.	Carriers report administrative compliance costs as well as additional costs such as payroll taxes also contribute to their operating costs for U.S.-flag vessels.[43]
	U.S. mariners pay individual income tax, however in some other countries mariners do not have to pay individual income tax.	
Environmental	The environmental scrapping approval process can be costly and time consuming when compared to processes adopted by foreign registries due to the additional U.S. environmental regulations.	The additional regulation in the U.S. results in higher costs and time when selling, transferring, or disposing of vessels.
	There is no single regulatory authority that oversees the flag in/out process, which requires carriers to coordinate with multiple government authorities in order to comply with regulations.	

2.4 Key Sources of Information

The research conducted for this study is based on the carrier views provided during industry consultations, as well as documents and information provided by MARAD and other publicly available reports through April 14, 2011. In completing the study, the following sources were reviewed:

- Compilation of Maritime Laws (2008) provided by MARAD
- The supporting summaries and testimonies from the 2010 U.S. House of Representatives Subcommittee on Coast Guard and Maritime Transportation hearings on U.S.-Flagged Vessels in U.S.-Foreign Trade
- U.S. MARAD Cargo Preference Laws and Regulations from the MARAD website
- Foreign Vessel Transfer from the MARAD website
- IHS Global Insight - An Evaluation of Maritime Policy in Meeting the Commercial and Security Needs of the United States, January 2009
- U.S. Code of Law
- The History of Americas Food Aid from the USAID website
- Capital Construction Fund and Title XI program from the MARAD website
- Summary of the Clean Water Act from the EPA website
- Provisions of the Food Security Act of 1985 from the USDA website
- Oil Pollution Act Overview from the EPA website
- Maritime Economics by Martin Stopford, 2009

[42] 'Compilation of Maritime Laws', MARAD, 2008: 46 U.S.C. 30104 and 46 U.S.C. 30106, pg. 69
[43] MARAD notes that payroll taxes paid by mariners are a compensation cost, not an administrative cost.

- Clarkson's Fleet Register data provided by MARAD
- The Role of the United States' Commercial Shipping Industry in Military Sealift Report. Reeve & Associates Management and Economic Counsel prepared for the National Defense Transportation Association Military Sealift Committee. August 2006
- Roundtable and survey participant opinions, feedback, and comments
- Reports from Government Accountability Office (GAO) website

In addition to reviewing these sources, federal agency websites, related external reports from other organizations, and related books made available through April 14, 2011 also provided information to support the study. A complete of study references is provided in Appendix B.

The study focuses on the current U.S. and foreign-flag fleets along with legislation shaping the current maritime environment, carrier views on impediments, and options for improvements to U.S. policies and regulations. In preparing this report, the information provided by the carriers in relation to their operations under the U.S.-flag was not verified against other information sources, and therefore this information is presented as carrier views, comments and opinions throughout this report. Apart from MARAD and the U.S.-flag carriers, no other entities associated with the merchant marine industry participated in the study and MARAD internal policies and procedures relating to the U.S.-flag fleet were not assessed as part of the study. Implementation strategies for the options identified by the study are not included and are outside the scope of the study.

2.5 Structure of this Report

This report is presented in the following sections:

- **Introduction -** Provides a summary of the current state of the U.S.-flag fleet, the key legislation affecting the U.S.-flag fleet and the key comments from carriers on the impediments to operating U.S.-flag vessels.
- **Study Approach -** Provides a summary of the key activities in completing the study.
- **Availability of Preference and Commercial Cargoes -** The availability of preference cargo and commercial cargo was identified by the carriers as one of the critical factors for the U.S.-flag fleet. This section summarizes the outcomes of the study related to the availability of preference and commercial cargoes and provides an assessment of the options that may address the key impediments identified by the carriers.
- **Impediments Associated with the MSP -** Carriers also identified the MSP as critical to the viability of the U.S.-flag fleet. This section summarizes the outcomes of the study related to MSP and provides an assessment of the options that may address the program impediments that influence registry preference identified during the study.
- **Labor Costs -** Labor costs were identified by the carriers as having the greatest impact on the cost differential between U.S. and foreign-flag vessels. This section summarizes the outcomes of the study related to labor costs and provides an assessment of the options that may address the key impediments identified for U.S.-flag vessels.
- **Maintenance, Repair and U.S. Shipyard Costs -** This cost category was identified as having the second largest impact on the cost differential between U.S. and foreign-flag vessels by the carriers. This section summarizes the outcomes of the study related to the maintenance, repair and U.S. shipyard costs and provides an assessment of the options that may address the key impediments identified by the carriers.
- **Insurance and Liability Costs -** Insurance and liability costs were identified by the carriers as having the third largest impact on the cost differential between U.S. and foreign-flag vessels. This section summarizes the outcomes of the study related to insurance and liability costs and provides an assessment of the options that may address the key impediments identified by the carriers.

- **Taxes -** Taxes were identified by the carriers as having the fourth largest impact on the cost differential between U.S. and foreign-flag vessels by the carriers. This section summarizes the outcomes of the study related to taxes and provides an assessment of the options that may address the key impediments identified for U.S.-flag vessels.
- **Environmental Costs -** This cost category was identified as having the lowest impact on the cost differential between U.S. and foreign-flag vessels by the carriers. This section summarizes the outcomes of the study related to environmental costs and provides an assessment of the options that may address the key impediments identified during the study.
- **Priority Options for MARAD to Consider in Seeking to Encourage Growth in the U.S.-Flag Fleet -** This section summarizes the priority options for MARAD when considering improvements to U.S. policies and regulations.
- **Summary of Key Findings -** Provides a high level summary of the study outcomes.

Appendix A lists the key acronyms used throughout the report and a list of source documents is provided in Appendix B.

3 Study Approach

The scope of the study includes the following tasks:

- Consider the legislative and regulatory environment for U.S.-flag fleets;
- Solicit and document carrier views on impediments to flagging under the U.S. registry; and
- Identify improvements to U.S. policies and regulations that may increase participation in the U.S.-flag fleet.

A brief summary of the activities conducted to complete this scope is provided below.

3.1 Consider the Legislative and Regulatory Environment for U.S.-flag Fleet

The activities included researching a compilation of maritime laws and other resources to summarize the current state of the U.S.-flag registry, with the purpose of providing context to assess the factors and costs influencing registry preference identified throughout the study.

3.2 Solicit and Document Carrier Views on Impediments to Flagging Under the U.S. Registry

Industry consultations were arranged at the request of MARAD and consisted of a roundtable discussion and a structured survey.

The roundtable discussion focused on the four main objectives in the preamble of the Merchant Marine Act of 1936:

"It is necessary for the national defense and development of its foreign and domestic commerce that the United States shall have a merchant marine:

1) *sufficient to carry its domestic water-borne commerce and a substantial portion of the water-borne export and import foreign commerce of the United States and to provide shipping service on all routes essential for maintaining the flow of such domestic and foreign water-borne commerce at all times.*
2) *capable of serving as a naval and military auxiliary in time of war or national emergency.*
3) *owned and operated under the United States flag by citizens of the United States insofar as may be practicable.*
4) *composed of the best-equipped, safest, and most suitable types of vessels, constructed in the United States and manned with trained and efficient citizen personnel."*

MARAD selected 13 carriers to participate in the roundtable discussion, representing 99 percent of the U.S.-flag oceangoing foreign trade fleet.[44]

[44] Clarkson Research, Vessel Register

Table 5: Roundtable Discussion Participants[45]

U.S. Flag Carriers		U.S. and Foreign Flag Carriers	
Horizon Lines, Incorporated	Sealift Incorporated	Maersk Line, Limited	APL Limited
Matson	Crowley Maritime Corporation	Overseas Shipholding Group, Incorporated	Hapag-Lloyd U.S.A., LLC
Liberty Maritime Corporation	American Shipping Group (Saltchuk)	International Shipholding Corporation	
American Roll-On Roll-Off Carrier	United Maritime Group		

Survey interviews were then conducted with nine of the roundtable participants selected by MARAD, to gather information on the specific impediments influencing preference for flag registry and recommendations for improving U.S. registry participation. The nine carriers represent 89 percent of the U.S.-flag oceangoing foreign trade vessels in the U.S.-flag fleet.[46]

Table 6: Survey Participants[47]

U.S. Flag Carriers		U.S. and Foreign Flag Carriers	
Horizon Lines, Incorporated	American Roll-On Roll-Off Carrier	Maersk Line, Limited	Hapag-Lloyd U.S.A., LLC
Matson	Liberty Maritime Corporation	Overseas Shipholding Group, Incorporated	APL Limited
		International Shipholding Corporation	

Company representation throughout the industry consultations was generally consistent, with all companies being represented by senior executive staff. Of the nine companies that participated in the roundtable discussion and the survey interviews, the majority were represented by the same participant in both activities.

The survey provided data to assess the key impediments affecting U.S.-flag vessels engaged in global maritime transportation. The survey results presented in this report represent carrier expressions of opinion and personal experiences and do not represent verified facts.

A follow up call was also held with the carriers to review and confirm the high level outcomes from the industry consultations.

3.3 Identify Improvements to U.S. Policies and Regulations That May Increase Participation in the U.S.-flag Fleet

The options for improvement are based on the information collected from the industry consultations. In assessing the options identified, information on the legislative and regulatory environment, the carrier

[45] Sample frame provided by MARAD, based on selected criteria
[46] Clarkson Research, Vessel Register
[47] Sample frame provided by MARAD, based on selected criteria

views of impediments and additional source documentation from MARAD and other government agencies were utilized.

Based on the information collected, the options for improvement were assessed to identify the priority options to U.S. federal policies and regulations that may increase participation in the U.S.-flag fleet. The options have been prioritized based on the following factors:

The issue that the options seek to address: As part of the industry consultations, carriers identified the federal government's support of the industry through cargo preference and the MSP as critical to the commercial viability of the fleet. The impact of the operating cost differential between U.S. and foreign-flag vessels was also identified as having a significant impact on the fleet's capacity to compete internationally for commercial cargo. During the study survey, carriers rated the following issues by their influence on registry preference:

1. Availability of Preference and Commercial Cargoes (greatest influence on registry preference)
2. MSP
3. Labor Costs
4. Maintenance, Repair and U.S. Shipyard Costs
5. Insurance and Liability Costs
6. Taxes
7. Environmental Costs (lowest influence on registry preference)

The likelihood that the option may address the impediments identified by the carriers, influence carrier registry decisions and encourage growth in the U.S.-flag fleet: For each issue, carriers identified the key impediments that affect registry preference. Based on the impediments identified, consideration has been given to how each option may affect the carriers' decision to register additional vessels under the U.S. registry and encourage growth in the U.S.-flag fleet. Consideration was also given to the impact on the current U.S.-flag fleet, as carriers noted during the industry consultations that many of the options may also provide benefits for the existing fleet and encourage carriers to retain their U.S.-flag vessels. Based on the information collected during the industry consultations, the priority options identified for each issue may have some potential of addressing the impact of the key impediments raised by the carriers during the industry consultations, and influence their registry decisions.

The level of complexity in delivering the option: Consideration has also been given to how the various government entities, such as the Congress, MARAD and other government agencies, and non-government entities such as mariner labor unions, may be involved with the delivery of each option. An estimated timeframe for implementation was also considered, based on the number and type of entities involved in implementing the option, and the level of Congressional involvement. In estimating the timeframe for implementation, a period of five years or longer has been considered.

4 Availability of Preference and Commercial Cargoes

4.1 Relevant Legislation and Regulations

The following legislation relates to the cargo preference program for U.S.-flag vessels: [48]

- Military Cargo Preference Act of 1904;
- Cargo Preference Act of 1954;
- Agricultural Trade Development and Assistance Act of 1954 (Food for Peace Act); and
- Food Security Act of 1985.

The Military Cargo Preference Act of 1904 was enacted to reduce conflicts of interest arising from transporting military cargo on foreign-flag vessels. The Act introduced the practice of using cargo preference to strengthen the U.S.-flag shipping industry by mandating the U.S. military to transport 100 percent of its goods and supplies (both end products and component parts) on U.S.-flag vessels.[49]

The Cargo Preference Act of 1954 extended cargo preference to civilian government agencies transporting goods internationally, by requiring agencies to transport at least 50 percent of their gross tonnage on U.S.-flag vessels. This included cargo acquired directly by or on behalf of the U.S. government or by the U.S. government on behalf of a foreign nation. [50]

In 1954, the Agricultural Trade Development and Assistance Act established the U.S. as a provider of food aid to developing countries. This Act required a minimum of 50 percent of goods, including agricultural goods, from U.S. civilian agencies be transported on U.S.-flag vessels. Since cargo from agencies transporting food aid comprised a significant proportion of the total pool of preference cargo, carriers adapted to the demands of agencies such as USDA and USAID, by registering and operating bulk vessels to transport the food aid cargo.[51]

The Food Security Act of 1985 amended the Cargo Preference Act of 1954, raising the minimum cargo preference requirement for U.S. foreign food aid from 50 percent to 75 percent, with the intent to further increase the preference cargo market.[52]

[48] U.S. Maritime Administration Cargo Preference Laws and Regulations accessed on 10/19/2010: http://www.marad.dot.gov/ships_shipping_landing_page/cargo_preference/cargo_laws_and_regulations/Laws_Regs.htm
[49] Ibid
[50] Ibid
[51] Ibid
[52] Ibid

4.2 Summary of Carrier Views on Impediments

Key Observations

- Carriers indicated that preference cargo can provide a critical revenue stream that significantly contributes to the commercial viability of U.S.-flag vessels and assists in offsetting the higher operating costs for U.S.-flag vessels.
- Carriers identified the following key impediments affecting the availability of preference cargo:
  - Agency performance under cargo preference laws for government cargo, which may occur as a result of agency self-monitoring and differences in interpreting the cargo preference laws[53]; and
  - The military drawdown in Iraq and Afghanistan and DoD's Base Realignment and Closure (BRAC) strategy, reducing the pool of available military preference cargo.
- Carriers also indicated that commercial customers are not willing to pay the higher cost of transporting international cargo on U.S.-flag vessels, affecting the level of commercial cargo carried by the U.S.-flag fleet.

