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Report to the Secretary of Defense

June 1997

STRATEGIC MOBILITY

Late Deliveries of Large, Medium Speed Roll-On/Roll-Off Ships

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The Honorable William S. Cohen
The Secretary of Defense

Dear Mr. Secretary:

This report discusses the Navy's progress in acquiring 19 Large, Medium Speed Roll-On/Roll-Off (LMSR) ships to preposition Army equipment and add to surge sealift capacity. To fulfill its sealift requirements, the Department of Defense (DOD) is converting 5 used commercial container ships and will build 14 ships. Specifically, this report discusses (1) the Navy's efforts to deliver the LMSR conversion and new construction ships on schedule and the impact of any delays on the Army meeting its prepositioning afloat requirements, (2) the capability of the LMSR conversion ships to adequately perform their mission, (3) the level of crewing for the LMSR ships, and (4) increases in LMSR procurement costs.

Background

DOD bases its requirements for strategic mobility forces on the 1992 congressionally mandated analysis called the Mobility Requirements Study. The study established a requirement for an additional 3 million square feet of surge capacity and 2 million square feet of prepositioned capacity by fiscal year 1998.[1] The study recommended that DOD acquire 20 LMSR ships, 9 for prepositioning, and 11 for surge to meet this requirement. In 1992, we reported on the Navy's plans to acquire the 20 ships and concluded that significant time and cost savings could be realized to the extent that the Navy buys and converts ships.[2] In its most recent requirements study—the 1995 Mobility Requirements Study Bottom-Up Review Update—DOD validated the study's recommendation and reinforced an earlier recommendation by the Joint Chiefs of Staff to buy 19 LMSR ships and established a requirement for 10 million square feet of surge capacity and 4 million square feet of prepositioned capacity, for a total capacity of 14 million square feet. In addition to the LMSR ships, sealift capacity would come from reduced operating status ships already in the Ready Reserve Force and Fast Sealift Ships under Maritime Administration and Military Sealift Command control.

[1]Surge sealift ships transport equipment and supplies from the United States to help complete the initial buildup of U.S. forces. Prepositioning ships store equipment and supplies for U.S. military forces in ocean areas close to potential regional crises and conflicts.

[2]Shipbuilding: Navy's Plan to Acquire Additional Strategic Sealift (GAO/NSIAD-92-224, July 30, 1992).

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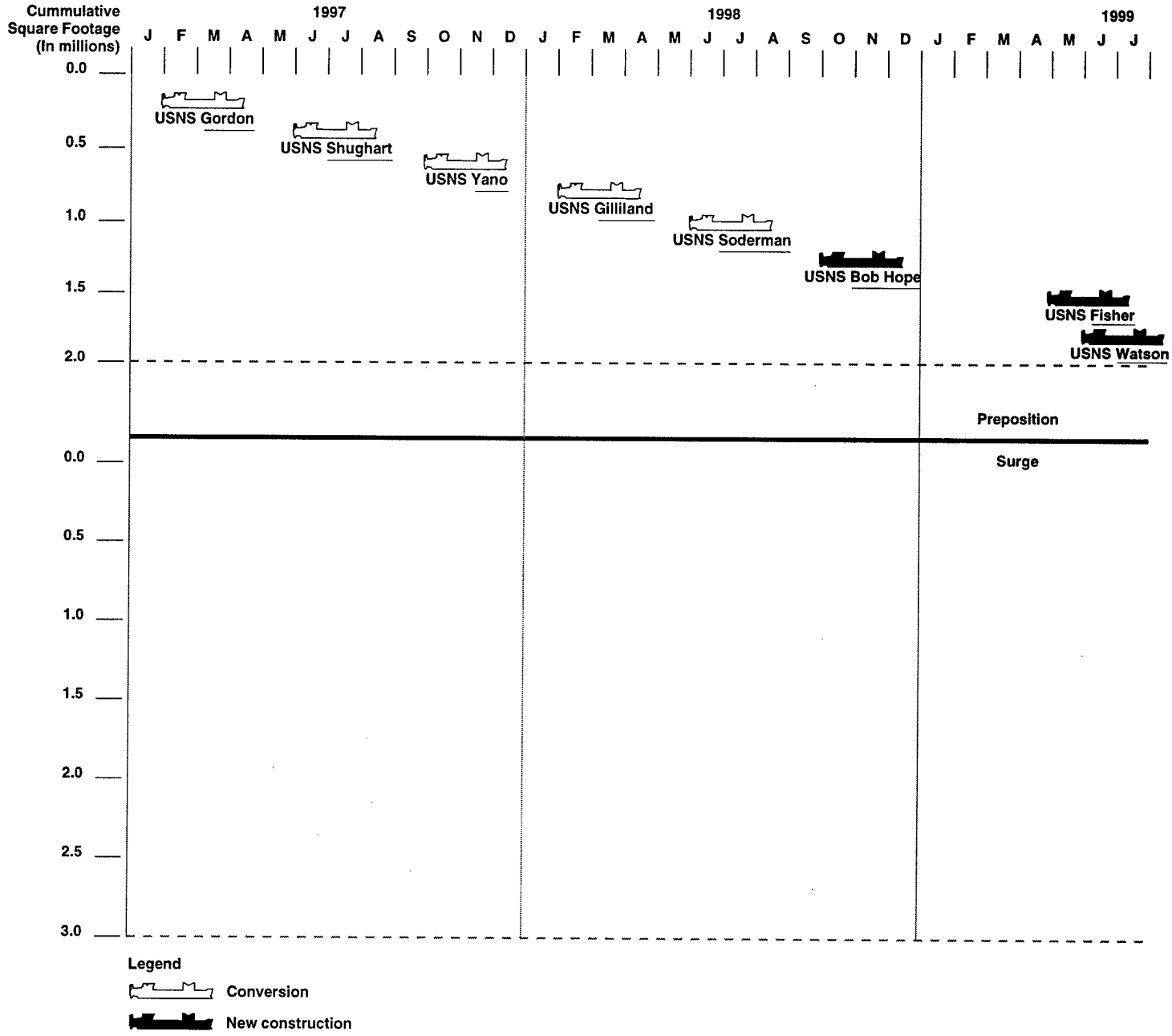
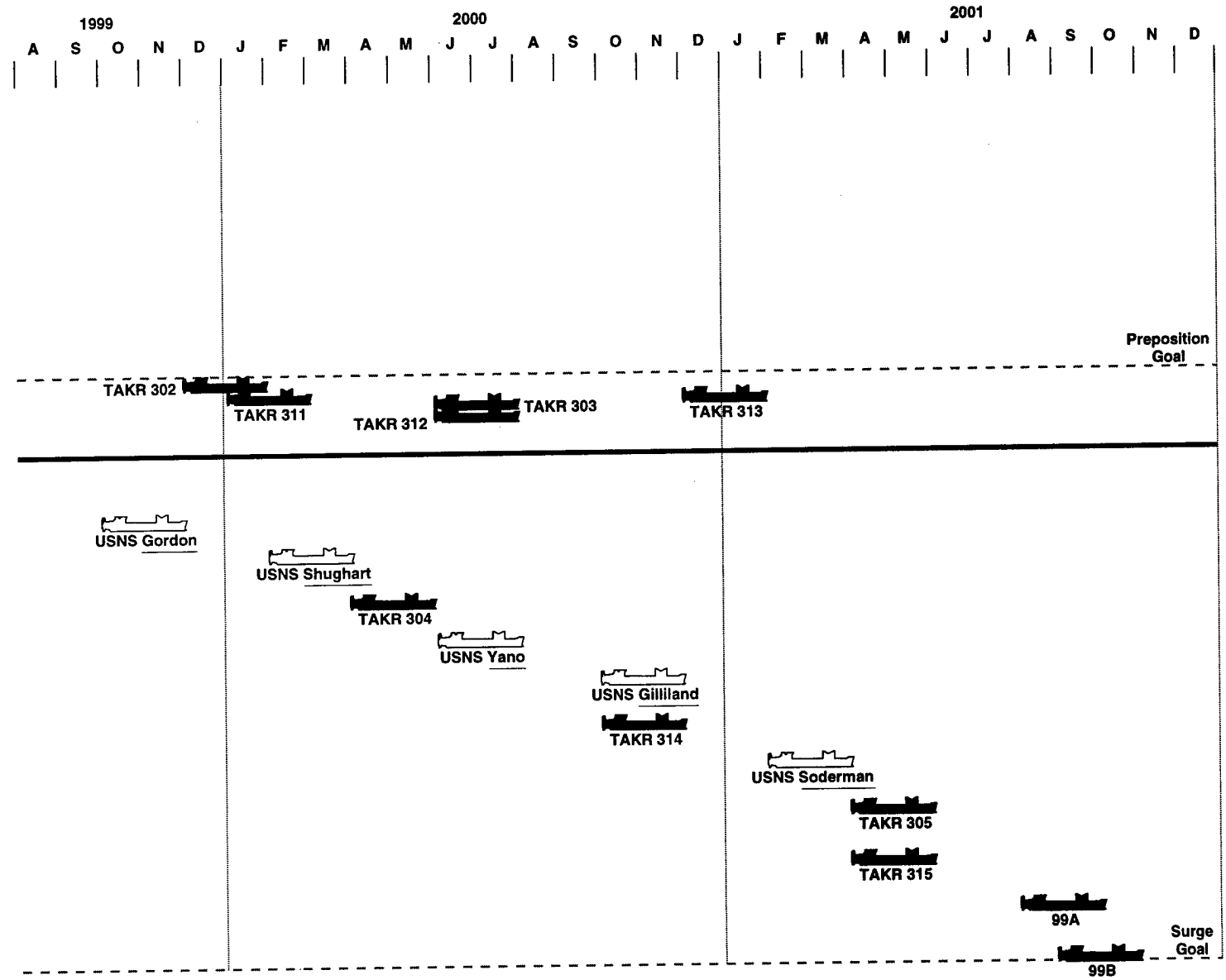
Eight LMSR ships will provide about 2 million square feet of cargo capacity to preposition Army equipment for heavy forces and support units, nearly 50 percent of DOD afloat prepositioning requirements. The remaining 11 LMSR ships will move equipment quickly from the United States to areas of conflict. This action will provide nearly 3 million square feet of surge capacity, or nearly 30 percent of DOD's surge sealift requirements. Initially, the Army will use the five conversion LMSR ships for prepositioning equipment; eventually, these ships will move into the surge force as the new construction ships are completed (see fig. 1).

