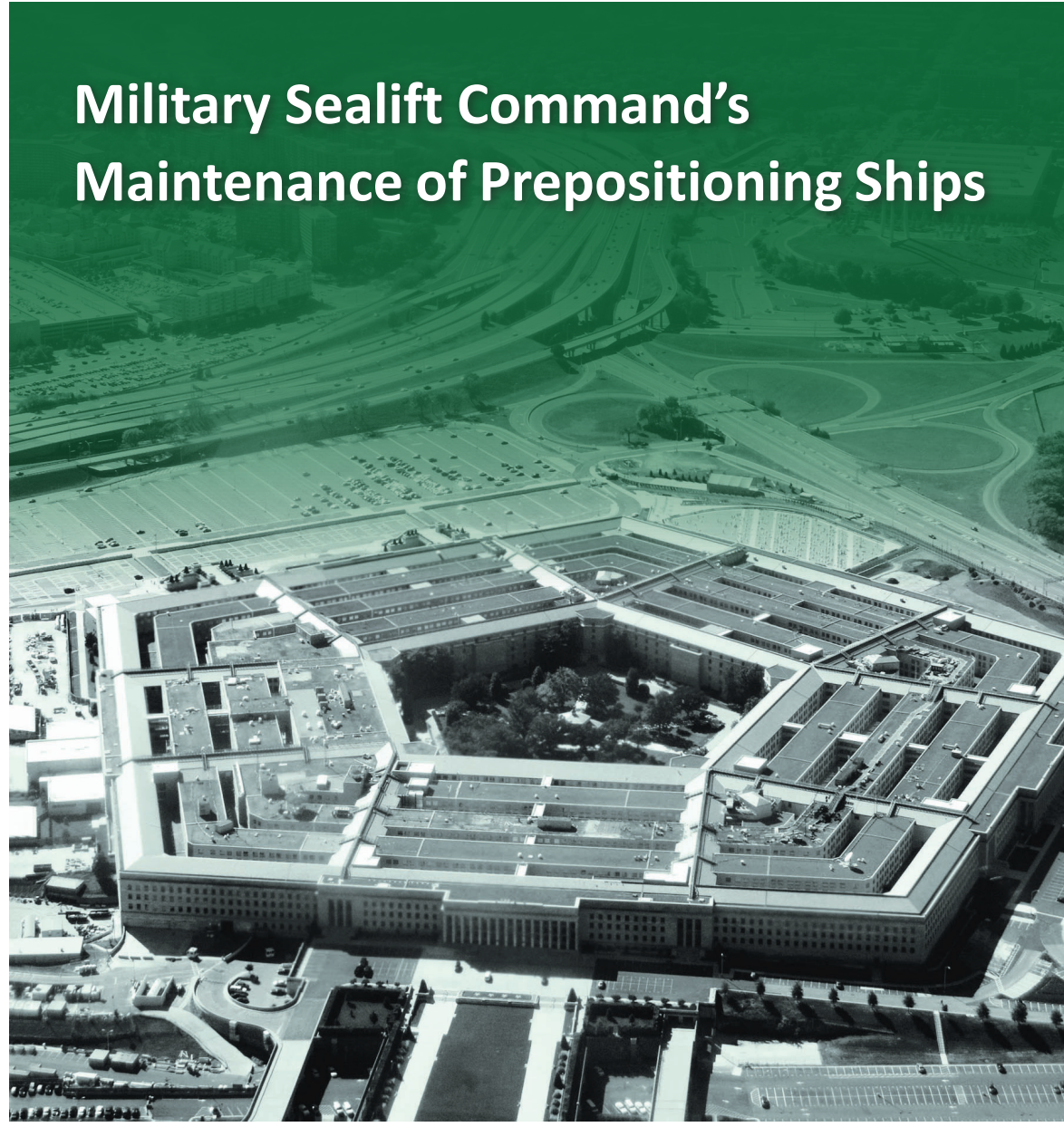


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# INSPECTOR GENERAL

*U.S. Department of Defense*

SEPTEMBER 24, 2018



## Military Sealift Command's Maintenance of Prepositioning Ships

INTEGRITY ★ INDEPENDENCE ★ EXCELLENCE

The document contains information that may be exempt from mandatory disclosure under the Freedom of Information Act.

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# Results in Brief

## *Military Sealift Command's Maintenance of Prepositioning Ships*

September 24, 2018

### Objective

We determined whether the Military Sealift Command (MSC) ensured that Government-owned, contractor-operated (GOCO) prepositioning ships received the required maintenance.

### Background

Prepositioning ships, which are managed by the Prepositioning Program Management Office, ensure rapid availability of military equipment and supplies. MSC uses contractors to operate and maintain its GOCO prepositioning fleet. To guide the contractors' maintenance efforts, the MSC Engineering Directorate develops preventative maintenance plans in the Shipboard Automated Maintenance Management (SAMM) system. The contractors' responsibilities are driven by the preventative maintenance plans. Therefore, the maintenance actions prescribed in the preventative maintenance plans should list all equipment that needs to be maintained on the ship and should provide instructions on how the contractors are to perform the maintenance.<sup>1</sup>

### ~~(FOUO)~~ Finding

MSC did not ensure its GOCO prepositioning ships received the required maintenance. Specifically, MSC personnel did not maintain complete and accurate preventative

### ~~(FOUO)~~ Finding (cont'd)

maintenance plans, which identify the contractors' maintenance responsibilities. In addition, MSC did not verify that contractor personnel completed the contract requirements related to the preventative maintenance of the GOCO prepositioning fleet.

MSC personnel did not maintain complete and accurate preventative maintenance plans because MSC did not update technical drawings and manuals to replicate the ships' configurations and provide training to all SAMM users on the system's functionality. MSC did not verify contractor personnel completed the contract requirements related to preventative maintenance because the MSC Prepositioning Program Management and Contracting Offices:

- awarded contracts that did not state specific requirements for the contractors' training and use of SAMM;
- did not ensure a contracting officer's representative or contracting officer's technical representative was present to oversee the contractor; and
- did not communicate contractual deficiencies to the contractors in writing.

~~(FOUO)~~ As a result, MSC is unable to accurately assess the condition and readiness of the GOCO ships, which has impeded the combatant commanders' ability to carry out planned operations. For example, the Blount Island Command, Operations Division Deputy Director of the Marine Corps Technical Assistance and Advisory Team provided two examples where a prepositioning ship was unable to attend planned exercises because of maintenance deficiencies, including one instance where a ship carrying the Marine Corps' equipment developed a hole in the hull during transit to participate in an exercise. In addition, preventative maintenance is an integral method for sustaining equipment through its useful life, which reduces the amount of repairs needed during overhaul. Therefore, by not ensuring its GOCO prepositioning ships received the required maintenance, MSC may have contributed to the \$139.9 million in unplanned

<sup>1</sup> SAMM contains a technical library that includes the ships' technical manuals and drawings. Technical manuals provide the original manufacturer's instructions for effectively using and maintaining a piece of equipment, while technical drawings document the ship's configurations, features, and systems.



# Results in Brief

## *Military Sealift Command's Maintenance of Prepositioning Ships*

### ~~(FOUO)~~ Finding (cont'd)

~~(FOUO)~~ overhaul repair costs that MSC prepositioning ships endured from November [REDACTED] to March [REDACTED]. The unplanned repairs also required the ships to spend more time in the dry dock, which resulted in MSC running an average of [REDACTED] over the [REDACTED] planned time in dry dock from November [REDACTED] to March [REDACTED].

Finally, MSC relies entirely on contractors for the operation and maintenance of prepositioning ships and has committed \$544.7 million to such contracts. Without complete and accurate preventative maintenance plans, which identify and provide instructions on the contractors' maintenance responsibilities, and without effective oversight of the contractors, which ensures all contractual requirements are fulfilled, MSC committed \$544.7 million to contracts without assurance that the contractors would execute all of the required maintenance on its prepositioning fleet.

## Recommendations

We recommend that the Director, MSC Engineering Directorate:

- update the technical manuals and drawings for its prepositioning fleet;
- revise MSC policies so that all system users are provided initial and annual refresher training on the proper use of SAMM, including each of the modules in SAMM and of the feedback log; and
- update SAMM so that its data fields will provide users with clear choices, capture preventative maintenance information more accurately, and allow for MSC to extract aggregate metrics for assisting with maintenance planning and decision making.

We also recommend that the Director, MSC Contracts for Charters and Ship Operations Division, in conjunction with the Program Manager, Prepositioning Program Management Office:

- review and modify all contracts to develop specific requirements for all users to attend formal SAMM training and align contract language with MSC procedures that describe the contractors' roles and responsibilities for using SAMM;
- ensure that contracting officers appoint a qualified contracting officer's representative or contracting officer's technical representative to conduct consistent surveillance of contractors at sea and during shipyard availabilities using a quality assurance surveillance plan; and
- document future contractual deficiencies through formal, written coordination with the contractor.