4.2.1 Preference Cargo

The cargo preference program was established in 1904 to address potential conflicts of interest from having U.S. military goods and supplies carried on foreign flag vessels.[54] Today, 78 percent of the carriers surveyed indicate that cargo preference has a positive impact on their decision to register under the U.S. flag. Carriers commented that cargo preference has become a critical revenue stream and that it significantly contributes to the commercial viability of U.S.-flag vessels. 89 percent of carriers surveyed indicate that they participate in the cargo preference program. Carriers indicated the revenue from carrying preference cargo assists in offsetting the higher operating costs for U.S.-flag vessels and without preference cargo, the U.S. merchant marine would not be commercially viable.

Carriers reported that agency performance and the military drawdown in Iraq and Afghanistan have a significant impact on the pool of available preference cargo.

- Government Preference Cargo - Of the carriers surveyed, 56 percent believe that the government agencies operating civilian preference cargo programs are not in compliance with cargo preference laws. Carriers indicated that agencies self-report their cargo preference compliance [55] and 44 percent of carriers surveyed indicate that they believe the volume of government preference cargo in 2010 would have been more than 20 percent higher if agencies had been in compliance with the cargo preference requirements.[56] Carriers also reported that changes have been made to some programs which have affected the application of cargo preference laws. Carriers also noted that it is important to them that the requirement for the EX-IM Bank to utilize U.S.-flag vessels for some of their programs remains under the EX-IM Bank's charter, which is due for renewal in September 2011.

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[53] Under the Cargo Preference Act of 1954, agencies are required to allocate the targeted share of cargo to U.S.-flag carriers to the extent that shipment on such carriers is available at "fair and reasonable rates."
[54] U.S. Maritime Administration Cargo Preference Laws and Regulations accessed on 10/19/2010: http://www.marad.dot.gov/ships_shipping_landing_page/cargo_preference/cargo_laws_and_regulations/Laws_Regs.htm
[55] MARAD notes that the agencies do not self-report on cargo preference compliance, but rather the contractors or shippers report to MARAD.
[56] MARAD cannot validate this statement.

- Military Preference Cargo - As the drawdown in Iraq and Afghanistan continues and the military completes its BRAC effort, the carriers surveyed indicate that DoD has already begun to move less military personnel and equipment to and from bases abroad, causing a reduction in the pool of military cargo, and resulting in excess capacity in the U.S.-flag fleet. U.S.-flag carriers dependent on this cargo have reported they would consider flagging out of the U.S. registry because of this decrease.

The cargo preference legislation discussed in Section 4.1 also affects the types of vessels under the U.S. flag. For example, preference cargo provided by the food aid program requires dry bulk vessels, while military cargo requires mainly containerships and roll-on roll-off vessels.[57] As a result of the type of preference cargoes available, there is currently a shortage of preference cargoes for product tankers.[58] Carriers indicated that limited cargo for product tankers and limited tanker slots in MSP have made U.S.-flag tanker vessels less commercially viable than other vessel types.

Carriers also indicated that product tankers under the MSP also have additional restrictions on the types of charters they can offer, as a tanker under MSP cannot operate a time charter[59] for more than 180 days. Carriers commented that this requirement restricts carriers from offering time charters for long contracts, which are considered by carriers to offer more affordable rates than other contractual arrangements such as voyage charters.[60]

Table 7 highlights the key impediments affecting the availability of preference cargo identified by the carriers.

Table 7: Carriers Views of the Key Impediments Affecting the Availability of Preference Cargo

Key Impediments
Overall agency performance with cargo preference requirements impacts carriers total revenue stream from preference cargo.
Projected long-term declines in military cargo volumes due to the military drawdown in Iraq and Afghanistan and the BRAC effort.[61]
Certain vessel types, such as tankers, which are more reliant on cargo preference, are experiencing excess capacity.

4.2.2 Commercial Cargo

Carriers indicated that the availability of commercial cargo for U.S.-flag vessels is affected by the higher costs associated with operating under the U.S.-flag. Carriers noted that commercial customers are not willing to pay the higher cost of transporting international cargo on U.S.-flag vessels, and that there are no economic incentives for U.S. firms to engage U.S.-flag vessels over foreign-flag vessels for their

[57] Roll-on roll-off vessels (or ro-ro vessels) is a method of ocean cargo service using a vessel with ramps which allows wheeled vehicles to be loaded and discharged without cranes (Glossary of Shipping Terms, MARAD, 2008)
[58] Based on information obtained during industry consultations
[59] Based on information obtained during industry consultations. A time charter is a contract for the hire of a ship or charter party for a specified period of time; the charterer pays for the bunker fuel, fresh water, port charges, etc. in addition to charter hire (Maritime Dictionary, m-i-link.com)
[60] A voyage charter is a ship hiring contract for a single voyage from one or more named load port to one or more specified destination ports; this is common for bulk carriers and tramps (Maritime Dictionary, m-i-link.com)
[61] MARAD notes that projected long-term declines in food aid cargo volumes are also expected due to program contraction as apart of reduced overall discretionary spending.

commercial cargo.[62] Due to the higher costs of operating under the U.S. flag, it is difficult for the higher priced U.S-flag vessels to compete with foreign registered vessels for commercial cargo.[63]

During the study survey, 67 percent of carriers reported that the amount of commercial cargo transported by their U.S.-flag vessels is currently greater than the amount of preference cargo. Several carriers added that they bid their U.S.-flag vessels for commercial contracts at a loss in order to receive revenue that can reduce their overall vessel operating losses.

Table 8 highlights the key impediments identified by the carriers that affect the availability of commercial cargo.

Table 8: Key Impediments Affecting the Availability of Commercial Cargo

Key Impediments
The inability of the higher priced U.S-flag vessels to compete for commercial cargo at commercial shipping rates.
The absence of economic incentives for U.S. firms to engage U.S.-flag vessels over foreign-flag vessels for their commercial cargo.

4.3 Options To Address the Key Impediments Affecting the Availability of Preference and Commercial Cargoes

The data collected for this study indicates that several options may be available to MARAD in seeking to address the key impediments identified by the carriers that affect the availability of preference and commercial cargoes for U.S.-flag vessels. The options are summarized in Table 9.

Table 9: Carriers Views of the Options to Address the Key Impediments Affecting the Availability of Preference and Commercial Cargoes

Option	Description	Impediment
Improve agency cargo preference performance	**Statutory Change -** Improving cargo preference performance by both shippers and carriers may increase the pool of available cargo. Guidance and support may also be passed on to contractors and other private entities that are contracted by these agencies to procure and transport materials on behalf of the government to comply with cargo preference requirements.	Overall agency performance with cargo preference requirements impacts carriers total revenue stream from preference cargo.

[62] Based on information obtained during industry consultations
[63] Ibid

Option	Description	Impediment
Increase civilian cargo preference requirement for civilian cargo (currently 50 percent) and agricultural cargo (currently 75 percent) to 100 percent	**Statutory Change -** Increasing the cargo preference requirement to 100 percent for civilian and agriculture cargo may increase the pool of available cargo.	Projected long-term declines in military cargo volumes due to the military drawdown in Iraq and Afghanistan and the BRAC effort.
Clarify the interpretation of cargo preference requirements to improve compliance	**Statutory Change -** Clarifying the interpretation of cargo preference requirements may provide higher volumes of cargo and may support compliance with cargo preference laws.	Overall agency performance with cargo preference requirements impacts carriers total revenue stream from preference cargo.
Establish economic incentives for firms contracting with U.S.-flag vessels	**Coordination with Government Entities -** Incentives such as a tax credit or rebate for firms using U.S.-flag carriers may provide an incentive for firms to use U.S.-flag carriers and help to increase the pool of commercial cargo for available to U.S.-flag vessels.	Economic incentives for U.S. firms to engage U.S.-flag vessels over foreign-flag vessels for their commercial cargo.
Additional Tanker Preference Cargo	**Coordination with Government Entities -** Identifying specific preference cargo may increase the pool of available cargo for U.S.-flag tankers.	Certain vessel types, such as tankers, which are more reliant on cargo preference, are experiencing excess capacity due to low levels of available preference cargo.
Trade Promotion and Missions that may Increase Commercial Cargo Volumes	**Coordination with Government Entities -** Trade promotion and new bilateral agreements may identify and secure additional streams of commercial cargo for U.S.-flag vessels.	The inability of the higher priced U.S-flag vessels to compete for commercial cargo at commercial shipping rates.
Promotional Campaign for U.S. Firms to Contract with U.S.-Flag Vessels	**Coordination with Non-Government Entities -** The campaign may encourage U.S. firms to utilize U.S.-flag vessels to generate jobs and economic growth in the U.S., and may increase the pool of commercial cargo available to U.S.-flag vessels.	The absence of economic incentives for U.S. firms to engage U.S.-flag vessels over foreign-flag vessels for their commercial cargo.
Information on annual cargo preference volumes	**Coordination with Government Entities - Providing information** on annual military and civilian government cargo preference volumes may support U.S.-flag carriers in their business planning.	Projected long-term declines in military cargo volumes due to the military drawdown in Iraq and Afghanistan and the BRAC effort.

4.4 Assessment of the Options That May Address the Key Impediments Identified By U.S.-Flag Carriers

Based on the carrier views provided during the industry consultations and source documentation from MARAD and other government agencies, the options identified in Section 4.3 have been prioritized based on the following factors:

- The likelihood that an option may address the impediments identified by the carriers, influence the decision to register additional vessels under the U.S. flag, and also the possibility of influencing current U.S.-flag fleet operations; and
- The potential complexity and anticipated timeframe in delivering the option.

The following table lists the options that may address the impediments affecting the availability of preference and commercial cargoes in order of priority.

Table 10: Options to Address the Key Impediments Affecting the Availability of Preference and Commercial Cargoes in Order of Priority

Option
Improve Cargo Preference Performance[64] *
Increase Civilian Cargo Preference Requirement to 100 Percent *
Clarify Interpretation of Cargo Preference Requirements to Improve Compliance *
Economic Incentives for Firms Contracting with U.S.-flag Vessels*
Additional Tanker Preference Cargo *
Trade Promotion and Missions that may Increase Commercial Cargo Volumes *
Promotional Campaign for U.S. Firms to Contract with U.S.-Flag Vessels*
Information on Annual Cargo Preference Volumes

** Priority Option Identified for Cargo Preference*

Section 3.3 provides further information on the process adopted to prioritize the options. The following sections discuss the options presented in Table 10 in further detail.

4.4.1 Improve Cargo Preference Performance

Carriers indicated during the industry consultations that the availability of cargo is a driving factor of their business decisions. Carriers perceive a lack of enforcement of the cargo preference laws for government cargo programs, which reduces the cargo pool available to be carried by the U.S.-flag fleet. However, the cargo tonnage in question is subject to legal interpretation and the rulemaking effort is not yet complete.[65]

The likelihood that the option may influence carrier registry decisions and encourage growth in the U.S.-flag fleet: Enforcing agency compliance with cargo preference laws could potentially increase the pool of preference cargo by identifying and reducing the frequency of cargoes shipped on foreign-flag vessels that could be reasonably shipped on the U.S. fleet. In March 2011, Mr. David Matsuda, the Maritime Administrator, testified before the House Transportation and Infrastructure Subcommittee on Coast Guard and Marine Transportation that "MARAD has the authority to regulate

[64] MARAD notes that although industry consistently says non-compliance is an issue, data shows that overall compliance is at or close to the statutory requirement.
[65] Information provided by MARAD

administration of the cargo preference laws for federal agencies under the Merchant Marine Act of 1970. There has been some enforcement of cargo preference laws through litigation initiated by U.S.-flag vessel operators who have lost cargo opportunities. However, such litigation is expensive, cumbersome, and does not always result in redress of grievances. To avoid this costly process, MARAD works with federal agency contracting officers to help them understand the law and ensure that cargo preference requirements are met."[66] Any increase in preference cargo may have an impact on the current U.S. fleet. A sustained increase in the supply of preference cargo may encourage carriers to flag additional vessels under the U.S. register to accommodate the higher levels of cargo, if current fleet capacity is exceeded.

The level of complexity in delivering the option: A number of different civilian agencies, such as, DoE, USAID, USDA and the EX-IM Bank administer programs that include preference cargo and each agency is responsible for reporting on its compliance with the cargo preference laws. The number of agencies involved with implementing cargo preference may provide a degree of complexity in delivering this option, along with the differences in interpreting the cargo preference laws between agencies such as MARAD, USDA, USAID and DoE.[67] Based on this review, this option may be implemented within a five year period.

4.4.2 Increase Civilian Cargo Preference Requirement to 100 Percent

The likelihood that the option may influence carrier registry decisions and encourage growth in the U.S.-flag fleet: This option would bring civilian government cargo preference requirements in line with the military cargo preference requirements. Increasing the cargo preference requirement to 100 percent for current government cargo preference programs may increase the pool of preference cargo available to U.S.-flag vessels. This may support and potentially grow the current U.S.-flag fleet if the option results in an overall increase in cargo and counteracts the reduction in cargo anticipated from the military's drawdown efforts. If the additional preference cargo can be accommodated by current U.S.-flag vessels, this may provide an incentive for current carriers to retain their U.S.-flag vessels. Carriers may be encouraged to register additional vessels if this option increases the volume of preference cargo beyond the current capacity of the fleet.

The level of complexity in delivering the option: Implementing this option would require MARAD to seek Congressional approval to amend the cargo preference laws for civilian and agricultural cargo. The USDA, USAID, DoE and the EX-IM Bank may incur higher costs for shipping the additional cargo on U.S.-flag vessels. It would also require increasing future budgetary resources for these agencies in an environment in which the Congress is focused on deficit reduction.[68] MARAD may also need to expand the Ocean Freight Differential (OFD) program that reimburses USDA and USAID for a portion of the ocean freight differential incurred when shipping foreign food aid on U.S.-flag vessels.[69] Implementing this option may have a very high level of complexity due to the number of agencies involved, along with securing Congressional approval, and may require more than five years to implement.