Figure 1: Projected Operational Schedule for LMSR Ships and Capacity Provided (1997-2001)





Notes: LMSR ships that have not been given names are identified by Navy-assigned hull numbers.

The five conversion ships will begin to move to surge status as T-AKR 311, T-AKR 303, T-AKR 312, and T-AKR 313 are deployed.

Source: Our analysis based on data from U.S. Transportation Command, Military Sealift Command, and Naval Sea Systems Command.

Of the five conversion ships, two are being converted by Newport News Shipbuilding, Newport News, Virginia, and three are being converted by National Steel and Shipbuilding Company (NASSCO), San Diego, California, from container ships purchased from commercial ship operators. Avondale Industries, New Orleans, Louisiana, and NASSCO are each designing and building six new ships. One or both of these shipyards will build the last two LMSR ships. The Military Sealift Command, DOD's manager for sealift, operates and maintains the LMSR ships with civilian commercial contract merchant mariners. The Military Sealift Command puts each ship through a ship introduction period, which usually lasts about 8 months, after delivery from the contractor. The ships are ready for prepositioning or surge deployment once all major deficiencies have been resolved. (See app. I for photographs of LMSR conversion ships and app. II for drawings of LMSR new construction ships.)

As of April 1997, the Congress had appropriated about $4.8 billion of the estimated $6 billion for the 19 LMSR ships at an average cost of about $314 million. Funding for the LMSR acquisition program is appropriated in the defense budget through the National Defense Sealift Fund, which was established in fiscal year 1993 as a revolving fund that acts as a centralized fiscal authority for all sealift activities.

Results in Brief

As of May 1997, four of the five Large, Medium Speed Roll-On/Roll-Off conversion ships were delivered 16 to 20 months late and the remaining ship is 24 months behind schedule. Deliveries of new construction ships are expected to be 4 to 12 months later than planned. The delays in conversion ships are due to both government and contractor problems. Late deliveries of the new construction ships are due to labor strikes and similar problems experienced in the conversions. Additionally, inadequate controls in the material management systems at all three shipyards could result in further schedule delays. These delays will cause the Army to rely on smaller, less capable ships and to incur an estimated $18.5 million additional cost in operations and maintenance funds over 3 years ending in fiscal year 1998.

The number of major deficiencies identified on the four delivered conversion ships has decreased since the first delivery. The final performance issue, the inability of a water discharge system to remove water from cargo areas, was corrected and cleared by the Coast Guard after testing in mid-May 1997. Also, the Navy operational testers identified

the inability of the first conversion ship to sustained a speed of 24 knots; it averaged a maximum speed of 23.665 knots.

Defense Department officials said that the older, Large, Medium Speed Roll-On/Roll-Off conversion ships would likely require increased maintenance. The Military Sealift Command, through its ship manager, plans to crew the 5 conversion ships at the minimum levels required by the Coast Guard plus 4 additional crewmembers to manage and perform food service and housekeeping duties for a total of 26 crewmembers. Minimum crewing is a cost-saving measure several ship operating companies use, but it may not provide the crew levels necessary for adequate ship maintenance. According to Military Sealift Command officials, the ship operating company will use industrial assistance workers to augment the permanent crew for ship maintenance and repair.

The Large, Medium Speed Roll-On/Roll-Off conversion and new construction ships have had a net cost increase of about $131.5 million as a result of schedule delays. The five conversion ships have experienced a total cost increase of about $173.3 million. The new construction ships have experienced a cost decrease of about $41.8 million, which can primarily be attributed to a change in price indexes issued by the Office of Management and Budget. Despite the net increase, Navy cost projections show a downward trend in ship cost through delivery of the last ship in fiscal year 2001.

Delivery Delays and Impact on Army's Afloat Prepositioning

As of May 1997, the LMSR conversion ships were 16 to 24 months late and deliveries of new construction ships were expected to be 4 to 12 months behind schedule. These delays have caused the Army to change its afloat prepositioning plans.

Significant Conversion Delays Affect Army Afloat Prepositioning Plans

To date, four of the five LMSR conversion ships have been delivered 16 to 20 months late. The remaining ship, the USNS Soderman, is in the final phases of conversion and is expected to be delivered in November 1997, 24 months behind schedule. Table 1 shows the delivery delays based on the revised contract dates.