## Management Comments and Our Response

The MSC Commander, agreed with all of our recommendations. On behalf of the Director, MSC Engineering Directorate, the MSC Commander, stated that MSC plans to:

- update the technical drawings and manuals for the prepositioning fleet;
- revise training policy documents, to incorporate requirements for initial and annual SAMM system training; and
- update SAMM with data fields that provide users with clear choices, capture preventative maintenance information more accurately, and allow for MSC to extract aggregate metrics to assist with maintenance planning and decision making.



# Results in Brief

## *Military Sealift Command's Maintenance of Prepositioning Ships*

### **Management Comments (cont'd)**

On behalf of the Director, MSC Contracts for Charters and Ship Operations Division, and Program Manager, MSC Prepositioning Program Management Office, the MSC Commander, stated that MSC plans to:

- modify all operating contracts to require formal SAMM training and detailed requirements for the contractors' expected use of SAMM;
- appoint an assistant contracting officer's representative to conduct regular surveillance of contractors during shipyard overhauls and at sea using a quality assurance surveillance plan; and
- document and address future contractual deficiencies through formal, written coordination with the contractor, such as through Contract Deficiency Reports and Contractor Performance Assessment Reporting System ratings.

These recommendations are resolved and will be closed once we verify that the actions management agreed to are implemented. Please see the Recommendations Table on the next page for the status of the recommendations.

**Recommendations Table**

Management	Recommendations Unresolved	Recommendations Resolved	Recommendations Closed
Director, Military Sealift Command Engineering Directorate	None	1.a, 1.b, and 1.c	None
Director, Military Sealift Command Contracts for Charters and Ship Operations Division	None	2.a, 2.b, and 2.c	None
Program Manager, Military Sealift Command Prepositioning Program Management Office	None	2.a, 2.b, and 2.c	None

Note: The following categories are used to describe agency management's comments to individual recommendations.

- **Unresolved** – Management has not agreed to implement the recommendation or has not proposed actions that will address the recommendation.
- **Resolved** – Management agreed to implement the recommendation or has proposed actions that will address the underlying finding that generated the recommendation.
- **Closed** – OIG verified that the agreed upon corrective actions were implemented.



**INSPECTOR GENERAL  
DEPARTMENT OF DEFENSE  
4800 MARK CENTER DRIVE  
ALEXANDRIA, VIRGINIA 22350-1500**

September 24, 2018

MEMORANDUM FOR ASSISTANT SECRETARY OF THE NAVY (RESEARCH, DEVELOPMENT  
AND ACQUISITION)  
COMMANDER, U.S. TRANSPORTATION COMMAND  
COMMANDER, U.S. FLEET FORCES  
COMMANDER, MILITARY SEALIFT COMMAND  
COMMANDER, NAVAL SEA SYSTEMS COMMAND  
NAVAL INSPECTOR GENERAL

SUBJECT: Military Sealift Command's Maintenance of Prepositioning Ships  
(Report No. DODIG-2018-151)

We are providing this report for your information and use. We obtained and considered management comments on a draft of this report when preparing the final report.

During the audit, we advised the Director, MSC Engineer Directorate, Director, MSC Contracting Office, and the Program Manager, Prepositioning Program Management Office of the contract oversight and administrative deficiencies we identified. Management agreed with our observations and immediately initiated actions to address our concerns. The management actions taken during the audit and comments from the MSC Commander were fully responsive to our proposed recommendations. Comments from the MSC Commander conformed to the requirements of DoD Instruction 7650.03; therefore, we do not require additional comments.

We appreciate the cooperation and assistance received during the audit. Please direct questions to me at (703) 604-9187 (DSN 664-9187).

A handwritten signature in black ink, reading "Michael J. Roark".

Michael Roark  
Assistant Inspector General  
Readiness and Global Operations

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# Introduction

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## Objective

We determined whether the Military Sealift Command (MSC) ensured that Government-owned, contractor-operated prepositioning ships received the required maintenance.

## Background

### ***U.S. Transportation Command Structure***

The U.S. Transportation Command is a unified, functional combatant command that provides global mobility solutions to the eight other U.S. combatant commands, the Military Services, Defense agencies, and other Government organizations. The U.S. Transportation Command has three major component commands, one of which is MSC.

### ***Military Sealift Command***

MSC is headquartered in Norfolk, Virginia, and is the DoD's leading provider of ocean transportation, operating approximately 120 ships daily around the world. MSC ships sustain our warfighting forces and deliver specialized maritime services in support of national security objectives in peace and war. MSC uses seven programs to manage its five mission areas, which include the Combat Logistics Force, Service and Command Support, Special Mission, Sealift, and Prepositioning.

### ***MSC Prepositioning Program***

Prepositioning ships are an essential element in the U.S. military's readiness strategy. MSC places military equipment and supplies aboard prepositioning ships located in strategic ocean areas to ensure rapid availability during a major theater war, a humanitarian operation, or other contingency. MSC's prepositioning ships carry cargo for multiple military sponsors, including the Army, Navy, Air Force, Marine Corps, and Defense Logistics Agency. The sponsors determine the cargo that will be prepositioned, identify the maintenance cycles for the cargo, and fund the prepositioning program. Prepositioning ships give U.S. regional combatant commanders assurance that they will have what they need to respond quickly in a crisis. For example, the Marine Corps' prepositioning ships contain enough equipment and supplies to sustain a Marine Expeditionary Force, made up of over 16,000 Marines, for 30 days.

MSC's Prepositioning Program Management Office, Engineering Directorate, and Contracting Office support the prepositioning fleet. The Prepositioning Program Management Office provides administrative guidance to the fleet to ensure implementation of all MSC policies and instructions and is responsible for life cycle management, ship readiness, maintenance and repair, and logistics support. The Prepositioning Program Management Office also provides the contracting officer's representatives (CORs) and coordinates with the contractors that operate the majority of the prepositioning ships. The MSC contracting officer delegated contract administration responsibilities, which include verifying the contractors' compliance with contractual requirements to the CORs.

MSC's Engineering Directorate includes five divisions, three of which directly support prepositioning ships. Life Cycle Management Division personnel are responsible for the development and management of the ship's life cycle maintenance requirements; Engineering Management System Division personnel are responsible for MSC's maintenance systems and technical library; and Policy Management and Fleet Standards Division personnel are responsible for onboard condition inspections (OCI) and contract shipyard monitoring activities.<sup>2</sup> These OCI and contract shipyard monitoring representatives coordinate with MSC's Prepositioning Program Management Office to provide oversight of prepositioning ships, but they do not have contract oversight authority.

### *Ships in the Prepositioning Program*


As of December 2017, MSC's prepositioning fleet included 26 ships. These 26 ships are a combination of Government-owned, Government-operated (GOGO); Government-owned, contractor-operated (GOCO); and contractor-owned, contractor-operated (COCO) ships. GOGO ships, which make up 8 percent (two ships) of the prepositioning fleet, are Government-owned ships that are operated and maintained by civil service mariners. GOCO ships, which make up 77 percent (20 ships) of the prepositioning fleet, are Government-owned ships that are operated and maintained by contractors under the supervision of MSC. COCO ships, which are owned, operated, and maintained by the contractor, make up the remaining 15 percent (four ships) of the fleet.

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<sup>2</sup> MSC's technical library provides copies of each ship's technical manuals and drawings. Technical manuals are documents with the original manufacturer's instructions for operation, installation, use, maintenance, list of parts, support, and any requirements for training for effectively using a machine or equipment and technical drawings illustrate the ship's configurations, features, and systems.

The 20 GOCO ships were divided into six classes, listed in Figure 1. The class of the ship is important for maintenance, as all of the ships in a class have similar configurations and maintenance requirements. See Figure 1 for a detailed breakdown of the 20 GOCO prepositioning ships. Specifically, the figure identifies each GOCO ship, its class, and its sponsor.