4.4.3 Clarify Interpretation of Cargo Preference Requirements to Improve Compliance

Each agency that provides preference cargo has interpreted how the laws apply to the agency's international transportation requirements. For example, a 2007 GAO report indicated that USDA and USAID have had differing views with MARAD regarding the purpose of cargo preference laws. The GAO report noted that USDA and USAID consider current cargo preference laws a limitation on the amount of

[66] Testimony before the House Transportation &Infrastructure Subcommittee on Coast Guard and Marine Transportation. Mr David Matsuda, March 1, 2011
[67] ' GAO-07-560 - Various Challenges Impede the Efficiency and Effectiveness of U.S. Food Aid', GAO, April 2007; 'Maritime Administration Reaches Agreement With Department of Energy on Cargo Preference Requirements', MARAD Media Release, March 1, 2011
[68] Information provided by MARAD
[69] Based on information obtained during industry consultations

international food aid they can provide because of the higher costs associated with transporting food aid on U.S.-flag vessels.[70] Also, the DoE Loan Program Office for its loan guarantee program and purchase of alternative energy technologies overseas considers that its program is outside the regulations of the Cargo Preference Act of 1954 as the imports that the loan guarantee supports are not specifically described in the transactions that are required by the Act to be transported on U.S.-flag vessels. This is in contrast to the DOT and MARAD interpretation of the Act that such transactions should be considered preference cargo, and the agencies agreed as a matter of policy to apply the cargo preference requirements to the DoE program.[71]

The likelihood that the option may influence carrier registry decisions and encourage growth in the U.S.-flag fleet: Clarifying the interpretation of cargo preference laws may assist agencies to more easily identify preference cargo. If this clarification leads agencies to identify additional preference cargo, then the supply of government preference cargo for U.S.-flag vessels may increase. A sustained increase in cargo levels beyond the current fleet's capacity may encourage an expansion of the U.S.-flag fleet.

The level of complexity in delivering the option: MARAD may work with each agency to agree on clear definitions to clarify and expand the interpretation of the cargo preference laws. Implementing this option may be complex due to the current differences between agencies in interpreting the cargo preference laws, and agencies may disagree with interpretation changes that increase the volume of preference cargo, as this may impact their program costs. Based on this review, this option may be implemented within a five year period.

4.4.4 Economic Incentives for Firms Contracting with U.S.-Flag Vessels

The likelihood that the option may influence carrier registry decisions and encourage growth in the U.S.-flag fleet: Incentives such as a tax credit or rebate for firms using U.S.-flag vessels may encourage firms to transport their commercial cargo on U.S.-flag vessels. The extent of this increase may be difficult to assess as it may reflect the level of benefit received by U.S. firms. If the benefit to U.S. firms is significant, then firms may look to engage U.S-flag vessels to transport their cargo and increase in commercial cargo for U.S.-flag vessels. This will encourage carriers to retain their current U.S.-flag vessels and also encourage growth in the fleet in the longer term if a sustained stream of commercial cargo becomes available.

The level of complexity in delivering the option: Implementing incentives such as a tax credit or rebate will require involvement from Congress, the Internal Revenue Service (IRS), and the Department of Treasury (Treasury)[72]. Consultation with industry may also be required in structuring the incentives so that it is effective in encouraging the use of U.S-flag vessels. Similar programs have recently been implemented in the U.S., such as the vehicle hybrid tax credit and the first-time homebuyers' tax credit. The IRS and Treasury will also need to coordinate in implementing this change in the tax code.[73] As these agencies have experience implementing similar programs, the complexity of implementing this option may be reduced. Based on this assessment, this option may be implemented in a five year period.

4.4.5 Additional Tanker Preference Cargo

Tankers are the least represented vessel type under MSP and cargo preference.[74] During the study survey, carriers indicated that tankers are the vessel type that is in the least demand under the cargo preference programs. There are also stipulations in the Maritime Security Act of 1996 that place limitations on bulk

[70] ' GAO-07-560 - Various Challenges Impede the Efficiency and Effectiveness of U.S. Food Aid', GAO, April 2007
[71] 'Maritime Administration Reaches Agreement With Department of Energy on Cargo Preference Requirements', MARAD Media Release, March 1,2011
[72] Based on information provided by MARAD
[73] Ibid
[74] 'U.S.-Flag Privately-Owned Fleet', MARAD, October 2010

carriers participating in both MSP and cargo preference programs. Under the Act, MSP payments are withheld "for any day a vessel is engaged in transporting more than 7,500 tons of civilian bulk preference cargoes." This limitation does not generally apply to dry bulk carriers as they do not usually transport military cargo. However, this limitation may have a greater impact on tankers. [75]

The likelihood that the option may influence carrier registry decisions and encourage growth in the U.S.-flag fleet: Establishing a program that identifies specific streams of tanker preference cargo that can be contracted out to U.S.-flag tankers may encourage or increase the number of tanker vessels in the U.S.-flag fleet, if the additional tanker cargo exceeds current capacity. According to data from MARAD, there were 42 tankers participating in cargo preference under the U.S. registry and three tankers under the MSP in 2010. As tanker vessels account for a small proportion of the total U.S.-flag fleet,[76] increasing the number of tanker vessels may encourage a minimal increase in the total fleet size.

The level of complexity in delivering the option: According to MARAD, a significant proportion of tanker cargo appears in the domestic Jones Act trade to routes from Alaska to the lower forty-eight state. DoD is also a main source for tanker cargo. To implement this option, MARAD may work with DoD and other agencies to identify the additional tanker cargo available for U.S.-flag tankers. Implementing the tanker preference may be moderately complex in identifying tanker cargo available for U.S.-flag tankers, and may be implemented within a five year period.

4.4.6 Trade Promotion and Missions that May Increase Commercial Cargo Volumes

The results from the study survey indicate that MARAD has historically initiated trade promotions with foreign countries for the carriage of cargo on U.S.-flag vessels. For example, previous trade promotion efforts led to Japanese automobile manufactures carrying their exports into the U.S. on U.S.-flag vessels. Historically, carriers indicated that successful trade promotion and missions have led to an increase in commercial cargo for U.S.-flag vessels. Trade missions that lead to bilateral trade agreements that encourage the use of U.S.-flag vessels may identify and secure additional commercial cargo streams over the long term, such as the example with Japanese automakers, which has continued to provide cargo for over 20 years.

The likelihood that the option may influence carrier registry decisions and encourage growth in the U.S.-flag fleet: Trade promotions that secure a significant stream of additional cargo may encourage growth in the U.S.-flag fleet. However, the impact of this option may relate to how the trade promotional activities are implemented and the success of the trade agreements in securing additional commercial cargo for U.S.-flag vessels.

The level of complexity in delivering the option: To implement new trade promotions and missions, MARAD may need to coordinate with the United States Trade Representative (USTR), who maintains foreign trade relationships for the U.S. government. This option may be moderately complex to implement, as carriers indicated that MARAD has previously coordinated such efforts with USTR.[77] This option may be implemented within a five year period.

4.4.7 Promotional Campaign for U.S. Firms to Contract with U.S.-Flag Vessels

The likelihood that the option may influence carrier registry decisions and encourage growth in the U.S.-flag fleet: U.S. carriers indicated that based on the outcomes of previous

[75] Based on information obtained during industry consultations
[76] 'U.S.-Flag Privately-Owned Fleet', MARAD, October 2010
[77] Based on information obtained during industry consultations. MARAD also noted that it has worked with the US Department of State.

promotional activities, additional commercial cargo available as a result of a promotional campaign may have a minimal likelihood of encouraging growth in the U.S.-flag fleet, as the campaign may not address the higher cost of contracting U.S.-flag vessels. The campaign may encourage carriers to retain their current U.S.-flag vessels, as these carriers currently operate under the higher operating costs for U.S.-flag vessels and any increase in cargo as a result of the campaign may assist carriers in managing their operating costs.

The level of complexity in delivering the option: The promotional campaign would require MARAD to coordinate with U.S. industries to encourage use of U.S.-flag vessels for their commercial cargo.[78] This campaign may be moderately complex to deliver, as DOT has experience in delivering similar campaigns, such as the Buy America campaign from the American Recovery and Reinvestment Act of 2009, which requires the use of U.S.-made steel, iron, or other manufactured goods. MARAD may implement this option within a five year period.

4.4.8 Information on Annual Cargo Preference Volumes

Carriers rely on their previous experience with preference cargo volumes to estimate the future demand for their U.S.-flag vessels. As circumstances change year to year for preference cargo, this approach may lead to carriers underestimating or overestimating the fleet capacity requirements.

The likelihood that the option may influence carrier registry decisions and encourage growth in the U.S.-flag fleet: Providing information on annual cargo preference volumes may allow carriers to make informed decisions on whether to flag-in or flag-out vessels and also on the composition of their U.S.-flag fleet.[79] It may provide more information to carriers, and may indicate an increase or decrease in preference cargo ahead of time. As part of this option, MARAD may also seek to facilitate open dialogue sessions between the carriers and the agencies operating cargo preference programs to provide an efficient process for information sharing. Depending on the accuracy and timeliness of the information provided, this option may assist current carriers in making informed decisions on whether to flag-in or flag-out vessels based on the expected levels of preference cargo. However, this option may not affect the application of the cargo preference laws or expand the pool of cargo for U.S.-flag vessels as it seeks to better inform carriers of preference cargo volumes and may not be a priority option for MARAD in seeking to encourage participation in the U.S.-flag fleet. If the information indicates an increase in the pool of preference cargo, brought about by other statutory changes, carriers may have this information ahead of time, which may assist them in planning to meet the anticipated demand from cargo preference programs for specific types of U.S.-flag vessels.

The level of complexity in delivering the option: To provide this information, MARAD may need to coordinate and collect consistent data from agencies that supply the preference cargo, such as DoD, USDA, USAID and DoE. MARAD may also work with the carriers and these agencies to facilitate communication of cargo preference volumes. This option may be moderately complex to implement, as MARAD may need to coordinate with each agency to reduce the level of administration required in providing accurate information on expected cargo volumes, and may be implemented within a five year time period.

[78] Based on information obtained during industry consultations.
[79] Ibid

5 Impediments Associated with the Maritime Security Program (MSP)

5.1 Relevant Legislation and Regulations

The following legislation is relevant to the MSP: [80]

- Maritime Security Act of 1996; and
- Maritime Security Act of 2003.

During the 1980s and early 1990s, the U.S.-flag fleet was in decline.[81] The federal government's contractual commitments for the ODS program and the CDS program, which was established under the Merchant Marine Act of 1936, were reaching the end of their terms. ODS provided financial support to offset the entire operating cost differential between the U.S. and foreign registries, while CDS provided assistance to carriers building vessels in U.S. shipyards. MSP was intended to replace ODS.

The Maritime Security Act of 1996 created the MSP, which authorized a new funding mechanism through fiscal year (FY) 2005 to provide financial support to U.S.-flag vessel owners engaged in U.S. foreign trade. MSP provides a fixed retainer payment to U.S.-flag vessel owners in exchange for providing DoD with assured access to their vessels and related transportation services and infrastructure during times of war, national emergency, or else when deemed necessary by the Secretary of Defense. The Act was reauthorized in 2003 and allocated funds to MSP for an additional 10 years from FY2006 to FY2015. The Act of 2003 also expanded the program from 47 to 60 vessels and authorized a three-tiered schedule for appropriation escalation to protect the financial support against inflation.[82] Although MSP was reauthorized through FY2015, program funding is appropriated from Congress each year.[83]

The Maritime Security Act of 1996 also affects vessel supply and demand. In an effort to receive the financial support provided by MSP, carriers began transitioning their fleet towards vessel types considered to be militarily useful so they may be considered a stronger candidate for the program. The carriers surveyed note that this has been exhibited in the high demand by the military for container and ro-ro vessels to support the recent conflicts in Iraq and Afghanistan.

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[80] U.S. House of Representatives Committee on Transportation and Infrastructure, Subcommittee on Coast Guard and Maritime Transportation, July 19, 2010 Hearing Summary of Subject Matter accessed on 10/19/2010: http://transportation.house.gov/Media/file/Coast%20Guard/20100719/SSM_CG_7-19-10.pdf

[81] Reference Figure 1: U.S.-Flag Oceangoing Fleet 1946-2009 (Privately-Owned Vessels of 1000 Gross Tons or More)

[82] The Maritime Security Act of 2003 authorized $156M per year from FY2006 thru FY2008, $174M per year from FY2009 thru FY2011, and $186M per year from FY2012 thru FY2015.

[83] 'Compilation of Maritime Laws', MARAD, 2008: 46 U.S.C. 53104, pg. 226

5.2 Summary of Carrier Views on Impediments

Key Observations

- Carriers indicated that MSP provides the U.S. government with a ready naval auxiliary. It also provides carriers with a steady source of revenue for carriers and an expedited flag-in process.
- Carriers identified the level of the MSP payment, which is currently insufficient to cover the additional costs for U.S. vessels, and the payments being subject to the annual budget appropriations process as the program's key impediments to registry preference.

When the MSP was introduced in 1996, the retainer payment was offered to secure capacity for the military in times of emergency.[84] Today, the U.S. government is provided with a ready naval auxiliary during times of national emergency through the MSP fleet's dependable and cost effective network for transporting military cargo.[85] The MSP fleet also provides peacetime support and commercial services to the U.S. military.[86]

Responses from the U.S.-flag carriers received as part of this study indicate that the MSP financial support is one of the main reasons for carriers to flag vessels into the U.S. registry. Of the carriers surveyed who participate in MSP, 78 percent indicated that MSP has a positive impact on their decision to register under the U.S.-flag.

Carriers agreed that the financial support provided by MSP provides a steady source of revenue and assists in reducing the cost differential between U.S. and foreign-flag vessels. One additional benefit described by the carriers is the MSP's expedited flag-in process, which reduces the time to flag vessels entering MSP under the U.S. registry. Carriers also indicated that MSP vessels are automatically enrolled in the Voluntary Intermodal Sealift Agreement (VISA), which provides the military with assured access to carrier capacity while minimizing the impact to carriers' normal operations.[87]

Impediments Associated with the MSP

The carriers indicated that MSP also presents several impediments that impact their decision to register under the U.S. flag. These impediments include the level of the retainer payment, which is currently insufficient to offset the additional costs associated with operating under the U.S. flag, and the retainer payments being subject to the annual budget appropriations process. Carriers reported that the retainer payment provided under the MSP addresses half to two-thirds of the operating cost differential with foreign-flag vessels.