Table 1: Delays in Delivery of LMSR Conversion Ships as of May 1997

Ship name and number	Contract delivery date	Actual delivery date	Months delayed
USNS Shughart T-AKR 295	Jan. 1995	May 1996	16
USNS Gordon T-AKR 296	Jan. 1995	Aug. 1996	19
USNS Yano T-AKR 297	June 1995	Feb. 1997	20
USNS Gilliland T-AKR 298	Sept. 1995	May 1997	20

Note: The delivery date is the month the contractor delivered the ship to the Military Sealift Command.

Source: Our analysis based on data from Naval Sea Systems Command.

These delays are due to both government and contractor problems, according to Navy officials. The USNS Gordon was delivered 19 months late. The late government-furnished information on class standard equipment slowed completion of detail design work by 7 months. There were also government-required changes in the foam fire fighting system design that required major redesign work. Navy officials stated that the shipyard's underestimation of the complexity and difficulty of the conversion work and its efforts in detail design and production, especially in the double bottom hull, caused an additional delay of 12 months. The USNS Shughart and the USNS Yano were delivered 16 months and 20 months late, respectively, for basically the same reasons as the USNS Gordon, with the exception of the double bottom hull work. The USNS Gilliland was delivered in May 1997, 20 months later than the original scheduled date. According to Navy officials, 18 months of this delay was caused by the same government- and contractor-related problems associated with the other conversion ships. The most recent delay of 2 months was attributed to the contractor temporarily lowering the level of workers.

The Navy accepted the LMSR conversion ships at delivery with major deficiencies. According to Navy officials, this practice is common in shipbuilding programs because they have about 45 days to correct the deficiencies before accepting a ship for sail-away and deployment. Major deficiencies included the Machinery Control Console System computer screen locking up, problems with fire detection sensor limits, short operational life of gas detection sensors, and auxiliary fire fighting foam valves that did not operate properly.

The number of major deficiencies identified on the four delivered LMSR conversion ships has decreased since the first delivery. For example, the first conversion ship was delivered with 22 major deficiencies, the second with 3, the third with 1, and the fourth with 3. According to Navy officials, these deficiencies generally do not preclude the conversion ships from being used for training. However, in the case of the USNS Shughart, the problem with the ship's fire fighting system, machinery console, and system for removing water from the cargo areas delayed its deployment. The contractor corrected the water removal system deficiency and the Coast Guard cleared the deficiency after testing in mid-May 1997. The contractor also corrected the other deficiencies.

The USNS Soderman is expected to be delivered in November 1997, 24 months later than its original scheduled date. This delay also is directly related to the other ship delays previously discussed for a total of about 22 months. A labor strike against the shipyard resulted in an additional 2-month delay.

These late LMSR conversion deliveries have also delayed ship deployments, which are normally scheduled to deploy between 6 to 8 months after delivery. Table 2 shows the delays in deployments of the LMSR conversion ships.

Table 2: Delays in Deployment of LMSR Conversion Ships as of May 1997

Ship name and number	Original deployment date	Estimated deployment date	Months late
USNS Shughart T-AKR 295	Sept. 1995	June 1997	21
USNS Gordon T-AKR 296	Sept. 1995	Feb. 1997	17
USNS Yano T-AKR 297	Feb. 1996	Oct. 1997	20
USNS Gilliland T-AKR 298	May 1996	Feb. 1998	21
USNS Soderman T-AKR 299	July 1996	June 1998	23

Note: The deployment date represents the month in which the Army loads its equipment aboard ship and moves it to a prepositioning location.

Source: Our analysis based on data from Naval Sea Systems Command.

Had the original delivery schedules been achieved, the five conversion ships would now be deployed to their prepositioning locations. These

larger LMSR ships would replace smaller, less capable Ready Reserve Force ships in operation.[3] The LMSR ships can get to an area of conflict faster than the ships currently in use. For example, the Ready Reserve Force ships currently in operation require 7 to 8 days to transit from their base in the Indian Ocean to Southwest Asian ports, whereas the LMSR ships require only 5 days for this journey. According to Army officials, the faster time is significant because operational flexibility increases, military risks decrease, and equipment arrives in theater sooner.

The deployment delays will cause the Army to incur an estimated $18.5 million in additional operations and maintenance costs over a 3-year period. These costs are for additional ship leasing and operating costs for the prepositioning ships activated from the Ready Reserve Force. The increased costs include $1.7 million in fiscal year 1996 for extended leasing and associated operations and maintenance costs (i.e., canal fees, deactivation charges, and additional ship leasing days, etc.) for two Ready Reserve Force ships; $14.5 million in fiscal year 1997 for additional ship leasing days, increased leasing rates, canal fees, and ship deactivation; and $2.3 million in fiscal year 1998 for additional ship leasing days and ship deactivation cost.

New Construction Delays Could Result in Late Deliveries

The LMSR new construction ships are critical to the Army's afloat prepositioning program as they increase the square foot capacity from about 1.1 million square feet to the Military Requirements Study's requirement of at least 2 million. These ships will also increase total surge sealift capacity from nearly 7 million to nearly 10 million square feet. The first new construction ship, the USNS Bob Hope, is expected to deploy in the fall of 1998. The last ship for the Army's prepositioning program is scheduled to deploy in late fiscal year 2000, and the last ship for surge sealift is scheduled for late fiscal year 2001. The current planned delivery dates meet the Army's operational requirements. Table 3 shows the delays in delivery of the first four new construction ships based on revised contract dates.

[3]The Ready Reserve Force is a government-owned, inactive fleet of former commercial ships of various configurations and capabilities. This fleet is the government's largest source of strategic sealift capability.

Table 3: Delays in Delivery of First Four LMSR New Construction Ships as of May 1997

Ship name and number	Original contract delivery date	Current estimated contract delivery date[a]	Months late
USNS Bob Hope T-AKR 300	Sept. 1997	Jan. 1998	4
USNS Fisher T-AKR 301	Mar. 1998	Sept. 1998	6
USNS Watson T-AKR 310	Oct. 1997	Oct. 1998	12
T-AKR 302	Sept. 1998	Apr. 1999	7

[a]Date includes estimated impact of labor strikes.

Source: Our analysis based on data from Naval Sea System Command.

Early production inefficiencies, a 4-month bid protest action, and a 1-month labor strike contributed to delays of the new construction ships at NASSCO. Avondale Industries is currently negotiating an extension of 8 to 10 weeks on three ships—T-AKR 301, T-AKR 302, and T-AKR 303—due to a strike at a subcontractor's facility.

Navy officials stated that the progress of the first new construction ships' schedule is more difficult to predict than subsequent ship deliveries. However, they are optimistic that the two shipyards will deliver the ships on schedule by meeting program milestones such as launching the ship and dock and sea trial tests. They further stated that they will be able to project schedule progress with greater confidence as they gain experience with the first new construction ships.

The Defense Contract Audit Agency (DCAA) found that the three contractors could improve schedule efficiencies by correcting deficiencies in their material management and accounting systems. These deficiencies include inadequate procedures or practices for measuring the accuracy of production and material ordering schedules. The DCAA audit reports identified deficiencies that could result in late delivery of end items, increased contract costs resulting from purchases of parts that were not required, and the need to compress work schedules due to late deliveries of purchased parts.[4] According to a DCAA official, DCAA has been trying to

[4]Report on Audit of Avondale Industries, Inc.'s Material Management and Accounting System (DCAA: Audit Report No. 1221-96B12500001 Chron. No. 080), December 1996. For Newport News Shipyard see Report on Material Management and Accounting System Internal Controls (DCAA: Audit Report No. 1721-945F12500012 Chron. 0122), June 1996. For NASSCO see Report on Review of Material Management and Accounting System for New Construction Contracts (DCAA: Audit Report No. 4151-96R1200001), September 1996.

resolve these deficiencies with the contractors since 1994. The official told us that the contractors' production efficiency could be adversely affected and ship construction could be delayed until the deficiencies are corrected. However, DOD officials responsible for the LMSR program do not believe that these system deficiencies have had an affect on the delivery schedule for the new construction ships.