*Figure 1. MSC's GOCO Prepositioning Ships by Class and Sponsor*

Government-Owned, Contractor-Operated Ships					
Expeditionay Transfer Dock Class		Offshore Petroleum Distribution System Class		Bob Hope Class	
Marines	USNS <i>Montford Point</i>	Navy	USNS VADM <i>K.R. Wheeler</i>	Marines	USNS <i>Seay</i>
Marines	USNS <i>John Glenn</i>	Navy	USNS <i>Fast Tempo</i>	Marines	USNS <i>Piilaa</i>
Stockham Class				Watson Class	
Marines	USNS <i>GYST Fred W. Stockham</i>			Army	USNS <i>Watson</i>
Bobo Class				Army	USNS <i>Red Cloud</i>
Marines	USNS <i>2nd LT John P. Bobo</i>			Army	USNS <i>Charlton</i>
Marines	USNS <i>PFC Dewayne T. Williams</i>			Army	USNS <i>Watkins</i>
Marines	USNS <i>1st LT Baldomero Lopez</i>			Army	USNS <i>Pomeroy</i>
Marines	USNS <i>1st LT Jack Lummus</i>			Marines	USNS <i>Sisler</i>
Marines	USNS <i>SGT William R. Button</i>			Marines	USNS <i>Dahl</i>
				Army	USNS <i>Soderman</i>

Source: The DoD OIG.

### ***Contracting Support for Prepositioning Maintenance***

MSC uses contractors to perform the operation, maintenance, and repairs on its GOCO prepositioning fleet. Specifically, according to the contracts, the contractor is responsible for operating the prepositioning ships and for performing all preventative and overhaul maintenance on the assigned ships. Operation and maintenance of the ships at sea is included under a fixed-price contract, while overhaul maintenance that is conducted in a shipyard is performed on a reimbursable basis.<sup>3</sup> As of March 2018, MSC used five contracts for the operation and maintenance of prepositioning GOCO ships. The total value as of March 2018, including option periods and extensions, for all five contracts was \$544.7 million.

MSC requires the contractors to provide a crew to operate and maintain the ship 24 hours a day, 7 days a week. The contractor crew includes key personnel, such as the Chief Engineer, that are approved by the COR and must possess applicable licenses and certifications. The contractor crew also includes non-key personnel, such as the steward's assistant, that do not require COR approval or any licenses, but are required to possess applicable certifications for their position. The contractors are responsible for ensuring the ships are able to get underway within 24 hours to fulfill mission requirements.

<sup>3</sup> The operations and maintenance contracts are fixed-price contracts, but do also have minor reimbursable elements for items such as overtime.

~~(FOUO)~~ *Preventative Maintenance*

Preventative maintenance is required on a periodic basis to sustain equipment. MSC prepositioning contracts require the contractors to perform and document tests, inspections, and preventative maintenance actions in the MSC Shipboard Automated Maintenance Management (SAMM) system, which schedules and documents all preventative maintenance requirements for the MSC fleet. Examples of SAMM preventative maintenance actions include lubricating a diesel engine or cleaning a generator. Routine preventative maintenance reduces repairs and helps to ensure that equipment meets its useful life, thereby reducing the money and time spent in overhaul. The contractor's responsibilities for the prepositioning ships are determined by the preventative maintenance plans created by the MSC Engineering Directorate. The preventative maintenance plans, which should be specific to each ship, should include each piece of maintainable equipment on the ship and provide technical instructions on how to maintain the equipment.

The maintenance schedules for each piece of equipment are listed in SAMM and are primarily assigned to the contractor crew members monthly. The ship's contractor crew is required to document the preventative maintenance it performed and record daily machinery operational data in SAMM so that MSC staff ashore have the ability to assess the operating condition and readiness of the entire fleet. The ship's contractor crew is also required to document inaccuracies they find within the preventative maintenance plans using SAMM's feedback log. MSC personnel then review the feedback log and determine whether the suggested corrections should be made to the preventative maintenance plans.

~~(FOUO)~~ MSC's Prepositioning Program Management Office and Engineering Directorate usually use e-mails and phone conversations for all coordination with contractors regarding preventative maintenance. MSC relies on the Engineering Directorate's reviews of SAMM preventative maintenance completion reports and other associated trends to oversee preventative maintenance on the ships at sea. There is [REDACTED] of preventative maintenance being conducted on the ships, but MSC does rely on OCI teams and Navy squadron staff to report on, among other things, the material condition, appearance, mission gear, and force protection capabilities of the ship.

Aside from completing preventative maintenance requirements, the contractor is also responsible for communicating the condition of the ship to MSC and the Coast Guard. For example, the contractor must submit casualty reports to MSC for

any machinery, hull, or equipment casualties.<sup>4</sup> The contractor must also report to MSC and the Coast Guard all accidents or occurrences that resulted in damage to the ship, gear, or cargo, or injury or loss of life.

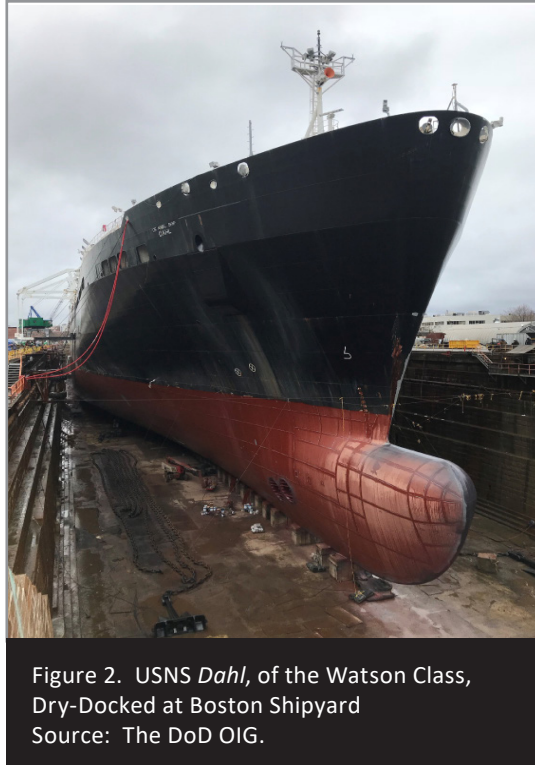
### ~~(FOUO)~~ *Overhaul Maintenance*

~~(FOUO)~~ MSC also requires the contractors to manage ship overhaul maintenance. Overhaul maintenance on prepositioning ships, which is fully reimbursed to the contractor, is performed in a dry dock at a shipyard. An example of overhaul maintenance is the refurbishment and renewal of cargo cranes. MSC spent more than \$375 million for overhaul maintenance performed on prepositioning ships between November [REDACTED] and March [REDACTED], which included \$139.9 million in unplanned overhaul costs. Furthermore, MSC's average overhaul took [REDACTED], which was [REDACTED] more than the [REDACTED] planned time in dry dock.

Because prepositioning ships carry equipment for a sponsoring Service, the ship's overhaul cycle revolves around the sponsoring Service requirements. However, in general, prepositioning ships undergo overhaul maintenance once every 3 to 5 years. MSC initiates the overhaul process by issuing a planning letter to the contractor. Upon receiving the planning letter, the contractor's Port Engineer researches and reviews requirements from the American Bureau of Shipping and the Coast Guard, technical manuals, technical drawings, OCI findings, SAMM deferrals, and crew input and conducts a ship inspection to develop a work package, which lists all of the items that need to be completed during overhaul. The MSC Prepositioning Program Management Office, Engineering Directorate, and Contracting Office then have an opportunity to review the work package and prioritize which items will be performed during the overhaul, subject to the availability of funds. After coordinating the work package with MSC, the contractor awards a fixed-price sub-contract to a selected company to perform the overhaul maintenance and repairs. During the overhaul maintenance period, the contractor's Port Engineer is responsible for managing and overseeing the work the subcontractor performs. MSC relies on contract shipyard monitoring representatives to oversee the overhaul maintenance on the ships in the shipyards. The shipyard monitoring representatives report overhaul progress to the MSC Prepositioning Program Management Offices, the Engineering Directorate, and the Contracting Office. However, the contract shipyard monitoring representatives were not delegated with contractual authority to officially oversee the work in the shipyard, and no Government COR or contracting officer's technical representative (COTR) is on site to monitor ship overhauls or oversee the work.

<sup>4</sup> MSC defines a casualty as an equipment malfunction or deficiency which cannot be corrected in 48 hours and reduces the ship's ability to perform a mission. The contracts require mission degrading casualties to be reported within 4 to 12 hours of occurrence and non-mission degrading casualties that cannot be corrected within 48 hours to be reported no later than 24 hours after the occurrence.





## Review of Internal Controls

DoD Instruction 5010.40 requires DoD organizations to implement a comprehensive system of internal controls that provides reasonable assurance that programs are operating as intended and to evaluate the effectiveness of the controls.<sup>5</sup>

We identified internal control weaknesses with the maintenance of MSC prepositioning ships. Specifically, MSC did not update maintenance plans and technical drawings to reflect ship configuration changes, provide training to all SAMM users regarding the system's functionality, or standardize the method for a ship's contractor crew to enter information into SAMM. In addition, we identified internal control weaknesses with the oversight and administration of prepositioning contracts. Specifically, MSC Prepositioning Program Management and Contracting Offices awarded contracts with inadequate language, did not ensure that a COR or COTR was present to provide contract oversight, and did not consistently issue Contract Deficiency Reports (CDRs) to document known contractual deficiencies. We will provide a copy of the report to the senior official responsible for internal controls at MSC.