In addition, 67 percent of survey participants reported that the cost differential between the U.S. and foreign carriers has increased over the past five years. The costs of operating under the U.S. registry can be affected by changes in the U.S. prices and exchange rates. Survey respondents noted that to the extent that costs, specifically labor costs, could be contained, would potentially make the U.S. registry more competitive against foreign registered vessels and help to sustain and encourage the U.S.-flag fleet. The current MSP retainer payment has a three tiered schedule for appropriation increases on a three or four year timeframe. The absence of an annual index adjustment may limit the retainer payments from

[84] Maritime Security Program Impact Evaluation. Submitted to U.S. DOT by Econometrica, Inc., July 2009.
[85] Ibid
[86] Based on information obtained during industry consultations
[87] Ibid

matching changes in inflation and in addressing increases in the cost differential between U.S. and foreign-flag registries.[88]

Although MSP is authorized through FY2015, the program requires annual appropriations from Congress.[89] Carriers commented that the annual appropriation process can create uncertainly surrounding the amount and timing of program funding and this uncertainty can discourage long-term investments in the U.S.-flag fleet.

Several carriers raised concerns that the number of MSP vessels is creating overcapacity in the MSP market, while others indicated there is not sufficient diversity of vessel types to meet the military's needs. Current MSP participants indicated that there are currently more vessels in the program than are needed by the military and this overcapacity may have a negative impact on carriers. One carrier acknowledged that overcapacity in MSP can cause a decrease in preference cargoes carried per vessel and thus also decrease revenue per vessel. A decrease in revenue per vessel may create a larger financial need for a higher MSP payment. Non-MSP participants expressed a need to increase the number of MSP vessel slots so that a substantial supply of capacity is available in the event of a major wartime effort or national crisis, and to provide the military with access to a variety of vessel types. Differing views may reflect a change in DoD vessel requirements and the mix of vessels under the MSP. Carriers reported that the MSP originally sourced containerships to transport military cargo. Under the program today, carriers indicated that there is increased demand for ro-ro vessels, which has reduced the demand for containerships and has resulted in an under supply of ro-ro vessels to meet DoD's requirements.[90]

Table 11 highlights the key impediments associated with the MSP, as identified by the carriers.

Table 11: Carrier Views on the Key Impediments Associated with the MSP

Key Impediments
In the absence of robust preference cargo volume at rates that exceed commercial cargo rates, the financial support provided by MSP is insufficient to offset the additional costs associated with operating under the U.S. flag.
The scheduled adjustments to the retainer payment do not reflect fluctuations in the operating costs for U.S.-flag vessels.[91]
Uncertainty surrounding the annual appropriations of the MSP retainer payments can discourage long-term investment in the carriers' vessels in the program.[92]

[88] Based on information obtained during industry consultations
[89] Ibid
[90] Ibid
[91] MARAD notes that MSP payments were not intended to reflect short-term, year-over-year operating cost fluctuations; rather, the adjustments were intended to recognize the impact of inflation on long-term purchasing power.
[92] MARAD notes that this concern is not a registry issue, at least in terms of operating cost differentials. Moreover, any actual issue would be only timing since request and enacted amounts are consistently at authorized levels.

5.3 Options To Address the Key Impediments

The data collected for this study indicates that several options may be available to MARAD in seeking to address the impediments associated with the MSP that were identified by the carriers. The options are summarized in Table 12.

Table 12: Carrier Views on the Options to Address in the Key Impediments Associated with the MSP

Option	Description	Impediment
Increase the financial support and the number of vessel slots	**Budgetary Change -** An increase in the number of MSP slots and financial support may encourage carriers to retain their current U.S.-flag vessels and flag additional vessels under the U.S. registry.	In the absence of robust preference cargo volume at rates that exceed commercial cargo rates, the financial support provided by MSP is insufficient to offset the additional costs associated with operating under the U.S. flag.
Incorporate annual index adjustment into the MSP financial support	**Budgetary Change -** An annual index adjustment may help carriers to mitigate operating cost increases that may be attributable to inflation, fluctuation in fuel prices, and other costs.	The scheduled adjustments to the retainer payment do not reflect changes in the operating costs for U.S.-flag vessels.
Assurance of MSP financial support in annual budget appropriations	**Budgetary Change** - An assurance by the Congress, DOT and/or MARAD may reduce the uncertainty for carriers and assist their longer term planning.	Uncertainty surrounding the annual appropriations of the MSP retainer payments can discourage long-term investment in the carriers' vessels in the program.

5.4 Assessment of the Options That May Address the Key Impediments Identified By U.S.-Flag Carriers

Based on the carrier views provided during the industry consultations and source documentation from MARAD and other government agencies, the options identified in Section 5.3 have been prioritized based on the following factors:

- The likelihood that an option may address the impediments identified by the carriers, influence the decision to register additional vessels under the U.S. flag, and also the possibility of influencing current U.S.-flag fleet operations; and
- The potential complexity and anticipated timeframe in delivering the option.

The following table provides the options that may address the key impediments associated with the MSP identified by the carriers in order of priority.

Table 13: Options to Address the Key Impediments Associated with the MSP in Order of Priority

Option
Increase MSP Financial Support and Number of Vessel Slots *
Annual MSP Index Adjustment
Assure MSP Appropriations

** Priority Option Identified for MSP*

Section 3.3 provides further information on the process adopted to prioritize the options. The following sections discuss the options presented in

Table 13 in further detail.

5.4.1 Increase MSP Financial Support and Number of Vessel Slots

The likelihood that the option may influence carrier registry decisions and encourage growth in the U.S.-flag fleet: If the number of vessel slots for the MSP increases, existing U.S.-flag vessels that meet the program vessel requirements may enter the program. In addition, the vessels under the MSP may benefit from an increase in the fixed payment, as it provides further assistance in meeting the additional costs of operating a vessel under the U.S. flag. This option may provide an incentive for carriers to retain their U.S.-flag vessels that operate in the MSP or vessel types that may be accepted into the program if expanded. If the benefit is absorbed by the existing U.S.-flag fleet, this option may not provide an incentive for new vessels to register under the U.S. flag.

If additional slots under MSP are made available to vessels that re-flag to the U.S. registry in order to participate in the program, the option may encourage growth in U.S. fleet. Carriers may also assess the commercial viability of any vessels that they bring under the U.S. flag, with the availability of preference cargo and the operating cost differential between U.S. and foreign-flag vessels important considerations for carriers in determining whether to flag additional vessels under the U.S. flag to join the program.

The level of complexity in delivering the option: This option may be highly complex to implement as Congressional approval would be required to increase the level of funding for the program, along with the number of vessel slots provided under the Maritime Security Act of 2003. DoD may also be involved in determining the types of vessels it requires from the program and supporting the expansion. Given this level of complexity, it is anticipated that MARAD may work with DoD and may introduce the changes to the MSP within a five year period, with the changes being implemented some time after this period.

5.4.2 Annual MSP Index Adjustment

The likelihood that the option may influence carrier registry decisions and encourage growth in the U.S.-flag fleet: To mitigate increases in the cost differential between U.S. and foreign-flag vessels, carriers have suggested incorporating an annual index adjustment for the MSP retainer payments. This option may assist MSP vessels in addressing increases in the cost differential resulting from fluctuations in fuel prices, inflation and/or exchange rates. Introducing an annual MSP index adjustment may not be a priority for MARAD in seeking to encourage participation on the U.S.-flag fleet, as the 60 vessels currently participating in the MSP may benefit from this change. For the current MSP vessels, the option may result in the retainer payment being adjusted each year and may help mitigate operating cost increases from inflation, fluctuation in fuel prices, and other costs.

The level of complexity in delivering the option: The MSP financial support is governed by the Maritime Security Act of 2003, which authorizes the annual level of financial support through FY2015 and includes a three-tiered schedule for payment escalation. Implementing this option may be moderately complex as it would require Congressional approval to include an annual index adjustment in the next MSP authorization bill. It is anticipated that MARAD may introduce this option into the MSP within a five year period.

5.4.3 Assure MSP Appropriations

During the study survey, carriers indicated the annual appropriations process for the MSP payment provides MSP participants with a degree of uncertainty as to whether the payments may be provided, which may discourage long term investment in the vessels operating under the program.

The likelihood that the option may influence carrier registry decisions and encourage growth in the U.S.-flag fleet: To date, the MSP payments have not been affected by the annual budget appropriations process.[93] Any additional assurance provided by MARAD or DOT may provide a greater level of comfort to the carriers participating in the MSP. However, this option may not be a priority for MARAD in seeking to encourage participation on the U.S.-flag fleet, as it may not affect the payment amount provided under the program or attract new vessels to the program.

The level of complexity in delivering the option: An attempt by MARAD or DOT to provide additional assurance for the MSP would require Congressional participation, and may be complex to implement. MARAD may be able to provide assurances to carriers participating in MSP within a five year period.

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6 Labor Costs

6.1 Relevant Legislation and Regulations

The key legislation for U.S.-flag vessel labor costs is the Merchant Marine Act of 1920 (Jones Act).[94]

After WWI, the Jones Act was enacted to provide the U.S. with a merchant marine that could support domestic and foreign commerce and serve as a naval and military auxiliary fleet during times of war. The Act limits foreign ownership of U.S.-flag vessels in the form of a corporation, partnership, or association to 25 percent, with the remaining 75 percent owned by of U.S.-citizens. The Act also requires U.S.-flag vessels to be entirely crewed by U.S. citizens (Citizen Crew Requirement).[95]

6.2 Summary of Carrier Views on Impediments

Key Observations

- Carriers rated labor costs as the highest contributing cost category to the cost differential between U.S. and foreign-flag vessels.
- Carriers indicated that the key impediment that affects labor costs for U.S.-flag vessels is the Citizen Crew Requirement. Labor and work rule agreements and government regulations were also cited as other important impediments that affect the labor costs of U.S.-flag vessels.[96]

The results of the survey indicate that labor costs for U.S.-flag vessels are at least three times greater than labor costs for foreign-flag vessels, with 67 percent of survey participants reporting that the Citizen Crew Requirement has a negative impact on their decision to register under the U.S.-flag.

Also, 44 percent of survey participants attributed the high labor costs to higher wages and benefits for U.S. mariners. Carriers attributed the higher costs to higher manning levels, the social benefits provided to U.S. mariners and a higher standard of living in the U.S. than in overseas jurisdictions. Carriers commented that the higher labor costs are a significant disadvantage for U.S.-flag vessels when competing internationally, with the higher labor costs contributing approximately $12,000 to $15,000 per day to the operating cost differential between U.S. and foreign-flag vessels.

The work rules and manning requirements are considered by the carriers to reduce labor productivity and crew flexibility, creating higher overall labor costs compared to foreign-flag vessels. Carriers reported that in some cases, labor agreements have set fixed mariner work hours and limitations on the types of work they can perform, requiring additional crew members to complete the restricted tasks.[97]

Table 14 highlights the key impediments affecting labor costs that were identified by the carriers.

[94] 'Compilation of Maritime Laws', MARAD, 2008: 46 U.S.C. 8103, pg. 52
[95] Ibid
[96] According to MARAD, work rules, craft distinctions, and other restrictions on labor utilization are negotiated between unions and management and not necessarily exclusively established by unions.
[97] Ibid

Table 14: Carrier Views of the Key Impediments Affecting Labor Costs

Key Impediments
U.S.-flag vessels must utilize U.S. labor under the Citizen Crew Requirement. The standard of living in the U.S., labor agreements negotiated with mariner unions, mariner union work rules, social benefits included in overall compensation, and government manning requirements all contribute to U.S. mariner wages being significantly higher than foreign mariners.

6.3 Options to Address Key Impediments

The data collected for this study indicates that several options may be available to MARAD in seeking to address the impediments affecting the labor costs for U.S.-flag vessels. The options are summarized in Table 15.

Table 15: Carrier Views of the Options to Address Key Impediments Affecting Labor Costs

Option	Description	Impediment
Amend the Jones Act to reduce the Citizen Crew Requirement	**Statutory Change -** Reducing the requirement from100 percent U.S. crews for vessels that carry cargo internationally may provide carriers with flexibility to utilize U.S. and foreign crews and reduce labor costs.	U.S.-flag vessels must utilize U.S. labor under the Citizen Crew Requirement. The standard of living in the U.S., labor agreements negotiated with mariner unions, mariner union work rules, social benefits included in overall compensation, and government manning requirements all contribute to U.S. mariner wages being significantly higher than foreign mariners.
Introduce a second register with no citizen crew requirements	**Statutory Change -** A second register that offers reduced regulation on citizen crews and other labor regulations may provide flexibility for U.S. carriers in reducing their labor costs.	U.S.-flag vessels must utilize U.S. labor under the Citizen Crew Requirement. The standard of living in the U.S., labor agreements negotiated with mariner unions, mariner union work rules, social benefits included in overall compensation, and government manning requirements all contribute to U.S. mariner wages being significantly higher than foreign mariners.