LMSR Ship Performance

The USNS Shughart was the first ship scheduled to deploy for prepositioning service. However, the contractor's and the Navy's attempts to resolve a mission critical deficiency during the post-delivery period had not been fully resolved to support a February 1997 deployment. As a result, the Military Sealift Command replaced the USNS Shughart with the USNS Gordon for the first prepositioning deployment. Army and Navy officials stated that there was no adverse impact to the Army's operations since the USNS Gordon was able to support the deployment date that was previously scheduled for the USNS Shughart. However, as of May 1997, the USNS Shughart did not have any mission critical deficiencies, and it is now scheduled for deployment in June 1997.

The Army and Navy operational test commands jointly conducted tests on the USNS Shughart in September 1996 and recommended the continued deployment of the conversion ships in their report. Also, in the same report, they stated that the USNS Shughart did not sustain the required speed of 24 knots in a loaded condition. The speed was recorded at 23.665 knots. The test report also said that there will be occasions when currents, seas, and winds will increase the ships speed above 24 knots. The operational testers recommended that military planners should not rely on a sustained 24-knot speed for the Shughart class ships in developing operational plans. However, Navy officials disagreed with this recommendation and contended that tests on the USNS Shughart during predelivery trials verified its average speed at 24.4 knots.

Based on the experience with the USNS Shughart, the Navy's Supervisor of Shipbuilding established more rigorous criteria for future LMSR ship deliveries. According to officials from the Navy Board of Inspection and Survey, the Navy Supervisor of Shipbuilding, and the Military Sealift Command, the USNS Yano was delivered with fewer deficiencies and in better operational condition than the USNS Shughart. The Military Sealift Command officials believe that the USNS Yano should meet its planned deployment date of October 1997.

Crewing Levels for LMSR Ship Maintenance

The Military Sealift Command, through its contracted ship operating company, plans to crew the five LMSR conversions at the minimum number required by the Coast Guard to operate the ships and ensure the safety of the crew, the public, and the environment. These minimum Coast Guard standards are used on many commercial ships; however, these standards may not provide the crewing levels necessary for adequate ship maintenance.

In our 1992 report on the Navy's plan to acquire LMSR ships, DOD stated that the older, LMSR conversion ships would likely require increased maintenance and support. According to the current contract between the Military Sealift Command and the ship operating company, the LMSR conversion ships will use a minimum of 26 crewmembers. The minimum Coast Guard crew level includes 22 crewmembers to operate, maintain, and repair the ships' systems and equipment. The Military Sealift Command adds four crewmembers to manage and perform food service and housekeeping duties.

In the area of maintenance and support, the Military Sealift Command's automated maintenance manual identifies the LMSR ship's periodic maintenance requirements and the hours required to accomplish them. The ship operating company is responsible for properly managing the maintenance and repairing of the LMSR ships and determining the most cost-effective method to accomplish these tasks. Some ship operating companies' maintenance and repair methods include using the permanent crew for most maintenance and repair tasks, doing more of this work at shipyards, or using industrial assistance workers to augment the permanent crews.

Industrial assistance workers are temporary personnel brought aboard ships by the ship operating company to accomplish specific maintenance and repair tasks. They perform time-consuming and labor intensive tasks, such as paint removal and painting, which allows the permanent crews to focus on more complex maintenance and repair tasks and ship operations. According to DOD officials, the use of industrial assistance workers allows the ship operating company to lower overall operating costs by operating with minimum permanent crews and reducing the amount of shipyard repairs. According to Military Sealift Command officials, this is a common commercial practice and is currently used in the Marine Corps' prepositioning program.

Military Sealift Command officials told us that the use of industrial assistance workers on LMSR ships appears to be the most cost-effective method. The Military Sealift Command, working with the ship operating company, has developed a maintenance and repair plan using these industrial assistance workers. These officials believe that adequate maintenance and repair can be performed on the ships with the 26 permanent crewmembers augmented by industrial assistance workers.

LMSR Costs Exceed Current Projections

Since 1993, acquisition cost growth of the LMSR conversion and new construction ships has had a net increase of about $131.5 million. This net increase represents about a 2-percent total program cost growth, from approximately $5.8 billion to $5.9 billion. The LMSR conversion ships account for $173.3 million of the cost increase, while the new construction ships show an estimated net cost decrease of $41.8 million. The cost increase was the direct result of the previously discussed delivery delays, while the net decrease can be attributed to a change in the escalation indexes. However, the cost increase in the conversion ships shows a downward trend from the first to the last completed ship. Table 4 shows the estimated cost increases at completion for the LMSR conversion ships.

Table 4: Increases in Estimated Cost at Completion of LMSR Conversion Ships

Dollars in millions

Ship's name and number	Initial estimated cost at completion	Current estimated cost at completion	Difference
USNS Shughart T-AKR 295	$ 297.8	$ 343.6	$ 45.8
USNS Gordon T-AKR 296	303.1	355.8	52.7
USNS Yano T-AKR 297	251.9	277.5	25.6
USNS Gilliland T-AKR 298	254.0	279.3	25.3
USNS Soderman T-AKR 299	252.3	276.2	23.9
Total	**$1,359.1**	**$1,532.4**	**$ 173.3**

Source: Our analysis based on data from Naval Sea Systems Command.

The first four new construction ships, in the early stages of production, show a net increase in cost of about $5 million. This cost increase, according to Navy officials, can be attributed to an escalation adjustment in the cost indexes to reflect inflation projections. According to the terms of the LMSR contracts, the Navy and the shipyards each pay 50 percent of

cost increases above target cost and share the same percentage in savings on all contracts that are completed below the target cost. Also, the contractor assumes total responsibility for cost once it reaches 130 percent of the contract target cost. Table 5 shows the changes in the estimated cost at completion for the LMSR new construction ships.

Table 5: Changes in Estimated Cost at Completion of LMSR New Construction Ships

Dollars in millions

Ship's name and/or number	Initial estimated cost at completion	Current estimated cost at completion	Difference
USNS Bob Hope[a] T-AKR 300	$ 378.7	$384.1	$ 5.4
USNS Fisher[a] T-AKR 301	294.9	297.3	2.4
T-AKR 302[a]	292.9	294.2	1.3
T-AKR 303	301.9	293.2	(8.7)
T-AKR 304	308.5	295.7	(12.8)
T-AKR 305	314.6	299.3	(15.3)
USNS Watson[a] T-AKR 310	386.7	382.5	(4.2)
T-AKR 311	296.9	307.8	10.9
T-AKR 312	289.4	301.3	11.9
T-AKR 313	294.2	288.3	(5.9)
T-AKR 314	295.3	283.4	(11.9)
T-AKR 315	296.9	282.0	(14.9)
T-AKR 99A[b]	298.6	298.6	0
T-AKR 99B[b]	392.4	392.4	0
Total	**$4,441.9**	**$4,400.1**	**$(41.8)**

[a]Indicates first four new construction deliveries.