<sup>5</sup> DoD Instruction 5010.40, "Managers' Internal Control Program Procedures," May 30, 2013.

## ~~(FOUO)~~ Finding

### ~~(FOUO)~~ MSC Did Not Verify Ship Maintenance

MSC did not ensure its GOCO prepositioning ships received the required maintenance. Specifically, MSC personnel did not maintain complete and accurate preventative maintenance plans, which identify the contractors' maintenance responsibilities. In addition, MSC did not verify that contractor personnel completed the contract requirements related to the preventative maintenance of the GOCO prepositioning fleet.

This occurred because MSC personnel did not update technical drawings and manuals to replicate the ships' configurations or provide training to all SAMM users on how to report deficiencies in the preventative maintenance plans to MSC. This also occurred because the MSC Prepositioning Program Management and Contracting Offices:

- awarded contracts that did not state specific requirements for the contractors' training and use of SAMM;
- did not ensure a COR or COTR was present to oversee the contractor; and
- did not communicate contractual deficiencies to the contractors in writing.

As a result, MSC is unable to assess the condition and readiness of the GOCO ships, which has impeded the combatant commander's ability to carry out planned operations. For example, the Blount Island Command, Operations Division Deputy Director of the Marine Corps Technical Assistance and Advisory Team provided two examples where a prepositioning ship was unable to attend planned exercises because of maintenance deficiencies, including one instance where a ship carrying the Marine Corps' equipment developed a hole in the hull during transit to participate in an exercise.

~~(FOUO)~~ In addition, preventative maintenance is an integral method for sustaining equipment through its useful life and reduces the amount of repairs needed during overhaul. Therefore, by not ensuring its GOCO prepositioning ships received the required maintenance, MSC may have contributed to the \$139.9 million in unplanned overhaul costs that MSC prepositioning ships experienced from November [REDACTED] to March [REDACTED]. Unplanned repairs also require the ships to spend more time in the dry dock, which contributed to MSC running an average of [REDACTED] over the [REDACTED] planned time in dry dock from November [REDACTED] to

~~(FOUO)~~ March [REDACTED].<sup>6</sup> These delays have also caused significant indirect financial and operational impacts on the sponsoring Services, including the additional logistics costs associated with storage and stevedoring contracts; equipment degradation from leaving the newly refurbished rolling and non-rolling stock outside in the elements; and, most importantly, difficulty in planning operations around unreliable ships.<sup>7</sup>

Finally, MSC relies entirely on contractors for the operation and maintenance of prepositioning ships and has committed \$544.7 million to such contracts. Without complete and accurate preventative maintenance plans, which identify and provide instructions on the contractors' maintenance responsibilities, and without effective oversight of the contractors, which ensures all contractual requirements are fulfilled, MSC committed \$544.7 million to contractors without assurance that they would execute all of the required maintenance on its prepositioning fleet.

### ~~(FOUO)~~ **MSC Did Not Ensure Prepositioning Ships Received Required Maintenance**

MSC did not ensure its GOCO prepositioning ships received the required maintenance. Specifically, MSC personnel did not maintain complete and accurate preventative maintenance plans, which identify the contractors' maintenance responsibilities. In addition, MSC did not verify that contractor personnel completed the contract requirements related to the preventative maintenance of the GOCO prepositioning fleet.

### ~~(FOUO)~~ **MSC Did Not Maintain Complete and Accurate Preventative Maintenance Plans**

MSC personnel did not maintain complete and accurate preventative maintenance plans. MSC Instruction establishes SAMM as the system to manage preventative maintenance and requires all corrective and preventative maintenance performed to be documented in SAMM.<sup>8</sup> MSC's Engineering Directorate should create preventative maintenance plans in SAMM that establish a schedule of required preventative maintenance tasks and instructions for each piece of maintainable equipment on a ship. The preventative maintenance plans completed by MSC and documented in the SAMM system should identify the contractor's responsibilities

<sup>6</sup> ~~(FOUO)~~ We acknowledge that there are several other factors that primarily led to the unplanned costs and delays during overhaul. For example, [REDACTED], which increases the costs to maintain the ships. In addition, several prepositioning ships have experienced several [REDACTED], that were not related to preventative maintenance.

<sup>7</sup> Stevedoring companies are contracted to load and unload the cargo from the ship.

<sup>8</sup> Commander, MSC Instruction 3540.6, "Engineering Operations and Maintenance Manual," March 1992 and Commander, MSC Instruction 3540.7, "Engineering Operations and Maintenance Manual," January 2011.

and ensure that all of the components on the ship receive the required preventative maintenance. Once MSC creates the preventative maintenance plans in SAMM, the contractor crews are contractually required to complete the scheduled preventative maintenance and document the completion in SAMM. However, we identified MSC developed preventative maintenance plans that were:

- incomplete and did not include preventative maintenance procedures for all of the necessary equipment on prepositioning ships, and
- inaccurate and included preventative maintenance plans for the wrong pieces of equipment.

(FOUO) In the absence of complete and accurate preventative maintenance plans, the contractor crews stated that they often had to rely on previous experience and their best judgment. In addition, without complete and accurate preventative maintenance plans, prepositioned ships are at greater risk of equipment failure, which ultimately could increase the money and time that MSC will need for repairs during overhaul. For example, MSC reported \$139.9 million in unplanned overhaul costs and on average an additional [REDACTED] in dry dock from November [REDACTED] to March [REDACTED]. Furthermore, Marine Corps personnel identified that the Marine Corps does not have enclosed or covered storage space at the port and that equipment sits outside for the duration of the overhaul delays. As a result, the delays in overhaul of the [REDACTED] [REDACTED] resulted in additional equipment maintenance costs of \$517,649 due to prolonged exposure to environmental elements, as well as a loss of \$177,980 associated with extending the Marine Corps stevedore contract beyond the original overhaul period.

#### *(FOUO) Incomplete Preventative Maintenance Plans*

(FOUO) MSC developed incomplete preventative maintenance plans that did not include maintenance procedures for all the equipment on the prepositioning ships. For example, the Chief Engineer of the [REDACTED] [REDACTED] reported that when the ship's deck was altered from a flat deck to one that can be lowered into the water for easy transfer of equipment, none of the corresponding preventative maintenance procedures were updated in SAMM. The ship's Chief Engineer also provided other examples, including that SAMM listed preventative maintenance procedures for only 6 of the 12 life rafts on the ship for several years. In addition, the Chief Engineer of the [REDACTED] [REDACTED] stated that preventative maintenance plans in SAMM did not list or prescribe maintenance procedures for the ship's winches. Finally, the Chief Engineer of the [REDACTED] [REDACTED] stated that when

(FOUO) he sailed on the [REDACTED], he found that a preventative maintenance plan did not exist for an environmental cooling unit in SAMM. Consequently, the contractor did not maintain the cooling unit for 2 years before the Chief Engineer identified the problem and entered a SAMM feedback log item requesting an update to the maintenance plan in the SAMM.

*(FOUO) Inaccurate Preventative Maintenance Plans*

(FOUO) MSC developed inaccurate preventative maintenance plans that included the wrong pieces of equipment. Specifically, our review of preventative maintenance plans in SAMM from January 2013 through December 2017 for seven prepositioning ships identified incorrect maintenance requirements for all seven ships.<sup>9</sup> For example, the prescribed preventative maintenance requirements were inaccurate for the [REDACTED] at least 58 times and for the [REDACTED] at least 61 times. Included in these inaccuracies, the [REDACTED] contractor crew noted that SAMM listed procedures for hydraulic equipment that had already been replaced. The [REDACTED] contractor crew also noted that some of the procedures in SAMM were not mechanically possible to complete. For example, the preventative maintenance plans in SAMM stated that an air compressor's safety valve should be manually lifted for inspection; however, the valve was not designed to be lifted. The [REDACTED] contractor crew also documented that SAMM did not provide sufficient instructions on how to maintain the bearings within the diesel generator. Additionally, the [REDACTED] contractor crew documented that preventative maintenance instructions for maintaining the ship's hull were not clear, and therefore the crew was unable to complete the prescribed preventative maintenance. Finally, contractor crews on the [REDACTED] all documented deferred preventative maintenance items because the preventative maintenance plans in SAMM had incorrect schedules. For example, the contractor crew of the [REDACTED] documented that the task to inspect the main diesel generator's pistons should be scheduled every 12,000 running hours, rather than the 6,000 hour interval prescribed in SAMM.