Option	Description	Impediment
Amend labor work rules and manning requirements[98]	**Coordination with Non-Government Entities -** Encouraging labor unions to amend the work rules and government agencies to reduce their manning requirements may provide greater flexibility in crew tasks and reduce labor costs.	U.S.-flag vessels must utilize U.S. labor under the Citizen Crew Requirement. The standard of living in the U.S., labor agreements negotiated with mariner unions, mariner union work rules, social benefits included in overall compensation, and government manning requirements all contribute to U.S. mariner wages being significantly higher than foreign mariners.
Shift health insurance from union plan to carrier company plan	**Coordination with Non-Government Entities -** Transferring health insurance from a union plan to a carrier plan may provide cost savings to the carriers for providing this benefit and decrease the labor costs for U.S.-flag vessels.	U.S.-flag vessels must utilize U.S. labor under the Citizen Crew Requirement. The standard of living in the U.S., labor agreements negotiated with mariner unions, mariner union work rules, social benefits included in overall compensation, and government manning requirements all contribute to U.S. mariner wages being significantly higher than foreign mariners.
Shift mariner pension plans to Defined Contribution Plans	**Coordination with Non-Government Entities -** Transferring pension plans to Defined Contribution Plans may reduce carrier liability and decrease the labor costs for U.S.-flag vessels.	U.S.-flag vessels must utilize U.S. labor under the Citizen Crew Requirement. The standard of living in the U.S., labor agreements negotiated with mariner unions, mariner union work rules, social benefits included in overall compensation, and government manning requirements all contribute to U.S. mariner wages being significantly higher than foreign mariners.
Encourage labor unions to reduce their costs that are passed on to carriers for activities such as training	**Coordination with Non-Government Entities -** Encouraging unions to reduce their costs on activities such as training may provide decrease labor costs for U.S.-flag vessels.	U.S.-flag vessels must utilize U.S. labor under the Citizen Crew Requirement. The standard of living in the U.S., labor agreements negotiated with mariner unions, mariner union work rules, social benefits included in overall compensation, and government manning requirements all contribute to U.S. mariner wages being significantly higher than foreign mariners.

[98] According to MARAD, work rules, craft distinctions, and other restrictions on labor utilization are negotiated between unions and management and not necessarily exclusively established by unions.

Many of the impediments identified by the carriers that contribute to their labor costs are reflective of the U.S. economy, such as the standard of living and wage rates, and may be difficult to address. The Citizen Crew Requirement of the Jones Act may be addressed through statutory change, however carriers expressed their opposition to such change. Carriers also rejected the option of implementing a second register similar to an international registry, which several European countries such as Denmark, Norway and Germany have implemented during the 1980s to compete with open registries and maintain a shipping industry under the country's flag.[99] Due to the views expressed by the carriers, these options are not discussed in Section 6.4.

In addition, carriers noted that many of the options for addressing the higher labor costs relate to the collective bargaining arrangements between the mariner labor unions and the carriers. As MARAD is not generally involved in these arrangements, its capacity to implement some of the changes identified may be reduced.

6.4 Assessment of the Options That May Address the Key Impediments Identified By U.S.-Flag Carriers

Based on the carrier views provided during the industry consultations and source documentation from MARAD and other government agencies, the options for improvement identified in Section 6.3 have been prioritized based on the following factors:

- The likelihood that an option may address the impediments identified by the carriers, influence the decision to register additional vessels under the U.S. flag, and also the possibility of influencing current U.S.-flag fleet operations; and
- The potential complexity and anticipated timeframe in delivering the option.

The following table provides the options that may address the high labor costs in order of priority.

Table 16: Options to Address the Impediments Affecting Labor Costs in Order of Priority

Option
Amend Labor Work Rules and Manning Requirements[100] *
Shift Health Insurance to Carrier Company Plan *
Shift Mariner Pension Plans to Defined Contribution Plans *
Encourage Labor Unions to Reduce Costs Passed onto Carriers

** Priority Option Identified for Labor Costs*

Section 3.3 provides further information on the process adopted to prioritize the options. The following sections discuss the options presented in Table 16 in further detail.

6.4.1 Amend Labor Work Rules and USCG Manning Requirements

The likelihood that the option may influence carrier registry decisions and encourage growth in the U.S.-flag fleet: Amending the union work rules and regulations on manning requirements to provide greater flexibility to carriers in operating their crews may reduce the number of crew members required on a vessel.[101] If a cost reduction occurs as a result of this option, it may reduce the

[99] Based on information obtained during industry consultations
[100] According to MARAD, work rules, craft distinctions, and other restrictions on labor utilization are negotiated between unions and management and not necessarily exclusively established by unions.
[101] Ibid

wage cost per vessel and may encourage carriers to retain their U.S.-flag vessels and growth in the U.S.-flag fleet.

The level of complexity in delivering the option: The work rules are negotiated through the mariner labor agreements on the operations of U.S.-flag vessels. The level of complexity in implementing this option may be very high, requiring the carriers and the mariner labor unions to negotiate amendments to the work rules. Concern for mariner safety under any proposed amendments may also take time to investigate and inform the negotiation process. MARAD may support both parties during the negotiation process. MARAD may have a greater role in working with USCG to assess the regulations that affect vessel manning requirements. Based on this assessment, this option may be implemented in a five year time period.

6.4.2 Shift Health Insurance to Carrier Company Plan

During the industry consultation, carriers described social costs managed by unions, such as pensions and health insurance, as contributing to higher labor costs and the increase in the cost differential with foreign-flag vessels. Carriers noted that the cost of health insurance under union plans is greater than the cost they experience in providing similar health insurance programs for non-mariner staff.

The likelihood that the option may influence carrier registry decisions and encourage growth in the U.S.-flag fleet: Transferring the responsibility of health insurance from the union to the carrier may result in a decrease in the labor costs and reduce the operating costs for U.S.-flag vessels. A reduction in operating costs from transferring health insurance plans may provide a benefit to current U.S.-flag vessels. However, carriers also noted that under certain foreign registries, health insurance can be provided by the government rather than the carrier. This option seeks to reduce the cost of providing health insurance to the mariners and may not put the U.S.-flag vessels on par with certain foreign registries where carriers do not pay these costs.

The level of complexity in delivering the option: A transfer of health insurance coverage from a union plan to a carrier plan would require the unions and carriers to negotiate this change. As this option may reduce the role of the mariner labor unions in the U.S. merchant marine, negotiations may be highly complex.[102] This option may be implemented within a five year time period.

6.4.3 Shift Mariner Pension Plans to Defined Contribution Plans

Carriers indicated that mariner pension plans are one of the social costs managed by unions that contribute to the higher labor costs for U.S.-flag vessels. Carriers indicated that mariner pension plans are typically Defined Benefit Plans, where benefits are paid from a trust fund using a specific formula established by the plan sponsor.[103] Carriers noted that current industry practice is to provide Defined Contribution Plans, where the accrued benefit is based on the contributions made into an individual account, along with investment gains on the funds invested, net of investment losses and expenses.[104] Transferring pension plans to Defined Contribution Plans may have the potential to reduce carrier liability. [105] However, MARAD stated that it would eventually reduce carrier costs.

The likelihood that the option may influence carrier registry decisions and encourage growth in the U.S.-flag fleet: Similar to the switch in health insurance plans, a change in the pension plans may result in a decrease in carrier liability and labor costs for U.S.-flag vessels. This reduction may be caused by reducing the carrier's liability to fund the defined benefit pensions at the amount of current plan's formula. However, this option may not affect the higher cost of living in the U.S. and the requirement to operate U.S. citizen crews on U.S.-flag vessels, and may not have a significant impact on

[102] Based on information obtained during industry consultations
[103] 'Retirement Plans', U.S. Department of Labor website
[104] Ibid
[105] Based on information obtained during industry consultations

reducing the cost differential with foreign-flag vessels to encourage growth in the U.S.-flag fleet, as the option seeks to address one component of the higher wages costs for U.S. crews.

The level of complexity in delivering the option: Mariner pension programs are administered by the mariner labor unions. A change in the type of pension plan would require negotiation between the carriers and the unions, with MARAD providing support to these negotiations. The level of complexity in implementing this option may very high and may be implemented within a five year period.

6.4.4 Encourage Labor Unions to Reduce Costs Passed onto Carriers

Mariner labor unions are responsible for providing training and other services for U.S. mariners. Carriers are required to pay the unions for the services that they provide to their crews. During the study survey, carriers cited general union costs passed through to carriers as an impediment to the U.S. registry. One example proposed was for the unions to consolidate their training facilities, to reduce program costs.

The likelihood that the option may influence carrier registry decisions and encourage growth in the U.S.-flag fleet: Streamlining the delivery of services provided by the mariner labor unions may reduce the operating costs for U.S.-flag vessels and encourage carriers to retain their U.S.-flag fleet. However, this option may not be a priority for MARAD in seeking to encourage participation in the U.S.-flag fleet, as the impact of this option may relate to the types of services streamlined by the unions and the degree to which the carriers benefit from this process.

The level of complexity in delivering the option: This option seeks to streamline how the services are provided by the mariner labor unions, to reduce the costs to carriers for their mariners to participate in the programs. This option may require significant coordination between the mariner labor unions and the carriers, with MARAD providing support to the negotiations. This option seeks to streamline union operations, which may impact the union staffing levels and budgets. Based on this assessment, this option may be implemented within a five year period.

7 Maintenance, Repair, and U.S. Shipyard Costs

7.1 Relevant Legislation and Regulations

The following legislation applies to the maintenance, repair, and U.S. shipyard costs for U.S.-flag vessels:[106]

- Merchant Marine Act of 1920 (Jones Act);
- Tariff Act of 1930 (Smoot-Hawley Act);
- Merchant Marine Act of 1936; and
- Merchant Marine Act of 1970.

The Jones Act required vessels participating in U.S. domestic trade to be built in a U.S. shipyard and was introduced to stimulate and support the U.S. shipbuilding industry.[107]

The Tariff Act of 1930 increased an existing duty to 50 percent (the ad valorem duty) for non-emergency maintenance or repairs conducted on U.S.-flag vessels overseas, to further encourage the use of U.S.-based maintenance and repair facilities. Additionally, U.S. Code Title 46-8106 maintains that riding gang members[108] aboard U.S.-flag vessels be U.S. citizens or U.S. permanent residents.[109]

The CCF was established under the Merchant Marine Act of 1970 to encourage carriers to build vessels in U.S. shipyards. The CCF allows carriers to make tax deferred deposits toward building vessels in U.S. shipyards and replaced the CDS in 1982.[110]

7.2 Summary of Carrier Views on Impediments

Key Observations

- The study survey rated maintenance, repair and U.S. shipyard costs as the second highest driver of the cost differential between U.S. and foreign flag vessels, behind labor costs.
- Carriers indicated that the key impediments affecting maintenance, repair, and U.S. shipyard costs for U.S.-flag vessels are the ad valorem duty and the high cost of repairs in U.S. shipyards.

The results of the study survey indicate that the cost to repair a vessel in the U.S. is significantly higher than foreign repair costs, including payment of the ad valorem duty. Survey responses indicated that 89 percent of carriers consider the ad valorem duty as the key reason for the higher maintenance and repair cost differential between U.S. and foreign registries, as the duty is only applied for work performed on U.S.-flag vessels. Survey responses also indicated that 89 percent of participants consider the ad valorem duty to have a negative impact on their decision to register under the U.S.-flag.

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[106] U.S. House of Representatives Committee on Transportation and Infrastructure, Subcommittee on Coast Guard and Maritime Transportation, July 19, 2010 Hearing Summary of Subject Matter accessed on 10/19/2010: http://transportation.house.gov/Media/file/Coast%20Guard/20100719/SSM_CG_7-19-10.pdf
[107] An Evaluation of Maritime Policy in Meeting the Commercial and Security Needs of the United States, prepared by IHS Global Insight for U.S. DOT/MARAD. January 2009.
[108] Riding gangs perform maintenance and repairs while a vessel is at sea
[109] 46 U.S.C. 8106
[110] Ibid

Carriers noted that the ad valorem duty raises the overall maintenance and repair costs, rather than encouraging vessel repairs to be completed in the U.S., as the cost of having repairs performed overseas and paying the duty is often lower than the cost of the having the repairs performed in U.S. shipyards. While the ad valorem duty is exempt in countries that have free trade agreements with the U.S., carriers reported that they are required to pay the duty and then file for reimbursement from U.S. Customs and Border Protection. Carriers also commented that they spend time documenting and completing the administrative paperwork required for the ad valorem duty, as there are significant penalties for improper or late filing.

The USCG regulation on foreign riding gangs restricts the use of maintenance crews while the vessel is waterborne. Survey responses indicated that 78 percent of carriers consider the regulations against foreign riding gangs to have a negative impact on their decision to register under the U.S.-flag. Also, 11 percent of participants reported that the regulations against foreign riding gangs are a major factor contributing to the increasing maintenance and repair cost differential between U.S. and foreign-flag vessels. Carriers reported that the regulations require them to complete vessel repairs in a shipyard, which can be costly and time consuming compared to completing repairs while transporting cargo.

Carriers noted that the high cost for vessel repairs in the U.S. reflects a lack of economies of scale at U.S. shipyards due to minimal business from U.S. ocean-going vessels and the high cost of labor. The study survey indicated that 67 percent of participants report a very negative impact from the U.S. vessel construction and shipyard costs on their decision to register under the U.S.-flag. When building a vessel in the U.S., carriers reported that the costs may be three times greater than foreign-built vessels, and have increased build times when compared to foreign competitors. Carriers attributed this difference to the fact that U.S. ship builders generally do not enter into firm fixed price contracts or do not contract to firm completion dates. This may create uncertainty in carrier build costs and schedules and may result in additional cost and lost time delays.[111]

Carriers reported that U.S.-build demand is related to the Jones Act, which requires vessels operating in domestic trade to be built in U.S. shipyards, with business from other vessels provided on an ad hoc basis. The Title XI loan program provides financial support for building vessels in U.S. shipyards.[112] However, a limited numbers of carriers indicated that they have had direct experience with the program. Survey responses indicate that the program's approval process may be complex and may be one reason for the low participation.

Table 17 highlights the key impediments identified by the carriers affecting maintenance, repair, and U.S. shipyard costs.

Table 17: Carrier Views on the Key Impediments Affecting Maintenance, Repair, and U.S. Shipyard Costs

Key Impediments
The ad valorem duty assessed for nonemergency maintenance and repairs performed in foreign shipyards contributes to the high maintenance and repair costs for U.S.-flag vessels, rather than encouraging the work to be performed in U.S. shipyards. Carriers frequently pay the duty as the total cost of maintenance and repairs performed overseas can often be lower than the cost for the work to be performed by high-cost U.S. shipyards, which prevents scale economies and increases already high labor costs.