[b]Final budget amounts will be established at contract award.

Source: Our analysis based on data from Naval Sea Systems Command.

Contractors and Navy officials stated that the lessons learned from the conversion ships will allow them to complete the new construction ships near projected cost. Navy officials stated that they monitor the LMSR contractors' production progress, which is considered in the LMSR program manager's cost estimate for each ship at completion. According to these officials, the LMSR program manager holds a monthly cost performance review of each shipyard and uses the information obtained to update the quarterly Defense Acquisition Executive Summary and other status reports

on the LMSRs' cost and schedule performance. Additionally, DCAA provides on-site contract review and monitoring at each shipyard.

Recommendation

The Defense Contract Audit Agency has identified long-standing deficiencies in the material management and accounting systems at all three LMSR shipyard contractors. It believes these system deficiencies could affect the delivery schedule for LMSR ships. While DOD officials acknowledge the deficiencies, they do not believe they have had an effect on the delivery schedule. Given that there is a valid concern that these system deficiencies could affect the delivery schedule for the LMSR ships, we recommend that the Secretary of Defense direct the Secretary of the Navy to resolve these deficiencies expeditiously to minimize the potential for additional delays.

Agency Comments and Our Evaluation

In commenting on a draft of this report, DOD generally concurred with the report but did not agree completely with our rationale or the necessity for the Secretary of Defense to provide specific direction. For example, DOD partially concurred with our recommendation that the Navy be directed to resolve the long-standing deficiencies in the material management and accounting systems at all three LMSR shipyard contractors and stated that the following efforts were underway to demonstrate compliance with these required systems:

- The Navy converted one shipyard contractor's contract to fixed price. As of May 1997, the contractor had absorbed approximately $100 million of cost overruns.
- The Navy sent a letter to another shipyard contractor requesting either an explanation of compliance with the required material management and accounting systems or a corrective action plan. The contractor modified its testing procedures and schedules and the Navy is currently seeking DCAA concurrence with these modifications.
- The Navy decided not to withhold part of the third shipyard contractor's progress payments after the shipyard contractor acknowledged that it was not in compliance with the required material management and accounting systems and outlined a plan to correct the deficiencies.

We continue to believe that the Navy needs to resolve the deficiencies expeditiously in the three shipyard contractors' material management and accounting systems because DCAA has been trying to resolve these deficiencies with the contractors since 1994 and the contractors'

production efficiency could be adversely affected and ship construction could be delayed until the deficiencies are corrected.

DOD also partially concurred with our draft recommendation that the Navy be directed to resolve the issue of the inability of the Shugart class of LMSR ships to maintain the required speed of 24 knots when loaded. In a May 23, 1997, letter, the Deputy Chief of Naval Operations (Logistics) stated that the USNS Shughart has demonstrated the ability to achieve speeds greater than the required speed of 24 knots when adjusted for full load conditions. Based on that letter, DOD stated that the difference in the required speed of 24 knots and the demonstrated operational test speed of 23.665 knots is not significant. We agree that the diference between speeds of 24 knots and 23.665 knots is not significant. Therefore, we have deleted that recommendation from our final report.

DOD also provided technical comments, which we have incorporated where appropriate. (DOD's comments are presented in their entirety in app. III.)

Scope and Methodology

To obtain information on the Navy's efforts to deliver the conversion and new construction ships on schedule, we gathered information on the original contract and the current projected delivery dates reported by the three LMSR contractors—NASSCO, Newport News Shipbuilding, and Avondale Industries—and the Navy for each of the LMSR prepositioning ships. We examined DCAA reports to determine whether there were deficiencies in the contractors' material management and accounting systems that could affect the delivery schedule for LMSR ships. We determined the impact of any delays on the Army meeting its prepositioning afloat requirements by examining the Army's operational schedule and identifying those areas in which the Army fell short of its goals. We also identified the Army's efforts to minimize the effects of late deliveries on its afloat prepositioning requirements. We interviewed Navy, Army, and contractor officials at the Naval Sea Systems Command and the Army's Deputy Chief of Staff for Logistics, Washington, D.C. In addition, we interviewed representatives from the Navy's Supervisor of Shipbuilding and the ship contractors at Newport News Shipbuilding, Avondale Industries, and NASSCO.

To determine the capability of the LMSR conversion ships to adequately perform their mission, we observed (1) tests of critical ship systems while they were in port and during tests at sea and (2) the loading of Army afloat

prepositioning equipment aboard the first deployed LMSR ship. We reviewed test reports and summaries, including the combined Army and Navy independent, operational test report of the LMSR ship. Where there were performance deficiencies, we discussed with Army and Navy officials the affect of the deficiencies on the ship's ability to carry out its mission. We interviewed officials at the Deputy Chief of Naval Operations and Strategic Sealift Programs and the Director of Navy Test and Evaluation and Technology Requirements, Washington, D.C.; the Army Operational Test and Evaluation Command, Alexandria, Virginia; the Navy Operational Test and Evaluation Force, Norfolk, Virginia; the Military Traffic Management Command, Falls Church, Virginia; and the Navy Board of Inspection and Survey, Norfolk, Virginia.

To determine the level of crewing for the LMSR ships, we reviewed Military Sealift Command and Coast Guard crewing documents. We interviewed officials from the Military Sealift Command, Washington, D.C., and representatives from the LMSR conversion ship operating company in Charleston, South Carolina. We also interviewed crewmembers from a LMSR conversion ship in Newport News, Virginia.

To identify the increases in the LMSR procurement costs, we examined copies of LMSR conversion and new construction ship contracts, budget estimates, and contractor cost performance reports. We also examined the operations and maintenance budget submittals for the Army's Strategic Mobility Program. We interviewed Navy and Army officials at the Naval Sea Systems Command and the Department of the Army's Deputy Chief of Staff for Logistics, Washington, D.C. We also interviewed representatives from the Navy's Supervisor of Shipbuilding and contractor officials from Newport News Shipbuilding, Avondale Industries, and NASSCO.

We conducted our review from August 1996 through May 1997 in accordance with generally accepted government auditing standards.

As you know, the head of a federal agency is required by 31 U.S.C. 720 to submit a written statement on actions taken on the recommendation in this report to the Senate Committee on Governmental Affairs and the House Committee on Government Reform and Oversight not later than 60 days after the date of this letter and the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of this letter.

We are sending copies of this report to the Secretaries of the Army and Navy and other interested congressional committees. Copies will be made available to others upon request. Please contact me at (202) 512-5140 if you or your staff have any questions concerning this report. Major contributors to this report are listed in appendix IV.