*MSC developed inaccurate preventative maintenance plans that included the wrong pieces of equipment.*

(FOUO) In addition, prepositioning contractor crew members recounted numerous examples of inaccurate preventative maintenance plans in SAMM. For example, the First Engineer of the [REDACTED] stated that SAMM preventative

<sup>9</sup> The audit team reviewed SAMM preventative maintenance history reports provided by MSC's Engineering Directorate for seven prepositioning ships.



(FOUO) maintenance instructions were inaccurate and often generic to a ship class rather than a particular ship, which may have different equipment. In another example, the Chief Engineer of the [REDACTED] stated that the preventative maintenance instructions for a pump on the ship actually described the pump on the [REDACTED], its sister ship, rather than the specific piece of equipment on the [REDACTED]. Furthermore, contractor crew members reported that preventative maintenance plans in SAMM listed the wrong type of oil for ship equipment. For example, the Chief Engineer of the [REDACTED] found that SAMM listed the wrong type of oil for the ship's air compressor and that SAMM prescribed a different oil for the same piece of equipment on the [REDACTED].

### ***(FOUO) MSC Did Not Verify Completion of Contract Requirements***

MSC personnel did not verify that contractor personnel completed contract requirements and properly maintained the prepositioning ships. The MSC Prepositioning Program Management Office, contracting officers, and CORs are headquartered in Norfolk, Virginia, while the majority of the ships are prepositioned in the Indian and Western Pacific Oceans. Due to the distance between the MSC personnel managing and overseeing the prepositioning ships and the contractor crews who execute contractual maintenance requirements, MSC primarily relied on SAMM data to evaluate the operational readiness of the prepositioning fleet.

(FOUO) However, the contractor crews did not consistently use SAMM to record data on preventative maintenance, which prevented MSC personnel from using SAMM to verify preventative maintenance completion or conduct meaningful data analysis. Specifically, the contractor crews were not always clear on how to record the status of preventative maintenance tasks in SAMM; therefore, the crews recorded preventative maintenance completion data inconsistently. For example, MSC preferred that contractor crews provide comments in SAMM to justify deferred preventative maintenance. However, SAMM preventative maintenance history from January 2013 through December 2017 showed that 46.4 percent (1,422 of 3,065) of [REDACTED], 54.5 percent (1,317 of 2,415) of [REDACTED], and 87.5 percent (28 of 32) of [REDACTED] deferred preventative maintenance tasks did not contain explanations to illustrate the validity of preventative maintenance deferrals. Conversely, [REDACTED] contractor crew members correctly recorded comments for 98.6 percent of all deferral entries.

(FOUO) The contractor crews' methods for documenting completion of preventative maintenance tasks also varied when SAMM instructions were inaccurate. For example, [REDACTED] engineers indicated that they deferred maintenance

(FOUO) tasks prescribed within closely recurring intervals. However, [REDACTED] engineers stated that when they found that SAMM prescribed the preventative maintenance task too often, the contractor crew either deferred the tasks or marked them as completed in SAMM, even though the crew members did not complete the maintenance. The [REDACTED] engineers described an instance when the preventative maintenance plans in SAMM required the contractor crew to change the air compressor oil, even when oil analysis indicated that the oil was still usable. In this case, the [REDACTED] engineers explained that they marked the task as “complete” even though they did not complete the preventative maintenance task to change the air compressor’s oil.

(FOUO) The contractor crews also did not consistently use preset drop down options to capture pertinent information needed to close SAMM completion records. For example, the [REDACTED] contractor crew used the comment field to identify that maintenance procedures were approved for completion during the ship’s next overhaul. In these instances, the crew should have used the preset choices to enter this information in order to complete the maintenance record in SAMM. These differences in the way SAMM users recorded preventative maintenance documentation precluded MSC from relying on SAMM completion metrics to verify contractors’ compliance with preventative maintenance requirements.

(FOUO) Furthermore, MSC did not restrict access to only authorized SAMM users. The Prepositioning Program Manager stated that MSC grants SAMM user access only to contractor crew members who have passed a background check, but [REDACTED] contractor crew members stated that they allowed the ship’s electrician, who was not authorized to access SAMM, to access and record completion information in SAMM using an engineer’s authentication information. Furthermore, the contracted engineers acknowledged that they did not supervise the electrician while he used the system. Federal guidance for protecting DoD information systems and networks expressly prohibits the sharing of passwords.<sup>10</sup> Allowing unauthorized access to SAMM is not only a security concern, but also calls into question the reliability of the SAMM completion data MSC is receiving from the contractors.

<sup>10</sup> National Institute of Standards and Technology Special Publication 800-53, Revision 4, “Security and Privacy Controls for Federal Information Systems and Organizations,” January 22, 2015.

MSC's inability to assess the condition and readiness of the GOCO ships has impeded the combatant commanders' ability to carry out planned operations.

*MSC's inability to assess the condition and readiness of the GOCO ships has impeded the combatant commanders' ability to carry out planned operations.*

For example, the Blount Island

Command, Operations Division Deputy Director of the Marine Corps Technical Assistance and Advisory Team provided two examples where a prepositioning ship was unable to attend planned exercises because of maintenance deficiencies, including one instance where a ship carrying the Marine Corps' equipment developed a hole in the hull during transit to participate in an exercise.

### **~~(FOUO)~~ MSC Did Not Have Complete and Adequate Information on Maintenance Activities**

MSC developed incomplete and inaccurate preventative maintenance plans because MSC's Engineering Directorate did not update technical drawings and manuals to replicate the ships' configurations or provide training to all SAMM users on how to report deficiencies in the preventative maintenance plans to MSC. MSC did not verify that contractors performed in accordance with contractual requirements because MSC's Prepositioning Program Management Office and Contracting Office did not:

- award contracts that stated specific requirements for the contractors' training, and use of SAMM;
- ensure a COR or COTR was present to oversee the contractor; and
- properly address contractual deficiencies to the contractors in writing.

### ***MSC Should Improve Preventative Maintenance Plans***

MSC developed incomplete and inaccurate preventative maintenance plans because MSC's Engineering Directorate did not:

- update technical drawings and manuals to replicate the ships' configurations; and
- provide training to all SAMM users on how to use the SAMM feedback log to report preventative maintenance plan deficiencies to MSC.

~~(FOUO)~~ *MSC Did Not Update Technical Drawings and Manuals*

~~(FOUO)~~ MSC developed incomplete and inaccurate preventative maintenance plans because MSC's Engineering Directorate did not update technical drawings and manuals to replicate the ships' configurations. MSC relied on incorrect technical drawings and manuals to build and manage preventative maintenance plans in SAMM. The MSC Instruction states that in order to define and administer maintenance, repair, modification, and alterations of MSC ships, an accurate description of the ship's present configuration is necessary.<sup>11</sup> Furthermore, the MSC Instruction requires that when ship alterations or modifications affect the integrity of the most critical technical drawings and manuals, MSC must update the plans within [REDACTED]. Despite

this guidance, only [REDACTED] of MSC critical technical drawings and manuals were updated over the last 4 years. For example, as of April 2018, the MSC Engineering Directorate should have updated a combined [REDACTED] critical technical drawings and manuals for the [REDACTED].

Technical drawings that should have been updated include a fresh water cooling system diagram for the [REDACTED], a diagram of the midship section of the [REDACTED], and a diagram of the sanitary drain on the [REDACTED]. When asked why the technical drawings and manuals had not been updated, MSC personnel stated that despite requesting funding since 2013, the effort has not been properly funded. MSC stated that it would cost approximately [REDACTED] to complete the necessary updates across the entire MSC fleet, but did not have a breakout of the cost to update only the prepositioning ships.

Accurate technical drawings and manuals are critical for MSC to plan and manage maintenance and repair on MSC prepositioning ships. Without accurate technical drawings and manuals, MSC cannot develop and update preventative maintenance requirements that accurately reflect the configuration of the ships and its equipment. To ensure preventative maintenance procedures in SAMM accurately reflect ship configurations and that contractor crews have access to accurate technical manuals and drawings, the MSC Engineering Directorate should update the technical drawings and manuals for its prepositioning fleet.

~~(FOUO)~~ Only [REDACTED] of MSC critical technical drawings and manuals were updated over the last 4 years.

<sup>11</sup> Commander MSC Instruction 9000.1C, "Preparation, Maintenance, and Distribution of Select Record Plans and Booklets for MSC Ships," May 15, 1992.