[111] Based on information obtained during industry consultations
[112] 'Title XI loan program', MARAD website

7.3 Options to Address Key Impediments

The data collected for this study indicates that several options may be available to MARAD in seeking to address the key impediments identified for maintenance, repair, and U.S. shipyard costs. The options are summarized in Table 18.

Table 18: Carrier Views on the Options to Address the Key Impediments Affecting Maintenance, Repair, and U.S. Shipyard Costs

Option	Description	Impediment
Eliminate the ad valorem duty	**Statutory Change** - Eliminating the ad valorem duty may assist in reducing the maintenance, repair, and U.S. shipyard cost differential between U.S. and foreign-flag vessels. It may also remove the additional time and cost incurred by carriers in filing the required paperwork for the ad valorem duty.	The ad valorem duty assessed for nonemergency maintenance and repairs performed in foreign shipyards contributes to the high maintenance and repair costs for U.S.-flag vessels, rather than encouraging the work to be performed in U.S. shipyards. Carriers frequently pay the duty as the total cost of maintenance and repairs performed overseas can often be lower than the cost for the work to be performed by high-cost U.S. shipyards which prevents scale economies and increases already high labor costs.
Improve and expand CCF to include major maintenance and repairs	**Budgetary Change** - Improvements to the CCF may provide an incentive for U.S. carriers to save for vessel construction or reconstruction through a government managed account that accepts deposits of carrier Federal income tax deferrals (taxes that otherwise would be paid to the Federal government).	The ad valorem duty assessed for nonemergency maintenance and repairs performed in foreign shipyards contributes to the high maintenance and repair costs for U.S.-flag vessels, rather than encouraging the work to be performed in U.S. shipyards. Carriers frequently pay the duty as the total cost of maintenance and repairs performed overseas can often be lower than the cost for the work to be performed by high-cost U.S. shipyards which prevents scale economies and increases already high labor costs.

Option	Description	Impediment
Increase the number of international tax treaties that provide duty free areas where vessel repairs can be performed	**Statutory Change -** Increasing the number of tax treaties may potentially reduce the number of foreign territories in which the ad valorem duty can be applied.	The ad valorem duty assessed for nonemergency maintenance and repairs performed in foreign shipyards contributes to the high maintenance and repair costs for U.S.-flag vessels, rather than encouraging the work to be performed in U.S. shipyards. Carriers frequently pay the duty as the total cost of maintenance and repairs performed overseas can often be lower than the cost for the work to be performed by high-cost U.S. shipyards which prevents scale economies and increases already high labor costs.
Improve and expand the Title XI Loan Program	**Budgetary Change** - Improvements to the Title XI loan program may provide assistance to finance new vessel construction in U.S. shipyards and reconditioning of foreign vessels to be flagged under the U.S. registry.	The ad valorem duty assessed for nonemergency maintenance and repairs performed in foreign shipyards contributes to the high maintenance and repair costs for U.S.-flag vessels, rather than encouraging the work to be performed in U.S. shipyards. Carriers frequently pay the duty as the total cost of maintenance and repairs performed overseas can often be lower than the cost for the work to be performed by high-cost U.S. shipyards which prevents scale economies and increases already high labor costs.

7.4 Assessment of the Options That May Address the Key Impediments Identified By U.S.-Flag Carriers

Based on the carrier views provided during the industry consultations and source documentation from MARAD and other government agencies, the options for improvement identified in Section 7.3 have been prioritized based on the following factors:

- The likelihood that an option may address the impediments identified by the carriers, influence the decision to register additional vessels under the U.S. flag, and also the possibility of influencing current U.S.-flag fleet operations; and
- The potential complexity and anticipated timeframe in delivering the option.

The following table provides the options that may address the impediments affecting maintenance, repair and U.S. shipyard costs in order of priority.

Table 19: Options to Address the Impediments Affecting Maintenance, Repair, and U.S. Shipyard Costs in Order of Priority

Option
Eliminate the Ad Valorem Duty *
Improve and Expand CCF *
Increase International Tax Treaties
Improve Title XI Loan Program

** Priority Option Identified for Maintenance, Repair and U.S. Shipyard Costs*

Section 3.3 provides further information on the process adopted to prioritize the options. The following sections discuss the options presented in Table 19 in further detail.

7.4.1 Eliminate the Ad Valorem Duty

The likelihood that the option may influence carrier registry decisions and encourage growth in the U.S.-flag fleet: As the carriers identified maintenance, repair and U.S. shipyard costs as the second highest contributor to the cost differential, with the ad valorem duty as one of the main drivers of these costs for U.S.-flag vessels, eliminating the ad valorem duty may be considered a priority option for MARAD in seeking to encourage growth in the U.S.-flag fleet. Eliminating the duty may result in a reduction in the cost differential between U.S. and foreign-flag vessels and may increase the competitiveness of U.S.-flag vessels in bidding for international commercial cargo. This change may encourage carriers to retain their current U.S.-flag vessels. It may also encourage carriers to register vessels under the U.S., with access to government programs such as the MSP and cargo preference providing additional financial support for newly registered vessels.

The level of complexity in delivering the option: The ad valorem duty is prescribed in the Tariff Act of 1930. Elimination of the ad valorem would require Congress to approve amendments to the Act. The involvement of Customs and Border Protection who enforce the duty, and Treasury who collect the duty, may also contribute to the complexity of delivering this option. Based on this assessment, a change to the ad valorem duty may be implemented within a five year period.

7.4.2 Improve and Expand CCF

The CCF provides for an overall savings in maintenance, repair, and construction performed in the U.S. by allowing federal tax deferrals into an account for use to complete repairs and construct new vessels. However, according to the study survey, the CCF is rarely used for current U.S.-flag vessels because the cost of new vessel construction in the U.S. continues to be significantly higher than foreign shipyards.

The likelihood that the option may influence carrier registry decisions and encourage growth in the U.S.-flag fleet: Expanding the program to include major maintenance and repairs may increase the number of carriers participating in the program. This option may reduce the additional operating costs for U.S.-flag vessels that have maintenance and repairs performed in the U.S, such as the carriers who operate under the Jones Act. However, the study survey indicated that the majority of carriers seek to avoid the high cost of vessel maintenance and repair in the U.S. by having the work performed overseas and paying the ad valorem duty. The likelihood for this option to encourage growth in the U.S-flag fleet may reflect whether the option can reduce the cost of having the maintenance and repair works performed in the U.S. to below the current costs and duty for the work performed overseas.

The level of complexity in delivering the option: Expanding and increasing the CCF would require Congress to approve statutory amendments, which may increase the level of complexity in implementing this option. However, as CCF is a MARAD program, implementation may not require the involvement of other agencies and may be implemented within a five year period.

7.4.3 Increase International Tax Treaties

The likelihood that the option may influence carrier registry decisions and encourage growth in the U.S.-flag fleet: Expanding the number of tax treaties with international governments may expand the opportunities for carriers to have maintenance and repair work performed overseas and be exempt from the ad valorem duty. The potential for this option to reduce operating costs and encourage carriers to retain their U.S.-flag vessels may relate to the number of tax treaties entered into by the U.S. government, and also the cost of having the work performed in the countries that enter into the tax treaties. For example, a carrier may be exempt from the ad valorem duty, however the cost for repairs in that country may be greater than in other overseas countries, and may reduce the overall impact of this option. Also, depending on the countries that enter the tax treaties with the U.S., this option may limit where the maintenance and repair works can be performed and the availability of the shipyards in these countries may also affect the impact of this option.

The level of complexity in delivering the option: International tax treaties are negotiated by USTR and ratified by Congress. Implementation of the treaties would require Customs and Border Protection and the IRS to manage the treaty.[113] The level of complexity in implementing this option may be very high due to the involvement of several agencies and the requirement for Congressional approval. It is anticipated that MARAD may be able to enter into several tax treaties within a five year period, with additional treaties entered into over a longer period of time.

7.4.4 Improve Title XI Loan Program

During the study survey, carriers expressed mixed views on the Title XI loan program, with 22 percent of carriers reporting that the program has a very negative impact on their decision to register under the U.S.-flag and 22 percent reporting a positive impact on their decision. The remaining 56 percent of survey participants indicated no impact as they had not utilized the program. Survey responses reported the program's complex approval process as one reason for the low participation.

The likelihood that the option may influence carrier registry decisions and encourage growth in the U.S.-flag fleet: Improvements to the Title XI loan program through financing new vessel construction in U.S. shipyards and the reconditioning of foreign vessels to be flagged under the U.S. registry may not be a priority for MARAD in seeking to encourage participation in the U.S.-flag fleet, as vessels operating in foreign trade are not required to be U.S.-built vessels. The financial assistance provided by the program may also not be sufficient to counteract the cost of vessel construction or other works performed in U.S. shipyards.[114]

The level of complexity in delivering the option: The Title XI loan program is administered by MARAD. Congressional approval would be required to authorize funding and revisions to legislation necessary to expand the program. This option may be highly complex to implement due to the level of Congressional involvement, and may require up to five years to implement.

[113] Based on information obtained during industry consultations; 'International Tax Treaties', IRS website; 'Tax Treaties', U.S. Treasury website

[114] Based on information obtained during industry consultations

8 Insurance and Liability Costs

8.1 Relevant Legislation and Regulations

The key legislation affecting insurance and liability costs for the U.S.-flag fleet is the Merchant Marine Act of 1920 (Jones Act).[115]

The Jones Act established the personal injury and liability compensation for merchant mariners. Standard workers' compensation laws require employees to forgo the right to sue their employers for personal injury. However, the Jones Act allows mariners to sue their employers for negligence or personal injury. The Act was introduced to address the inherent risk of the mariners' occupation, similar to railroad employees' personal injury system that was established by the Federal Employers Liability Act of 1908. In court, the employee or plaintiff must prove their employer was at fault or negligent by not providing a safe and seaworthy vessel during employment. [116]

8.2 Summary of Carrier Views on Impediments

<u>Key Observations</u>

- Carriers identified insurance and liability costs as having the third largest contribution to the cost differential between U.S. and foreign-flag vessels.
- Carriers indicated that the key impediments affecting insurance and liability costs for U.S.-flag vessels include the ability for mariners to file a lawsuit against carriers for personal injury and high carrier insurance premiums, reflecting the increased risk and liability of mariner personal injury.

Results from the study survey indicate that the ability for mariners to file a lawsuit against carriers for personal injury may result in an increase in the number of claims compared to the standard workers' compensation system. 89 percent of carriers surveyed report a very negative impact from the current workers' compensation system when deciding to register under the U.S.-flag. Carriers commented that the personal injury and liability compensation for merchant mariners established under the Jones Act was implemented at a time when the benefits provided to mariners today were not provided for the industry. Carriers consider that the provisions in the Jones Act relating to personal injury and liability compensation may be revised to reflect the additional benefits available to mariners that were not available when the Jones Act was initially established.

Carriers commented that the liability from mariner claims is also a significant factor in the cost differential between U.S. and foreign-flag vessels. Carriers noted that insurance costs in the U.S. can be four to five times higher than vessel insurance costs under foreign registries, with protection and indemnity insurance premiums the major contributor to this difference. High carrier insurance premiums compared to foreign carriers reflect the increased risk and liability of mariner personal injury for U.S. carriers and the higher insurance costs can discourage carriers from flagging into the U.S. registry. [117] Carriers also commented that obtaining insurance that meets the personal injury and liability compensation requirements of the Jones Act is becoming increasingly difficult.

Table 20 highlights the key impediments identified by the carriers that affect insurance and liability costs.

[115] 'Compilation of Maritime Laws', MARAD, 2008: Chapter 301 General Liability Provisions
[116] Ibid
[117] Based on information obtained during industry consultations

Table 20: Carrier Views on the Key Impediments Affecting Insurance and Liability Costs

Key Impediments
The Jones Act provides mariners with the ability to file a lawsuit against carriers for personal injury, which has increased the number of claims and the amounts awarded for job-related personal injuries, resulting in high carrier premiums compared to foreign competitors.

8.3 Options To Address Key Impediments

The data collected for this study indicates that several options may be available to MARAD in seeking to address the key impediments that affect insurance and liability costs. The options are summarized in Table 21.

Table 21: Carrier Views on the Options to Address Key Impediments Affecting Insurance and Liability Costs

Option	Description	Impediment
Implement tort reform to reduce mariner litigation	**Statutory Change -** Tort reform may assist in decreasing the number of mariner personal injury cases and decreasing claim settlement amounts.	The Jones Act provides mariners with the ability to file a lawsuit against carriers for personal injury, which has increased the number of claims and the amounts awarded for job-related personal injuries, resulting in high carrier premiums compared to foreign competitors.
Switch from Jones Act mariner liability requirements to a standard workers' compensation system that applies to other U.S. workers	**Statutory Change -** Adopting a standard workers' compensation system may assist in reducing carrier insurance premiums and the cost differential with foreign-flag vessels.	The Jones Act provides mariners with the ability to file a lawsuit against carriers for personal injury, which has increased the number of claims and the amounts awarded for job-related personal injuries, resulting in high carrier premiums compared to foreign competitors.
Reduce mariner liability limits	**Statutory Change** - A reduction in mariner liability limits may result in lower court awards to mariners and reduce insurance premiums.	The Jones Act provides mariners with the ability to file a lawsuit against carriers for personal injury, which has increased the number of claims and the amounts awarded for job-related personal injuries, resulting in high carrier premiums compared to foreign competitors.

8.4 Assessment of the Options That May Address the Key Impediments Identified By U.S.-Flag Carriers

Based on the carrier views provided during the industry consultations and source documentation from MARAD and other government agencies, the options for improvement identified in Section 8.3 have been prioritized based on the following factors:

- The likelihood that an option may address the impediments identified by the carriers, influence the decision to register additional vessels under the U.S. flag, and also the possibility of influencing current U.S.-flag fleet operations; and
- The potential complexity and anticipated timeframe in delivering the option.

Table 22 provides the options that may address the impediments that affect insurance and liability costs in order of priority.