Sincerely yours,

Mark E. Gebicke
Director, Military Operations
and Capabilities Issues

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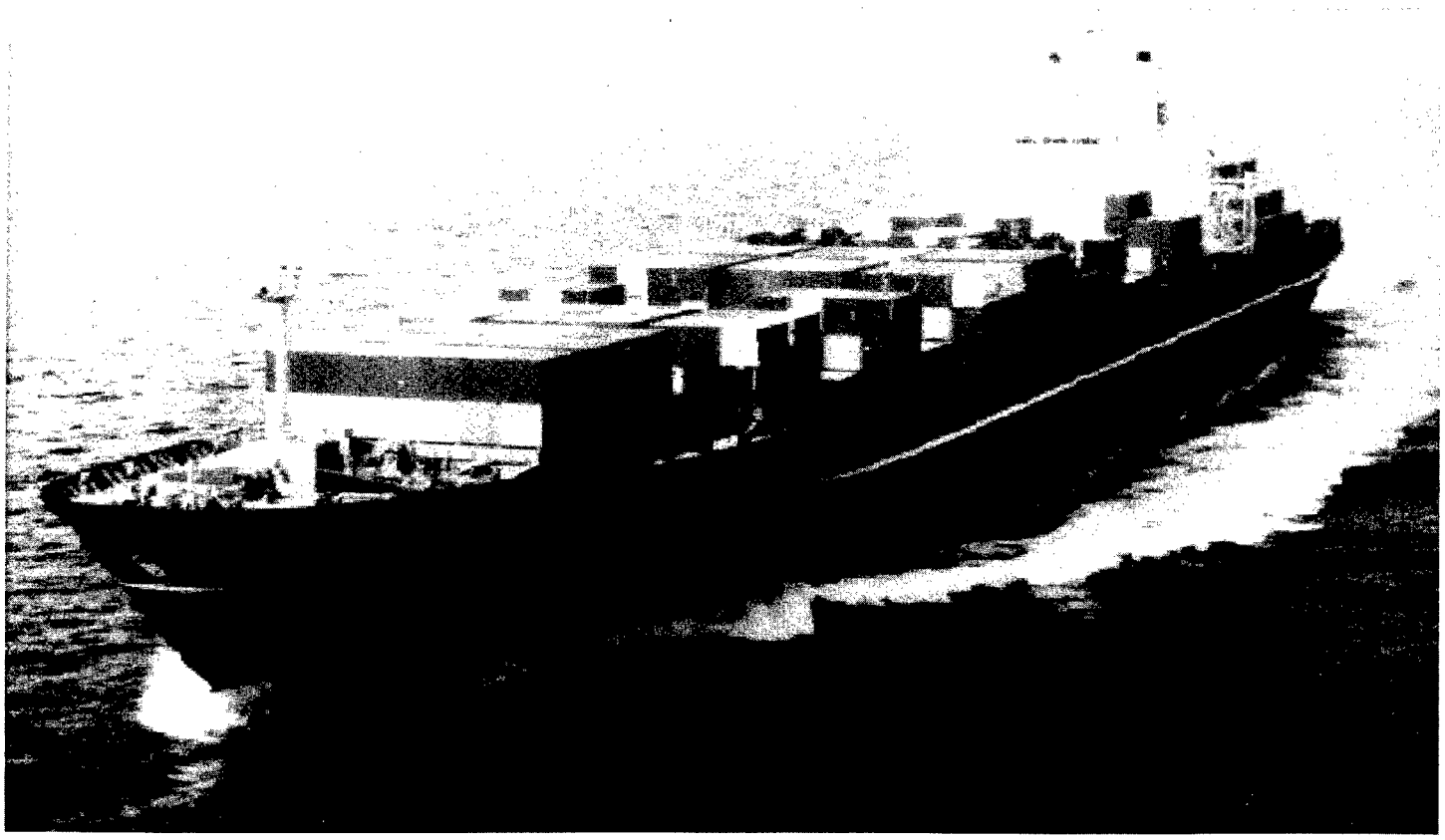
Abbreviations

DCAA	Defense Contract Audit Agency
DOD	Department of Defense
GAO	General Accounting Office
LMSR	Large, Medium Speed Roll-On/Roll-Off
NASSCO	National Steel and Shipbuilding Company

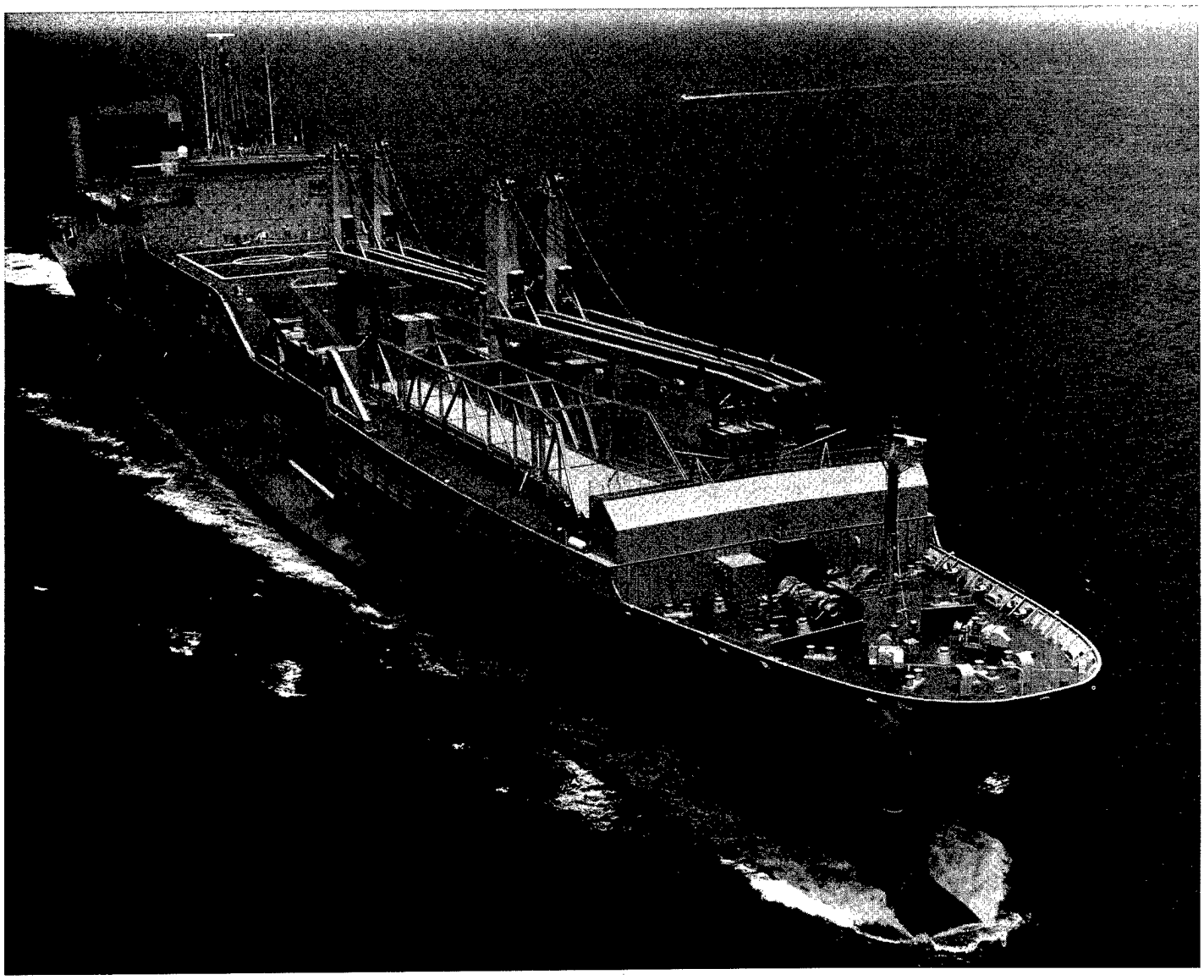
Photographs of Large, Medium Speed Roll-On/Roll-Off Conversion Ships

Figure I.1: Newport News Shipbuilding Conversion, East Asiatic Limited Containership (before conversion)