*(FOUO) MSC Did Not Provide SAMP Training*

(FOUO) MSC did not develop complete and accurate preventative maintenance plans because MSC's Engineering Directorate did not think it was necessary to provide training to all SAMP users on how to use the SAMP feedback log to report deficiencies in the preventative maintenance plans to MSC. MSC established the feedback log for SAMP users to notify MSC of needed updates to SAMP preventative maintenance tasks, instructions, and technical library documents. Because contractors are performing all of the preventative maintenance on the GOCO fleet, MSC relies on the contractors to identify and report any deficiencies in the preventative maintenance plans through the feedback log. MSC uses the information in the SAMP feedback log to update and improve the preventative maintenance plans in SAMP. However, some contractor crew members were unaware of how to properly use the feedback log. For example, when the contractor crew for the [REDACTED] [REDACTED] found that the technical manual and maintenance plans were incorrect for one of the ship's cranes, the Ship Master and Chief Engineer were unaware that MSC expected crews to use the SAMP feedback log to report the error. The Prepositioning Program Manager explained that if the [REDACTED] [REDACTED] contractor crew had submitted a feedback log request for the crane, the SAMP correction would have benefitted not only the [REDACTED] [REDACTED], but other prepositioning ships with the same crane configuration. Because MSC did not properly train the contractor crews on MSC's procedures of using the feedback log to communicate deficiencies in the preventative maintenance plans, MSC did not have the information it needed to update the preventative maintenance plans in SAMP.

(FOUO) The contractors were not aware of how to use the feedback log because MSC did not provide adequate SAMP training. Specifically, contractor crew members who received SAMP training stated that the training did not include using the feedback log. Several contractor crews' officers stated that the initial SAMP training was not specific enough for active system users because it did not focus on the type of information MSC wanted the contractors to document in SAMP completion entries. In addition, MSC did not require all SAMP users to attend the training and only required licensed personnel in the ship's Engine Department to complete SAMP training. For example, although they were assigned preventative maintenance tasks and required to document completion of those tasks in SAMP, each ship's Deck Department was not required to receive any SAMP training.<sup>12</sup> The Chief Mate on the [REDACTED] [REDACTED] was responsible for overseeing 13 contractors tasked with SAMP preventative maintenance; however, the Chief Mate never received SAMP training.

<sup>12</sup> The Deck Department includes the ship's Master and Mates.



To ensure SAMP users provide feedback on any preventative maintenance plan deficiencies in SAMP to MSC, the MSC Engineering Directorate should revise MSC policies so that all system users are provided initial and annual refresher training on the proper use of SAMP. Training should include using the different modules in the SAMP system and the feedback log.

### ***MSC Should Improve Contractor Management and Data Collection***

MSC did not verify that contractors performed the contract requirements because MSC's Prepositioning Program Management Office and Contracting Office did not:

- award contracts with specific requirements for the contractors' training and use of SAMP;
- consistently ensure a COR or COTR was present to provide oversight of the contractor; and
- issue CDRs or any other written documentation to communicate and document contractor deficiencies.

### ***MSC Awarded Contracts With Inadequate Requirements***

MSC's Prepositioning Program Management Office and Contracting Office awarded contracts with performance work statements that did not contain specific requirements for using SAMP and taking SAMP training. The Federal Acquisition Regulation states that agencies should develop performance work statements that enable assessment of work performance against measurable standards and permit assessment of the contractor's performance.<sup>13</sup> In addition, the Defense Contingency COR Handbook states that a contract's performance work statement is the single most critical document in the acquisition process and the performance work statement should define requirements in clear, concise language, identifying specific work for the contractor to accomplish. The performance work statement defines respective responsibilities of the Government and the contractor and provides an objective measure so that both know when work is complete and payment justified.<sup>14</sup>

However, MSC did not ensure that the contracts' performance work statements included specific language that outlined MSC's procedures for using SAMP and maintenance roles and responsibilities of contractor personnel such as the ship's Chief Engineer. Therefore, the contractors were not always following or aware of these procedures. Specifically, the contractors responsible for entering information

<sup>13</sup> Federal Acquisition Regulation, March 2005 Edition, Subpart 37.6, "Performance-Based Acquisition."

<sup>14</sup> Defense Contingency COR Handbook, Version 2, September 2012, "Contract Surveillance and Performance Monitoring."

in SAMP were not aware of the pertinent information they should have recorded in SAMP. Instead, the contractor crews were using comment fields within SAMP to record maintenance completion data. The Branch Head of the Engineering Management Systems Division explained that because the contractors incorrectly enter completion data into comment fields, MSC did not have the capability to compile the information needed for automated analysis of the SAMP data that contractor crews provided. Therefore, MSC personnel were not able to use SAMP to verify contractors' compliance with contractual requirements. According to the Director of the MSC Engineering Directorate, MSC has a plan to update SAMP with distinct data fields, which should facilitate building more meaningful data and reduce the need for manual reviews of comment fields. MSC anticipates that the implementation of this improvement will take 3 years.

In addition, MSC awarded contracts that did not require formal SAMP training. Specifically, of the five contracts, three did not contain any SAMP training requirements, while the remaining two did not require formal SAMP training and required only the designated contractor crew members to be competent in SAMP. Because MSC uses SAMP data to monitor the operating condition of its prepositioning fleet, the MSC Prepositioning Program Management and Contracting Offices need to ensure that the contracts contain complete and clear requirements.

To improve the usability of SAMP data for decision making, the MSC Engineering Directorate should update SAMP so that its data fields will provide users with clear choices, capture preventative maintenance information more accurately, and allow for MSC to extract aggregate metrics for assisting with maintenance planning and decision making. In addition, the MSC Prepositioning Program Management and Contracting Offices should modify all contracts to require all SAMP users to attend formal SAMP training and to include requirements that detail and instruct the contractors' expected usage of SAMP, including data entries and the feedback log process.

### *MSC Did Not Properly Oversee Contractors*

MSC's Prepositioning Program Management and Contracting Offices did not ensure a COR or COTR was present to oversee the contractors' compliance with the contract. The DoD COR Handbook states that contract surveillance is key to ensuring contractors perform in accordance with contractual requirements and that the COR is a critical individual in supporting the contracting officer to ensure successful contractor performance.<sup>15</sup> The Defense Federal Acquisition Regulation

<sup>15</sup> DoD COR Handbook, Director, Defense Procurement and Acquisition Policy, March 22, 2012.

Supplement states that a quality assurance surveillance plan should be prepared to facilitate assessment of contractor performance.<sup>16</sup> MSC's quality assurance surveillance plan states that the COR is the primary technically oriented representative assigned to monitor contractors' performance and is responsible for performing periodic inspections. However, prepositioning ship CORs did not perform any surveillance of the contractors, and the Prepositioning Program Manager stated that appointed CORs did not have the technical expertise necessary to monitor the contractors' performance of maintenance requirements.

Prepositioning ship CORs did not perform any surveillance of the contractors.

The Prepositioning Program Manager, Contracting Office, and COR explained that they relied on life cycle engineers, contract shipyard monitoring representatives, OCI teams, and assigned Navy squadrons to assess contractor performance on day-to-day management of the ship, preventative maintenance, and shipyard execution for reporting to the COR. However, the contracting officer did not designate responsibility for monitoring contracts to these representatives in accordance with the Federal Acquisition Regulation, and these representatives did not perform the level of oversight necessary to ensure that the contractors were complying with all contractual requirements. For example, the life cycle engineers are the subject matter experts responsible for assessing individual ship performance and reporting their conclusions to the COR. However, the life cycle engineers rely on data in SAMM, which is inconsistent and unreliable, to perform their assessments. As a result, the life cycle engineers were not able to adequately monitor whether the contractor was properly performing or whether the ship was receiving all of the required maintenance.

In addition, MSC designed the OCI teams in part to assess the contractors' compliance with contractual requirements, but the OCI teams were not required to verify whether the contractors properly performed and documented preventative maintenance in SAMM and were not delegated with the contractual authority to oversee the contractor. Furthermore, the OCI teams used the Navy squadron staff to validate that contractor crews had corrected OCI deficiencies. MSC personnel stated that the OCI teams provided guidance to the Navy squadron staff as necessary to ensure adequate validation of OCI deficiencies. However, the Navy squadron also was not delegated contractual authority to oversee the contractor.

<sup>16</sup> Defense Federal Acquisition Regulation Supplement, Part 246, "Quality Assurance," August 2, 2016.

In addition, the Commodore of Maritime Prepositioning Ship Squadron 3 stated that his staff are not subject matter experts and do not have engineering backgrounds. Consequently, the COR should not rely on squadron staff for final verification that the contractors are executing or correcting maintenance requirements of the contract.

To ensure the contractors are performing contract requirements, the MSC Prepositioning Program Management and Contracting Offices should verify that contracting officers appoint a qualified COR or COTR to conduct consistent surveillance of contractors at sea and during shipyard overhauls. MSC should also ensure the COR or COTRs use a quality assurance surveillance plan during surveillance.