Table 22: Options to Address the Impediments Affecting Insurance and Liability Costs in Order of Priority

Option
Tort Reform to Reduce Mariner Litigation*
Switch to Workers' Compensation System*
Reduce Mariner Liability Limits*

** Priority Option Identified for Insurance and Liability Costs*

Section 3.3 provides further information on the process adopted to prioritize the options. The following sections discuss the options presented in Table 22 in further detail.

8.4.1 Tort Reform to Reduce Mariner Litigation

The likelihood that the option may influence carrier registry decisions and encourage growth in the U.S.-flag fleet: Tort reform seeks to reduce the frequency of litigation from mariners and the settlement awards from such litigation, which may assist in decreasing carriers' insurance and liability costs. Any cost reduction as a result of tort reform may provide a benefit for the current U.S.-flag fleet by reducing the high insurance and liability costs, and encourage carriers to retain their U.S.-flag vessels. Over the long term, tort reform may have a moderate impact on growing the U.S. fleet through helping to reduce insurance premiums and the cost differential with foreign-flag vessels.

The level of complexity in delivering the option: Passing tort reform to reduce mariner litigation and settlement awards may involve revising and amending existing legislation through debate in committees and the respective Houses of Congress. Implementing this option may be significantly complex due to the high level of involvement from Congress. Mariner labor unions may also be involved in implementing this option and may consider tort reform a reduction in mariner rights. More than five years may be required to implement this option.

8.4.2 Switch to Workers' Compensation System

The likelihood that the option may influence carrier registry decisions and encourage growth in the U.S.-flag fleet: A switch from the mariner liability requirements under the Jones Act to a standard workers' compensation system that applies to other U.S. workers may decrease the insurance and liability costs for U.S.-flag vessels. Carriers commented that a workers' compensation system in place of the current system defined by the Jones Act may significantly decrease the additional insurance and liability costs for U.S.-flag vessels.

The level of complexity in delivering the option: Implementing a standard workers' compensation system would likely require Congress to approve amendments the Jones Act. Implementing this option may be highly complex due to the level of involvement from Congress. The DoL may also be involved in implementing this change as they oversee the current standard workers' compensation system used by most U.S. employers. Additionally, mariner labor unions may consider the system changes as a reduction of mariner rights. Implementing this option and may require more than five years to implement.

8.4.3 Reduce Mariner Liability Limits

The Jones Act requires the minimum liability for personal injury or death to be equivalent to $420 times the tonnage of a vessel.[118] For example, the minimum liability for a mariner on a 50,000 dwt vessel would be $2.1M (= $420 x 50,000 dwt). The minimum liability limits contribute to the high insurance costs experienced by the U.S.-flag fleet. [119]

The likelihood that the option may influence carrier registry decisions and encourage growth in the U.S.-flag fleet: Limiting mariner liability settlement awards from mariner personal injury suits may assist in reducing carrier insurance and liability costs. However, this reduction in costs may be less significant than the cost reduction resulting from switching to a workers' compensation system or implementing tort reform, as it addresses one component of the insurance and liability costs.

The level of complexity in delivering the option: Reducing mariner liability limits would require Congress to approve amendments to the Jones Act. Similar to switching to a workers' compensation system and tort reform, implementing this option may be highly complex due to the level of involvement from Congress. The involvement of mariner labor unions may also increase the complexity of implementing this option and may require more than five years to implement.

[118] 'Compilation of Maritime Laws', MARAD, 2008: Chapter 301 General Liability Provisions
[119] Based on information obtained during industry consultations

9 Taxes

9.1 Relevant Legislation and Regulations

The following legislation affects the taxes applied to U.S.-flag vessels:[120]

- The Internal Revenue Code of 1986; and
- The American Jobs Act of 2004.

Prior to the Tax Reform Act of 1986, U.S. owners of foreign-flag vessels were allowed to exempt their foreign income from federal income taxes if they invested it into their fleets. The Act eliminated this exemption for U.S. vessel owners.[121]

During the recession following the events of September 11, 2001, the U.S. government sought ways to improve the economy. The American Jobs Act of 2004 reinstated the exemption of foreign income tax for U.S. owners of foreign-flag vessels and established the tonnage tax. The tonnage tax is an option for U.S.-flag vessel owners of ships greater than 10,000 deadweight tons to be taxed based on tonnage volume rather than annual profits. This method provides advantages in predicting tax liability and reducing overall taxes in profitable years. Carriers can calculate their tax liability when entering a U.S. port and reduces the need to estimate the tax liability based on profit throughout the year.[122] During the study survey, carriers reported that the tonnage tax has a significant positive influence in profitable years and marginal benefits in less profitable years. Survey responses indicated that 78 percent of carriers consider the tonnage tax to have a positive impact on their decision to register under the U.S. registry. The tonnage tax is comparable to the tax structure under foreign registries. [123]

9.2 Summary of Carrier Views on Impediments

Key Observations

- The study survey indicates that the contribution of taxes to the operating cost differential between U.S. and foreign-flag vessels is lower than other cost categories such as labor costs and insurance and liability costs
- Carriers indicated that the key impediment associated with the tax structure for U.S.-flag vessels is the lack of a mariner foreign income exclusion

Carriers reported that many mariners in foreign registries do not pay individual income tax. In the U.S., mariners are subject to income taxes for work conducted in the U.S. and in international waters. Carriers are responsible for payroll taxes on mariner income made in the U.S. or in international waters.[124] 44

[120] An Evaluation of Maritime Policy in Meeting the Commercial and Security Needs of the United States, prepared by IHS Global Insight for U.S. DOT/MARAD. January 2009.
[121] Ibid
[122] Ibid
[123] Ibid
[124] Based on information obtained during industry consultations

percent of the carriers surveyed report that the application on income tax to U.S. mariners has a negative impact on their decision to register a vessel under the U.S. registry.[125]

Carriers also commented that the level of unemployment taxes can be affected by mariners claiming for unemployment benefits when vessels are dry docked. Carriers explained that they provide mariners with a lump sum payment based on earned vacation time for the time spent on a vessel, however this payment is not taken into account when the unemployment benefit is calculated for an approved claim. Payment of an approved claim can result in the carrier paying a higher contribution to the state unemployment agency in future years, which is in addition to the lump sum vacation payment provided to the mariner.

Table 23highlights the key impediment of the tax structure for the U.S.-flag, as identified by the carriers.

Table 23: Carrier Views on the Key Impediment of the Tax Structure for U.S.-Flag Vessels

Key Impediment
Many mariners in other countries do not have to pay individual income tax, while U.S. mariners do pay individual income tax and this contributes to higher wage cost differentials for U.S.-flag vessels.

9.3 Option To Address Key Impediment

The data collected for this study indicates that MARAD may seek to establish a foreign earned income exclusion for mariners.

Table 24: Carrier Views on the Options to Address the Key Impediment of the Tax Structure

Option	Description	Impediment
Establish a Foreign Earned Income Exclusion for Mariners	**Statutory Change -** Excluding U.S. crews from paying U.S. income tax on income earned while in international waters may assist in decreasing carrier operating costs. It may also attract interest and raise the profile of the industry as an employment option.	Many mariners in other countries do not have to pay individual income tax, while U.S. mariners do pay individual income tax and this contributes to higher wage cost differentials for U.S.-flag vessels.

9.4 Assessment of the Options That May Address the Key Impediment Identified By U.S.-Flag Carriers

Based on the carrier views provided during the industry consultations and source documentation from MARAD and other government agencies, the option identified in Section 9.3 has been assessed to consider the following factors:

- The likelihood that an option may address the key impediment identified by the carriers, influence the decision to register additional vessels under the U.S. flag, and also the possibility of influencing current U.S.-flag fleet operations; and
- The potential complexity and anticipated timeframe in delivering the option.

[125] Based on information obtained during industry consultations

9.4.1 Foreign Earned Income Exclusion

The likelihood that the option may influence carrier registry decisions and encourage growth in the U.S.-flag fleet: Introducing a mariner foreign income exclusion may provide benefits to the U.S. mariners and may bring U.S.-flag vessels in line with foreign-flag vessels on this issue.

The level of complexity in delivering the option: The introduction of a foreign income exclusion may require a change to the tax code approved by Congress. This option may also require coordination with the IRS and Treasury. An off-set to the reduction in taxation revenue may also be required.[126] Due to this level of complexity, it may require a five year period for MARAD to implement this option.

[126] 'Regulations and Official Guidance to the Federal Tax Code', IRS website

10 Environmental Costs

10.1 Relevant Legislation and Regulations

The following legislation affects the environmental costs of the U.S.-flag fleet:[127]

- Merchant Marine Act of 1920 (Jones Act);
- Clean Water Act of 1977; and
- Oil Pollution Act of 1990.

After WWI, the U.S. merchant marine fleet supported the transportation of relief cargo to Europe, and the transportation of commercial goods decreased. In response to this decline, the Jones Act was passed to build a merchant marine which could support domestic and foreign commerce and serve as a naval and military auxiliary fleet during times of war. The Jones Act prescribed a specific approval process to transfer a vessel from the U.S. registry to a foreign registry. The Act required carriers to obtain approval from the Secretary of Transportation and pay fees set by DOT when transferring a vessel out of the U.S. registry.[128]

The Clean Water Act of 1977 amended previous environmental legislation and brought about the National Pollution Discharge Elimination System (NPDES) to eliminate or reduce point sources of pollution in the U.S. waterways. The Act specifies how and where vessel owners can discharge pollutants into the ocean and inland waters, and also requires vessel owners to apply for a permit to pollute. EPA is the regulating body for the permitting process. [129]

The Oil Pollution Act of 1990 was passed in response to the March 1989 Exxon Valdez oil spill in Valdez, Alaska. The Act mandated that tankers be double hulled vessels to reduce the risk of oil spills and also increased the legal liability of vessel owners in the event of a spill. After the introduction of the Act, new oil tankers were required to have a double hull and vessels and ports are required to have a contingency plan in case of an oil discharge. To reduce the impact on operators, the requirement applied to vessels constructed after the Act was passed.[130]

10.2 Summary of Carrier Views on Impediments

Key Observations

- During the study survey, carriers rated environmental costs as having the lowest impact of any major cost category on their decision to register under the U.S .flag.
- The EPA regulations for vessel flagging and disposal were cited by the carriers as the main reason for the environmental cost differential between U.S. and foreign registries.

[127] An Evaluation of Maritime Policy in Meeting the Commercial and Security Needs of the United States, prepared by IHS Global Insight for U.S. DOT/MARAD. January 2009.
[128] MARAD website on Foreign Transfer (U.S. flag vessels) accessed on 10/19/2010: http://www.marad.dot.gov/ships_shipping_landing_page/national_security/foreign_transfer/foreign_transfer.htm
[129] An Evaluation of Maritime Policy in Meeting the Commercial and Security Needs of the United States, prepared by IHS Global Insight for U.S. DOT/MARAD. January 2009.
[130] 'Compilation of Maritime Laws' MARAD, 2008: Double Hull Provisions, pgs. 544-545

During the industry consultation, carriers commented that the U.S. environmental policies and standards for vessel flagging out and disposal are above the internationally recognized International Maritime Organization's (IMO) policies. The differences in regulation may contribute to higher costs and time delays for carriers selling, transferring, or disposing of U.S.-flag vessels. [131] Survey responses indicate that 44 percent of participants consider the U.S. environmental regulations for vessel flagging and disposal to have a negative impact on their decision to register under the U.S.-flag.

Under the Jones Act, approval is required to flag-out a vessel from the U.S. registry. An environmental study is required for a vessel being scrapped or transferred out of the U.S. registry to assess the environmental risks of the future disposal of the vessel. Carriers reported that the cost of completing the environmental study is approximately $100,000 and additional costs to correct potential environmental hazards can increase the cost of scrapping a vessel to approximately $350,000. Carriers are also responsible for the environmentally safe disposal of a vessel after they have sold the vessel to a foreign carrier. EPA standards must also be met when flagging a vessel into the U.S. registry.[132]

Requirements introduced under the Jones Act increased the complexity of flagging into and out of the U.S. registry.[133] Over time additional requirements have increased the complexity of flag in/out process. For example, carriers must also obtain approval from the USCG and the EPA in addition to the Secretary of Transportation's approval to flag-out a vessel to a foreign registry.[134]

Carriers commented that there is no single regulatory authority overseeing the flag in/out process, requiring them to coordinate with multiple government authorities to complete the process and comply with regulations. In some cases carriers wait on an approval from one agency before they can apply for approval at another agency. Carriers also indicated that multiple approval criteria and difficulty in coordinating between agencies to flag-in/out a vessel creates a level of uncertainty and increased costs and time, which can discourage flagging additional vessels into the U.S. registry. 67 percent of carriers surveyed report that the flag-in and flag-out costs have a negative impact on a company's decision to register vessels under the U.S.-flag.

The EPA, along with state and local environmental agencies, work to regulate the environmental hazards involved with maritime trade. [135] Carriers reported that some state and local environmental agencies have stricter regulations than the EPA. Due to the variety of ports a vessel may call on, carriers reported difficulty in adjusting to changing regulations from the different state and local agencies.

Table 25 highlights the key impediments identified by the carriers that affect environmental costs.

[131] Based on information obtained during industry consultations
[132] Ibid
[133] Ibid
[134] Ibid
[135] Ibid

Table 25: Carrier Views on the Key Impediments Affecting Environmental Costs

Key Impediments
The vessel flagging out and disposal process can be costly and time consuming when compared to the process adopted by foreign registries due to the U.S. environmental regulations and the requirement for approvals from multiple federal agencies.
Differing regulations between EPA and state and local environmental agencies regulations creates difficulty for carriers in complying with both levels of regulation.[136]
The environmental scrapping approval process can be costly and time consuming when compared to the process adopted by foreign registries due to the additional U.S. environmental regulations.

10.3 Options To Address Key Impediments

The data collected for this study indicates that several options may be available to MARAD in seeking to address the key impediments identified for environmental costs for vessel flagging and disposal.