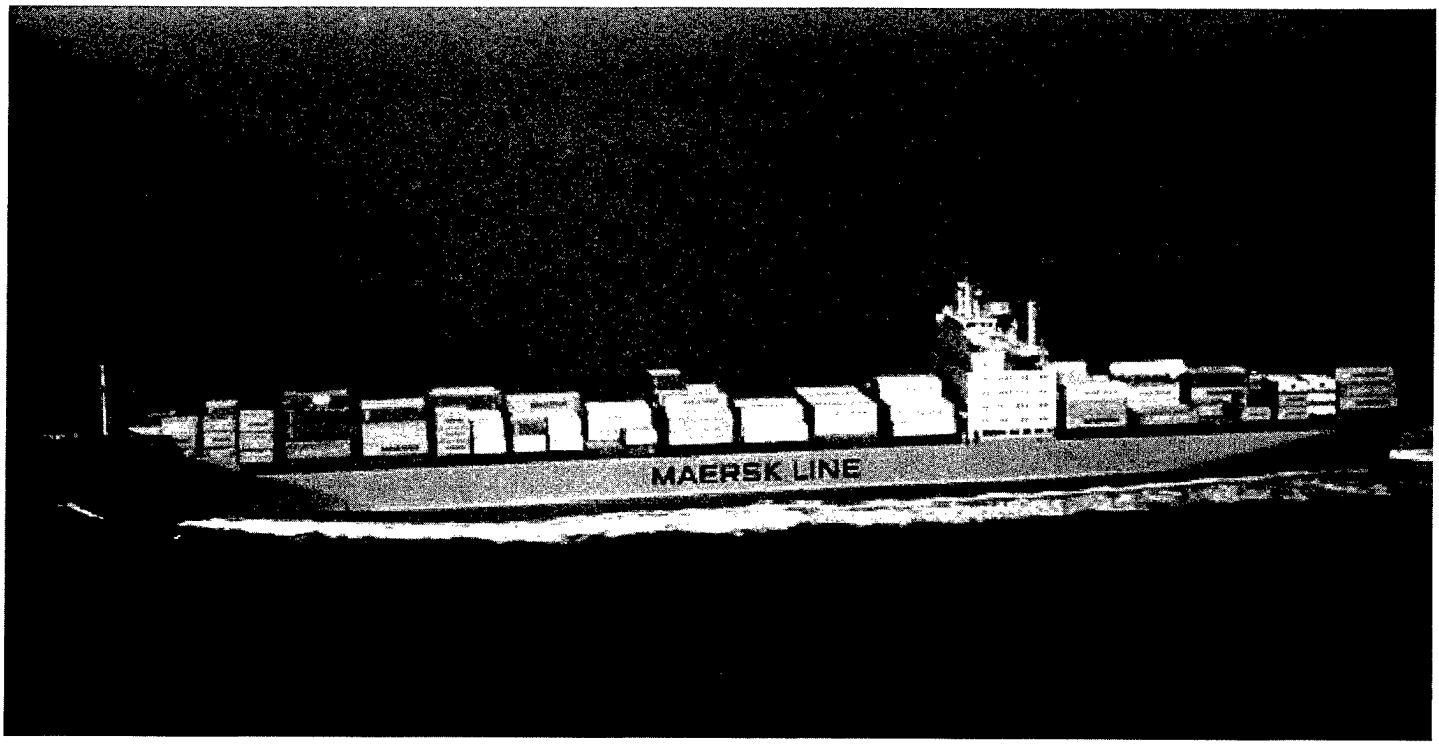
Source: Naval Sea Systems Command.

Figure I.2: Newport News Shipbuilding Conversion, USNS Gordon (after conversion)



Source: Naval Sea Systems Command.

Figure I.3: NASSCO Conversion, Maersk Containership (before conversion)



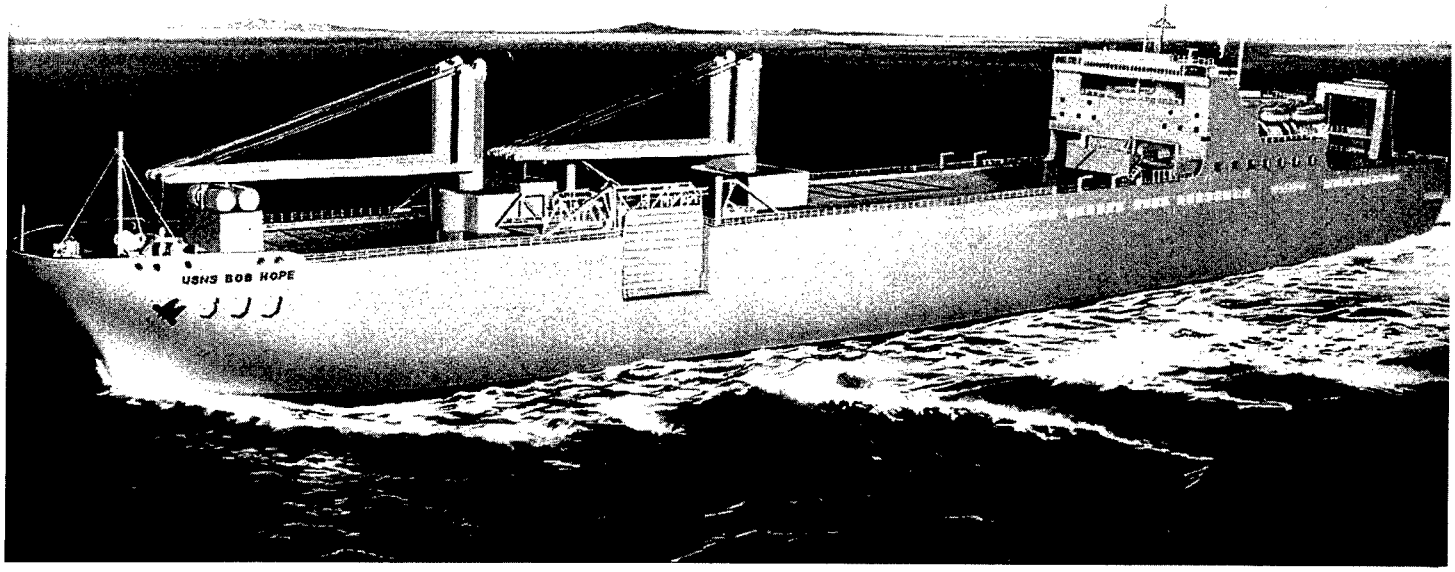
Source: Naval Sea Systems Command.

Figure I.4: NASSCO Conversion, USNS Shughart (after conversion)

Source: Naval Sea Systems Command.