~~(FOUO)~~ *MSC Did Not Communicate Contractual Deficiencies in Writing*

Finally, MSC did not consistently issue CDRs or any other written notifications to communicate and document nonconforming services with the contractors. The Federal Acquisition Regulation requires retention of contractor performance information that documents essential facts in the event of litigation or congressional inquiries.<sup>17</sup> In addition, the Defense Federal Acquisition Regulation Supplement further requires the contracting officer to provide written notification of nonconforming services to the contractor.<sup>18</sup> Finally, the Defense Contingency COR Handbook further establishes that a CDR is to be issued for any service found to be unacceptable during contract performance and is a notification to the contractor of failure to meet the contract requirements.<sup>19</sup>

However, the MSC Contracting Office did not consistently use CDRs or any other written notification to document known instances of contractor nonconformance. Specifically, despite the nonconformities we identified, the Contracting Office issued only five CDRs over the last 5 years, all of which were to one contractor. For example, the Contract Office did not issue any CDRs even though the COR was aware that the contractor crews were incorrectly using SAMM and were not consistently using the feedback process. The Contract Office also did not issue any CDRs to the three contractors whose crews' acknowledged they had not implemented a quality management system in accordance with the contract.

<sup>17</sup> Federal Acquisition Regulation, March 2005 Edition, Subpart 42.15, "Contractor Performance Information," and Subpart 4.8, "Government Contract Files," Effective January 19, 2017.

<sup>18</sup> Defense Federal Acquisition Regulation Supplement, Part 246, "Quality Assurance," August 2, 2016.

<sup>19</sup> Defense Contingency COR Handbook, Version 2, September 2012, Appendix B, "Forms" and Appendix K, "Abbreviations and Definitions."

(FOUO) In one instance, the COR was informed that the [REDACTED] contractor crew did not perform the prescribed monthly preventative maintenance tasks to keep backup equipment in working condition, which resulted in the ship running out of potable water. In this same instance, the COR was aware that the contractor crew did not report the incident as a casualty as required in the contract. However, the COR did not issue a CDR or any other written communication to the contractor for either deficiency. Instead, the prepositioning program manager and the COR verbally informed the [REDACTED] contractor's management of the problem and the contractor took action, including submitting the required casualty report and relieving the ship's Chief Engineer for continued failure to maintain the [REDACTED] in a safe and reliable condition. Over a month later, the MSC Commander, issued a letter of concern to the [REDACTED] contractor that addressed concerns with the contractor's performance under various MSC operating contracts, including the contract for the [REDACTED]. However, while the Commander's letter of concern addressed the safety culture onboard the [REDACTED], the COR did not follow up with a CDR or any other written communication to specifically detail the contractor crew's lack of compliance with the contractual requirements related to the [REDACTED] inability to produce potable water or the contractor crew's noncompliance with the requirement to submit casualty reports. While this deficiency was ultimately corrected, ensuring the COR documents contractor performance is necessary to support the contractor's performance assessment or in the event of litigation.

Which resulted in the ship running out of potable water.

If the COR is not documenting unacceptable performance, the contracting officer will not have the necessary documentation to address contractual deficiencies. Therefore, to ensure proper administration of the contract, the MSC Prepositioning Program Management and Contracting Offices should document and ensure future performance deficiencies are formally coordinated with the contractor in writing, such as through CDRs and the Contractor Performance Assessment Reporting System ratings.



## ~~(FOUO)~~ Poor Maintenance Impacts Operations Planning and Budgeting

As a result of MSC's incomplete and inaccurate maintenance plans, as well as inadequate contract administration and oversight, MSC is unable to assess the condition and readiness levels of the GOCO ships. This has impeded the combatant commanders' ability to carry out planned operations. For example, the Blount Island Command, Operations Division Deputy Director of the Marine Corps Technical Assistance and Advisory Team provided two cases where a prepositioning ship was not able to attend planned exercises because of maintenance deficiencies. In one of the cases, a ship carrying the Marine Corps' equipment developed a hole in the hull during transit to participate in an exercise.

... *MSC is unable to assess the condition and readiness levels of the COGO ships.*

~~(FOUO)~~ In addition, preventative maintenance is an integral method for sustaining equipment through its useful life and reduces the amount of repairs needed during overhaul. Therefore, by not ensuring its GOCO prepositioning ships received the required maintenance, MSC may have contributed to the \$139.9 million in unplanned overhaul costs that MSC prepositioning ships experienced from November [REDACTED] to March [REDACTED]. The unplanned repairs also require the ships to spend more time in the dry dock, which resulted in MSC running late an average of [REDACTED] over the [REDACTED] planned time in dry dock from November [REDACTED] to March [REDACTED]. These delays have caused significant financial and operational impacts on the sponsoring Services, including the additional logistics costs associated with storage and stevedoring contracts; equipment degradation from leaving the newly refurbished rolling and non-rolling stock outside in the elements; and, most importantly, difficulty in planning operations around unreliable ships. For example, Marine Corps personnel identified that the Marine Corps does not have enclosed or covered storage space at the port and that equipment sits outside for the duration of the overhaul delays. As a result, the delays in overhaul of the [REDACTED] [REDACTED] resulted in additional equipment maintenance costs of \$517,649 due to prolonged exposure to environmental elements, as well as a loss of \$177,980 associated with extending the Marine Corps stevedore contract beyond the original overhaul period.

Finally, MSC relies entirely on contractors for the operation and maintenance of prepositioning ships and has committed \$544.7 million to such contracts. Without complete and accurate preventative maintenance plans, which identify

and provide instructions on the contractors' maintenance responsibilities, and without effective oversight of the contractors, which ensures all contractual requirements are fulfilled, MSC committed \$544.7 million to contracts without assurance that the contractors would execute all of the required maintenance on its prepositioning fleet.

## Recommendations, Management Comments, and Our Response

### **Recommendation 1**

**We recommend that the Director, Military Sealift Command Engineering Directorate:**

- a. Update the technical drawings and manuals for its prepositioning fleet.**

#### *Management Actions Taken During the Audit*

During the audit, we were informed that MSC conducted a pilot project in 2017 to determine whether it could develop a model to assess the continuous materiel readiness condition of MSC ships.<sup>20</sup> In its report on the pilot project, MSC stated that accurate technical manuals and drawings are important in executing ship maintenance, but also acknowledged that MSC has not allocated adequate resources towards the effort. The report recommended that MSC review its policies for updating operational manuals, technical manuals, and drawings to ensure shipboard documentation is accurately maintained. During the audit, MSC stated that it has been requesting funding for the updates since 2013 and that it expects to finally receive a portion of the funding needed to complete the updates in FY 2020. MSC also affirmed that it will continue to request additional funding until the effort is completed.

#### *Commander, Military Sealift Command Comments*

The MSC Commander agreed with the recommendation and supported all management actions taken during the audit. Specifically, the Commander stated that MSC submitted requests for additional funding to update technical manuals and drawings of its prepositioning ships. The Commander acknowledged that the timeline to update technical drawings and manuals is dependent on receiving the requested funding, but stated that MSC plans to update technical drawings and manuals incrementally as funding is approved and executed each fiscal year, through FY 2021.

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<sup>20</sup> MSC, "Readiness Improvement through Enhanced Materiel Observation and Validation Pilot Project Final Report," June 20, 2017.

### *Our Response*

Comments from the MSC Commander addressed our recommendation. Specifically, MSC's plans to execute technical drawing and manual updates incrementally as funding is approved addresses all specifics of our recommendation. Therefore, this recommendation is resolved, but remains open. We will close this recommendation when MSC provides confirmation that the technical drawings and manuals for its prepositioning fleet have been updated.

- b. Revise Military Sealift Command policies so that all system users are provided initial and annual refresher training on the proper use of the Shipboard Automated Maintenance Management system. Training should include the use of the different modules and of the feedback log.**

### *Management Actions Taken During the Audit*

MSC's 2017 report on the pilot project acknowledged deficiencies in the Civilian Marine Engineering Officer training. Specifically, MSC's report identified that training needed to be more targeted and continuous to help increase compliance with MSC policies and enable better data analysis. During our audit, MSC stood up a cross-functional team to update MSC's training policies and revise the contract language so that all SAMM users are required to have training. MSC personnel also stated that the updated contracts will address shortfalls related to the contractors' inconsistent use of the feedback system and the contractors' improper reporting of configuration changes.

### *Commander, Military Sealift Command Comments*

The MSC Commander agreed with the recommendation and supported all management actions taken during the audit. Specifically, the Commander stated that MSC is revising all contracts for its GOCO ships to include initial and annual refresher SAMM training requirements. In addition, the Commander stated that MSC is also revising training policy documents, applicable to all SAMM users, to incorporate initial and annual SAMM system training. MSC plans to finalize the revision of all GOCO contracts and policy documents in FY 2019.