Table 26: Carrier Views on the Options to Address Key Impediments Affecting Environmental Costs

Option	Description	Impediment
Bring U.S. EPA regulations for vessel flagging and disposal in line with IMO environmental standards.	**Statutory Change -** Aligning U.S. environmental regulatory standards to the IMO standards may help reduce U.S. carrier costs attributable to environmental regulations for vessel flagging and disposal.	The vessel flagging out and disposal approval process can be costly and time consuming when compared to the process adopted by foreign registries due to the additional U.S. environmental regulations.
Reduce the administrative costs for vessel disposal by coordinating with the EPA to review, clarify, and revise, as needed, the EPA's guidelines for vessel disposal and recycling	**Statutory Change** - A reduction in the cost and administrative time for vessel disposal by streamlining the guidance and administrative process may assist in reducing the cost differential with foreign-flag vessels.	The environmental scrapping approval process can be costly and time consuming when compared to the process adopted by foreign registries due to the additional U.S. environmental regulations.
Coordinate EPA and state environmental standards by working with the EPA and state and local environmental agencies	**Statutory Change -** Establishing a central repository for updates or revisions to the various government environmental regulations may assist in reducing the administrative time and cost for carriers to comply with the regulations.	Differing regulations between EPA and state and local environmental agencies regulations creates difficulty for carriers in complying with both levels of regulation.

[136] MARAD notes that any vessel calling at U.S. ports, U.S.-flag or foreign, would be subject to the same regs contemplated in this statement.

10.4 Assessment of the Options That May Address the Key Impediments Identified By U.S.-Flag Carriers

Based on the carrier views provided during the industry consultations and source documentation from MARAD and other government agencies, the options for improvement identified in Section 10.3 have been prioritized based on the following factors:

- The likelihood that an option may address the key impediments identified by the carriers, influence the decision to register additional vessels under the U.S. flag, and also the possibility of influencing current U.S.-flag fleet operations; and
- The potential complexity and anticipated timeframe in delivering the option.

The following table provides the options that may address the environmental costs for U.S.-flag vessels in order of priority.

Table 27: Options to Address Environmental Costs in Order of Priority

Option
Adopt IMO Environmental Standards for Vessel Flagging Out and Disposal*
Reduce Administrative Costs of Vessel Disposal
Streamline Flag In/Out Process
Coordinate EPA and State Environmental Standards

** Priority Option Identified for Environmental Costs*

Section 3.3 provides further information on the process adopted to prioritize the options. The following sections discuss the options presented in Table 27 in further detail.

10.4.1 Adopt IMO Environmental Standards for Vessel Flagging Out and Disposal

During the study survey, carriers were asked if aligning U.S. environmental standards with IMO standards would significantly encourage participation in the U.S.-flag fleet. Of those surveyed, 67 percent of carriers answered that it would not significantly encourage participation.

The likelihood that the option may influence carrier registry decisions and encourage growth in the U.S.-flag fleet: Adopting the IMO standards seeks to reduce the environmental standards for flagging out and disposing of U.S.-flag vessels. Reducing the environmental costs for vessel flagging and disposal may help reduce operating costs attributable to environmental regulations and bring these costs in line with foreign registries. As carriers rated environmental costs as having the lowest impact on their decision to register under the U.S.-flag, this option may provide a small benefit to existing carriers and may have a minimal likelihood of encouraging growth in the U.S.-flag fleet.

The level of complexity in delivering the option: Adopting the IMO environmental standards may require an alteration to the EPA environmental standards for vessel flagging out and disposal. This option may be highly complex to implement, as it seeks to amend the EPA regulations and may require up to five years to implement.

10.4.2 Reduce Administrative Costs of Vessel Disposal

The likelihood that the option may influence carrier registry decisions and encourage growth in the U.S.-flag fleet: Streamlining the vessel disposal process may result in a lower cost to carriers to comply with the EPA's requirements. A reduction in vessel disposal cost impacts carriers when their vessels reach the end of their useful life, and the vessel disposal process applies to vessels registered under the U.S.-flag as well as vessels formerly registered under the U.S. flag. Coordinating with the EPA to review, clarify, and revise, as needed, the EPA's guidelines for vessel disposal and recycling may reduce the cost and administrative time for vessel disposal by streamlining the guidance and administrative process. This option may assist in reducing the cost differential with foreign-flag vessels. However, reducing vessel disposal costs may not provide an incentive for U.S.-flag carriers to sustain their fleet, as the cost is incurred on current U.S.-flag vessels, even if they are transferred to foreign registries.[137] Further, as these costs are incurred on an infrequent basis for carriers, this option may not affect the decision of carriers to register vessels under the U.S.-flag.

The level of complexity in delivering the option: Reducing vessel disposal may require a change to the vessel disposal process that is implemented by the EPA. This option would also require consultation and coordination with USCG to identify improvements to the process that may assist in reducing the carriers' administrative costs. The level of complexity in implementing this option may be high as it seeks to amend the regulations of the EPA and potentially USCG, and may require up to five years to implement the regulatory amendments.

10.4.3 Streamline the Flag In/Out Process

The likelihood that the option may influence carrier registry decisions and encourage growth in the U.S.-flag fleet: The flag in/out process was not identified by carriers as significantly contributing to the operating cost differential between U.S. and foreign-flag vessels, and many of the carriers participate in the MSP that provides an expedited flag-in process. The impact of this option on current U.S.-flag vessels may be experienced upon flagging out of the U.S. registry, or transferring vessels between the U.S. and foreign registries. Streamlining the flag in/out process may create an efficient process that requires less time and costs for the carriers to complete. However, this option may not be a priority for MARAD in seeking to encourage participation in the U.S.-flag fleet, as these events occur infrequently and this option may not impact the operating costs for current U.S.-flag vessels.

The level of complexity in delivering the option: The flag in/out process involves several agencies, including MARAD, EPA and USCG. Streamlining the process would require consultation and coordination between agencies to identify ways to improve administrative processes across the agencies. The involvement of the EPA and USCG may make the process highly complex to implement, with MARAD implementing this option within a period of five years.

10.4.4 Coordinate EPA and State Environmental Standards

The likelihood that the option may influence carrier registry decisions and encourage growth in the U.S.-flag fleet: To coordinate the EPA and state environmental standards, a central repository may be established for updates or revisions to the various government environmental regulations. This option may assist in reducing the administrative time for current U.S.-flag vessels in complying with the regulations, however this impact may not be a priority for MARAD in seeking to encourage growth in the U.S.-flag fleet as this issue was not identified by carriers as significantly contributing to the operating cost differential between U.S. and foreign-flag vessels.

The level of complexity in delivering the option: Coordinating the environmental standards may involve a number of state and local governments. This option may be highly complex to implement due to

[137] Based on information obtained during industry consultations

the number of parties that would be involved. This option may be implemented by MARAD within a five year period.

11 Summary of Key Findings

The study identifies a number of impediments to operating under the U.S. flag. Carriers identified impediments that contribute to U.S.-flag vessels experiencing higher operating costs than vessels under foreign registries. Other impediments identified by the carriers reflect the maturity of U.S. economy.[138]

The study also identifies options for improvement that may address the impediments through statutory changes, budgetary changes, as well as coordinating with government entities and non-government entities that participate in the merchant marine industry. The options have been identified and assessed based on the data collected for this study, and, therefore may not present a detailed discussion of the issues affecting the U.S.-flag fleet.

Table 28 provides a summary of the priority options identified during the study that may encourage growth in the U.S.-flag fleet, along with the impediment that the option may address.

Table 28: Priority Options To Encourage Growth in the U.S.-flag fleet and the Impediment that Each Option May Address

Priority Option	Impediment
Availability of Preference and Commercial Cargoes	
Improve Cargo Preference Performance	Agency performance under cargo preference laws and requirements impacts carriers total revenue stream from preference cargo.
Increase Civilian Cargo Preference Requirement to 100 Percent	Declining preference cargo volumes from the military drawdown in Iraq and Afghanistan and the BRAC effort impacts carriers who sustain a revenue stream from preference cargo.
Clarify Interpretation of Cargo Preference Requirements to Improve Compliance	Agency performance under cargo preference laws and requirements impacts carriers total revenue stream from preference cargo.
Economic Incentives for U.S. Firms Contracting with U.S.-Flag Vessels	Currently there are no economic incentives for U.S. firms to engage U.S.-flag vessels over foreign-flag vessels for their commercial cargo.
Additional Tanker Preference Cargo	Certain vessel types, such as tankers, are experiencing excess capacity due to low levels of available preference cargo.
Trade Promotion and Missions that may Increase Commercial Cargo Volumes	Due to the higher costs of operating under the U.S. flag, it is difficult for the higher priced U.S-flag vessels to compete with foreign registered vessels for commercial cargo.
Promotional Campaign for U.S. Firms to Contract with U.S.-Flag Vessels	Currently there are no economic incentives for U.S. firms to engage U.S.-flag vessels over foreign-flag vessels for their commercial cargo.
Impediments Associated with the Maritime Security Program (MSP)	
Increase MSP Financial Support and Number of Vessel Slots	The financial support provided by MSP is insufficient to offset the additional costs associated with operating under the U.S. flag.

[138] Based on information obtained during industry consultations

Priority Option	Impediment
Labor Costs	
Amend Labor Work Rules And Manning Requirements[139]	U.S.-flag vessels must utilize U.S. labor under the Citizen Crew Requirement. The standard of living in the U.S. and social benefits provided to mariners contribute to U.S. mariner wages being significantly higher than foreign mariners.
Shift Health Insurance to Carrier Company Plan	U.S.-flag vessels must utilize U.S. labor under the Citizen Crew Requirement. The standard of living in the U.S. and social benefits provided to mariners contribute to U.S. mariner wages being significantly higher than foreign mariners.
Shift Mariner Pension Plans to Defined Contribution Plans	U.S.-flag vessels must utilize U.S. labor under the Citizen Crew Requirement. The standard of living in the U.S. and social benefits provided to mariners contribute to U.S. mariner wages being significantly higher than foreign mariners.
Maintenance, Repair and U.S. Shipyard Costs	
Eliminate the Ad Valorem Duty	The ad valorem duty contributes to the high maintenance and repair costs for U.S.-flag vessels, rather than encouraging the work to be performed in U.S. shipyards. Carriers continue to pay the duty as the total cost of maintenance and repairs performed overseas can often be lower than the cost for the work to be performed by U.S. shipyards.
Improve and Expand the Capital Construction Fund (CCF)	The high cost of repairs and long build times in U.S. shipyards reflects a lack of economies of scale and the higher cost of labor in the U.S.
Insurance and Liability Costs	
Tort Reform to Reduce Mariner Litigation	The Jones Act provides mariners with the ability to file a lawsuit against carriers for personal injury, which can increase the number of claims and the amount awarded for personal injury.
Switch to Workers' Compensation System	The Jones Act provides mariners with the ability to file a lawsuit against carriers for personal injury, which can increase the number of claims and the amount awarded for personal injury.
Reduce Mariner Liability Limits	High carrier insurance premiums compared to foreign carriers reflect the increased risk and liability of mariner personal injury for U.S.-flag vessels.
Taxes	
Foreign Earned Income Exclusion	Many mariners in other countries do not have to pay individual income tax, while U.S. mariners do pay individual income tax and this contributes to higher operating costs for U.S.-flag vessels.
Environmental Costs	
Adopt IMO Environmental Standards for Vessel Flagging Out and Disposal	The vessel flagging out and disposal process can be costly and time consuming when compared to the process adopted by foreign registries due to the additional U.S. environmental regulations.

[139] According to MARAD, work rules, craft distinctions, and other restrictions on labor utilization are negotiated between unions and management and not necessarily exclusively established by unions.

Many of the priority options listed in Table 28 may be difficult for MARAD to implement, as they would require Congressional involvement as well as coordination with a number of government agencies. [140]

In developing a maritime strategy focused on growing the U.S.-flag fleet, MARAD may also consider the following options, which seek to address the key issue of cargo availability and may be less complex to implement:

- Implement trade promotion and missions to secure additional streams of commercial cargo to be carried on U.S.-flag vessels
- Introduce a promotional campaign to encourage U.S. companies to use U.S.-flag vessels and support American industry and jobs
- Identify additional tanker preference cargo to encourage additional tankers to join the U.S.-flag fleet
- Information on annual cargo preference volumes to assist carriers with their business planning

These options may also have the potential of encouraging existing carriers to remain in the U.S.-flag fleet by increasing the availability of cargo to the current U.S.-flag fleet. [141] MARAD may seek to implement these options, in addition to working to implement higher priority options.

MARAD is encouraged to continue to consult widely with the maritime industry, as well as government and non-government entities that support the U.S-flag fleet operations, in further investigating and developing a strategy focused on growing the U.S.-flag fleet. MARAD is also encouraged to prepare implementation plans in seeking to maintain a fleet capable of carrying a substantial portion of the water-borne export and import foreign commerce of the U.S. Finally, regular communication and surveys of the U.S.-flag fleet is encouraged, so MARAD can assess progress in addressing the impediments to industry participation and also to inform its strategy and implementation plans of new issues affecting the industry.

[140] Based on information obtained during industry consultations; Sullivan, J., 2007
[141] Based on information obtained during industry consultations

Appendix A: Acronym List

Acronym	Definition
BRAC	Base Closure and Realignment
CCF	Capital Construction Fund
CDS	Construction Differential Subsidy
CWA	Clean Water Act of 1977
DoD	Department of Defense
DoE	Department of Energy
DoL	Department of Labor
DOT	Department of Transportation
DSCA	Defense Security Cooperating Agency
DWT	Deadweight Tons
EPA	Environmental Protection Agency
FMS	Foreign Military Sales
FY	Fiscal Year
GAO	Government Accountability Office
IMO	International Maritime Organization
MARAD	Maritime Administration
MMA	Merchant Marine Act
MSP	Maritime Security Program
NDTA	National Defense Transportation Association
NPDES	National Pollution Discharge Elimination System
ODS	Operational Differential Subsidy
OFD	Ocean Freight Differential
Ro-Ro	Roll-On Roll-Off
State Dept	United States Department of State
U.S.	United States
USAID	United States Agency for International Development
USCG	United States Coast Guard
USDA	United States Department of Agriculture
VISA	Voluntary Intermodal Sealift Agreement
WWI	World War I
WWII	World War II

Appendix B: Sources and References

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