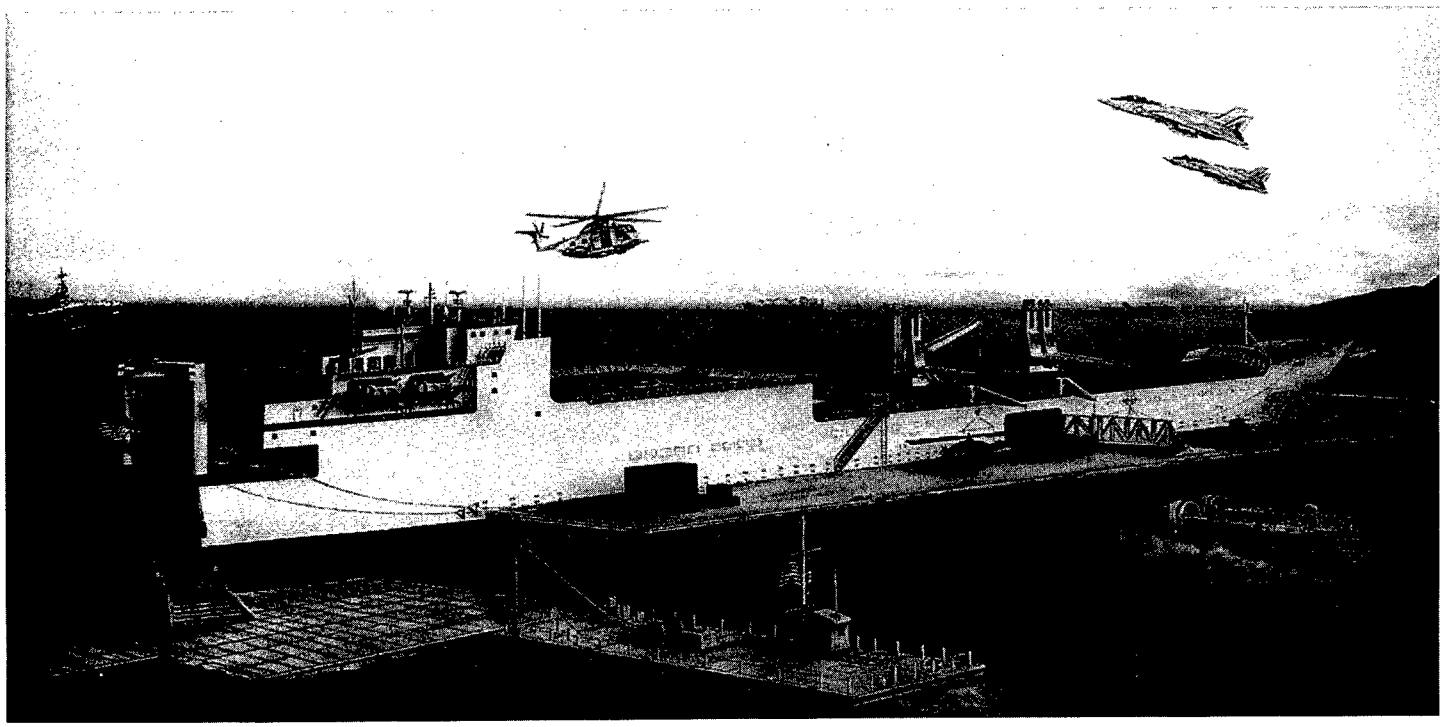
Drawings of Large, Medium Speed Roll-On/Roll-Off New Construction Ships

Figure II.1: Avondale Industries, New Construction



Source: Naval Sea Systems Command.

Figure II.2: NASSCO New Construction



Source: Naval Sea Systems Command.

Comments From the Department of Defense

OFFICE OF THE UNDER SECRETARY OF DEFENSE

3000 DEFENSE PENTAGON
WASHINGTON, DC 20301-3000

ACQUISITION AND TECHNOLOGY

June 2, 1997

Mr. Mark E. Gebicke
Director, Military Operations and Capabilities Issues
National Security and International Affairs Division
U.S. General Accounting Office
Washington, D.C. 20548

Dear Mr. Gebicke:

This is the Department of Defense (DoD) response to the General Accounting Office (GAO) revised draft report, "STRATEGIC MOBILITY: Information on Late Deliveries of Large, Medium Speed Roll-On/Roll-Off (LMSR) Ships," received May 8, 1997 (GAO Code 703169/OSD Case 1344).

Although the DoD generally concurs with the report, we do not agree completely with the GAO rationale presented or the necessity for the Secretary of Defense to provide specific direction. Enclosed is our detailed response to the recommendations which provides comments regarding specific initiatives already being taken to help ensure the identified issues are resolved.

Additional technical comments were separately provided to the GAO staff. The DoD appreciates the opportunity to comment on the draft report.

Sincerely,

George R. Schneiter
Director
Strategic and Tactical Systems

Enclosure

GAO DRAFT REPORT RECEIVED May 8, 1997
GAO Code 703169/OSD Case 1344

"STRATEGIC MOBILITY: Information on Late Deliveries of Large, Medium Speed Roll-On/Roll-Off (LMSR) Ships"

Department of Defense Comments to the GAO Recommendations

Now on pp. 16 and 17.

RECOMMENDATION 1: The GAO recommended that the Secretary of Defense direct the Secretary of the Navy to resolve the long-standing deficiencies in the material management and accounting systems at all three LMSR shipyard contractors, as identified by the Defense Contract Audit Agency (DCAA), in an expeditious manner to minimize the potential for additional delays (p. 16, GAO Draft Report).

DoD RESPONSE: Partially concur. Although the DoD acknowledges the deficiencies, we do not believe they have had an effect on the delivery schedule. All three Sealift ship builders have cost and schedule management control systems and established baselines which are in accordance with DoDI 7000.2, Performance Measurement for Selected Acquisitions. In addition, efforts are already underway to demonstrate required Material Management and Accounting System (MMAS) compliance. The status of each of the shipyards referenced in the DCAA reports is provided below.

Newport News Shipbuilding Company has completed their LMSR effort - the conversion of two container ships purchased from commercial ship operators. The USNS Gordon was delivered in August 1996, and the USNS Gilliland was delivered in May 1997. In response to the DCAA Audit Report No. 1721-945F12500012, June 1996, the Navy contract with Newport News was converted to fixed price. To date, the contractor has absorbed approximately $100 million of cost overruns.

Avondale Industries is designing and building six new LMSR ships. In response to DCAA Audit Report No. 1221-96B12500001, December 1996, the Navy forwarded a letter to the contractor requesting either an explanation of compliance with the MMAS standard No. 2 or a corrective action plan. Avondale responded with modifications in their testing procedures and schedules which they believe resolves the DCAA issues. The Navy is currently seeking DCAA concurrence.

National Steel and Shipbuilding Company (NASSCO) is converting three ships, and designing and building six new LMSR ships. In response to DCAA Audit Report No. 4151-96R1200001, September 1996, NASSCO acknowledged that they have not completed all aspects of the required MMAS and outlined efforts to demonstrate MMAS implementation. Subsequently, the Navy forwarded a letter to the contractor placing in temporary abeyance the 7% withholding from progress payments recommended by DCAA, pending scheduled completion.

Now on p. 17.

RECOMMENDATION 2: To minimize any potential operational impacts to DoD's fulfilling its sealift requirements, the GAO recommended that the Secretary of Defense direct the Secretary of the Navy to resolve the issue of the USNS Shughart's inability to maintain the required speed of 24 knots when loaded. The Secretary of the Navy should provide the results of this issue to the Army's logistics planners for use in developing their transportation plans (p. 16, GAO Draft Report).

DoD RESPONSE: Partially concur. It has been determined that the difference in the required threshold speed of 24 knots and the demonstrated trial speed of 23.665 knots is not significant. On May 23, 1997, the Deputy Chief of Naval Operations (Logistics) sent a letter to Deputy Chief of Staff for Army (Operations) and Deputy Chief of Staff for Army (Logistics) regarding the Operational Test and Evaluation (OT&E) of the Strategic Sealift Program Large Medium Speed Roll-On/Roll-Off Conversion Ship Class T-AKR 295 (USNS Shughart). The letter states that the LMSRs will meet the Operational Requirements Document notional timeline of 17 days from the continental United States to South West Asia berth-to-berth and that the USNS Shughart has demonstrated the ability to achieve speeds greater than threshold speed of 24 knots when adjusted for full load conditions.

Major Contributors to This Report

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