### *Our Response*

Comments from the MSC Commander and management actions taken during the audit addressed all specifics of our recommendation. Specifically, MSC established a cross-functional team to update MSC's training policies and revise contract language to require all SAMM users to receive system training. Therefore, this recommendation is resolved, but remains open. We will close this recommendation

when MSC provides the modified operating contracts and training policies that incorporate the additional training requirements on SAMM usage for all system users across the prepositioning fleet, including use of the different modules and the feedback log.

- c. **Update the Shipboard Automated Maintenance Management system so that its data fields will provide users with clear choices, capture preventative maintenance information more accurately, and allow for Military Sealift Command to extract aggregate metrics for assisting with maintenance planning and decision making.**

### *Management Actions Taken During the Audit*

MSC's 2017 report on the pilot project recommended that MSC make changes to SAMM-related business processes to increase control, awareness, and effectiveness of ship maintenance practices. Included in the recommendation was to update SAMM to ensure the requirements and associated software provide end users with clear, distinct choices. During the audit, we were informed that MSC began these updates in 2017 with development of metrics to track preventative maintenance completion status in SAMM and has since worked to modify standard data choices, policies for data entry and enforcement, and applied additional resources to correct data problems.

### *Commander, Military Sealift Command Comments*

The MSC Commander agreed with the recommendation. The Commander stated that SAMM enhancements are continually implemented through the MSC Business Systems Contract. Furthermore, the Commander stated that MSC identified the SAMM software change requirements necessary to provide SAMM users with clear choices and capture information more accurately for execution under the MSC Business Systems Contract. Finally, MSC plans to execute these SAMM software changes in FY 2019; however, the Commander acknowledged that execution is dependent on funding.

### *Our Response*

Comments from the MSC Commander, addressed all specifics of our recommendation. MSC's continual effort to enhance SAMM and the response provided from the MSC Commander, addressed the concerns we identified. Therefore, this recommendation is resolved, but remains open. We will close this recommendation upon final confirmation that the new SAMM data fields provide users with clear choices, capture preventative maintenance information more accurately, and allow for MSC to extract aggregate metrics for assisting with maintenance planning and decision making.

## **Recommendation 2**

**We recommend that the Director, Military Sealift Command Contacting Office, in conjunction with the Program Manager, Prepositioning Program Management Office:**

- a. Conduct a review and modify all contracts to require formal Shipboard Automated Maintenance Management system training for all users as well as clarify vague requirements and align contract language with Military Sealift Command procedures. The updated contracts should include, at a minimum, detailed requirements for the contractor's expected use of Shipboard Automated Maintenance Management System, including data inputs and the feedback log process.**

### *Management Actions Taken*

During our audit, MSC stood up a cross-functional team to update MSC's training policies and revise contract language so that all SAMM users are required to have training. In addition, MSC's report on the pilot project addressed deficiencies related to the contracts of GOCO prepositioning ships. Specifically, the report showed that MSC did not enforce existing maintenance policies with the contractors. As a result, the report recommended that MSC contracts, engineering, and program management staff review the contracts to ensure that the contracts are written to encourage accurate reporting of ship condition, maintenance in accordance with MSC philosophies, and all applicable MSC instructions, and that the contracts are enforceable. During our audit, MSC extended the contract review to include contractual training requirements. Specifically, MSC officials agreed with the audit team's finding that the contracts do not require SAMM training for all billets and agreed to modify the training policies on future contracts to enforce training attendance for all contractor personnel. MSC officials stated that it will also ensure the updated contracts address the contractors' inconsistent use of the feedback system and improper reporting of configuration changes.

### *Commander, Military Sealift Command Comments*

The MSC Commander agreed with the recommendation and supported all management actions taken during the audit. Specifically, the Commander stated that MSC has undertaken efforts to modify and standardize contract language for all MSC operating contracts. In addition, MSC is incorporating revised contract language regarding expected SAMM use and training.

### *Our Response*

Comments from the MSC Commander and management actions taken during the audit addressed all specifics of our recommendation. Specifically, MSC's ongoing efforts to modify the contract language for all MSC operating contracts and update

MSC's training policies so that all SAMM users are required to have recurring training and ensure that requirements for the contractor's expected use of SAMM are clear addressed the deficiencies we identified. Therefore, this recommendation is resolved, but remains open. We will close this recommendation when MSC provides the modified operating contracts that incorporate detailed requirements for the contractors' expected use of SAMM and that specify SAMM training for all system users.

- b. Ensure that contracting officers appoint a qualified contracting officer's representative or contracting officer's technical representative to conduct regular surveillance of contractors at sea and during shipyard availabilities. Military Sealift Command should also ensure the contracting officer's representative or contracting officer's technical representative executes quality assurance using a quality assurance surveillance plan.**

### *Management Actions Taken*

During the audit, MSC began phasing out OCI and implemented an Enhanced OCI program to better assess and respond to degraded ship conditions through extending the scope and duration of OCI. The Enhanced OCI requires the operation of all equipment and machinery and implements a dock and sea trial evaluation period. In addition, the MSC Commander mandated that all GOCO ships participate in MSC's Ship Material Assessment and Readiness Testing program, which will include the development of class-specific operational tests of equipment in all mission areas. All MSC ships are expected to be included in these new evaluations by FY 2020. In addition, MSC officials stated that they will add a Government Port Engineer for each ship and will designate each of these Port Engineers as assistant CORs. The newly appointed Port Engineers will oversee the technical work accomplished during overhauls and would also be available to assist with oversight of the ships while at sea. However, MSC officials stated that MSC does not have the resources necessary to retain additional personnel and that it plans to request the additional resources needed in FY 2021.

### *Commander, Military Sealift Command Comments*

The MSC Commander agreed with the recommendation and supported all management actions taken during the audit. Specifically, the Commander stated that MSC has a plan to increase oversight of the prepositioning ships by assigning a Government Port Engineer for each ship and designating each of these Port Engineers as assistant CORs. However, MSC does not have the resources necessary to retain additional personnel and plans to request the additional resources needed in FY 2021. In the interim, starting in FY 2019, MSC plans to over-hire Port Engineers and designate these roles as assistant CORs to provide



oversight of the maintenance of prepositioning ships. Finally, the Commander stated that contracting officers will ensure that CORs are familiar with the existing quality assurance surveillance plan for their contract.

### *Our Response*

Comments from the MSC Commander and management actions taken during the audit addressed all specifics of our recommendation. Specifically, implementation of the Enhanced OCI program will allow MSC to better assess and respond to degraded ship conditions. In addition, requiring all GOCO ships to participate in MSC's Ship Material Assessment and Readiness Testing program will provide increased Government oversight of ship readiness. Furthermore, MSC's intention to over-hire Government Port Engineer billets and designate these individuals as assistant CORs to oversee technical work accomplished during overhauls and assist with oversight of the ships while at sea beginning in FY 2019 satisfies the contract surveillance deficiencies we identified during the audit. Therefore, this recommendation is resolved, but remains open. We will close this recommendation when MSC provides documentation to support that it has hired Government Port Engineers as well as the official designation letters from the contracting officer appointing these personnel as assistant CORs for our review.

- c. **Document and address future contractual deficiencies through formal, written coordination with the contractor, such as through Contract Deficiency Reports and Contractor Performance Assessment Reporting System ratings, as required by the Federal Acquisition Regulation.**

### *Commander, Military Sealift Command Comments*

The MSC Commander agreed with the recommendation. Specifically, the Commander stated that MSC documents performance in the Contractor Performance Assessment Reporting System, revised its CDR form and process, and increased its use of CDRs and other forms of formal documentation of contractor performance.

### *Our Response*

Comments from the MSC Commander addressed all specifics of our recommendation. Therefore, this recommendation is resolved, but remains open. We will close this recommendation after MSC provides the FY 2018 Contractor Performance Assessment Reporting System rating reports to verify that deficiencies identified throughout the year are properly incorporated into the prepositioning contractor's assessments. Also, we request that MSC provide the revised CDR form and process documentation for our review.

## Appendix A

### Scope and Methodology

We conducted this performance audit from December 2017 through August 2018 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

We reviewed criteria to determine whether MSC ensured that prepositioning ships received required maintenance. Specifically, we reviewed the Federal Acquisition Regulation, Defense Federal Acquisition Regulation Supplement, and Navy Marine Corps Acquisition Regulation Supplement to determine the contracting office responsibilities for contract quality assurance surveillance, past performance documentation, and appointment of CORs and COTRs. We also reviewed the DoD Contingency COR Handbook to identify the roles and responsibilities of CORs and COTRs. In addition, we reviewed Navy criteria, including:

- Navy Marine Corps Acquisition Regulation Supplement, September 2013 (Change 13-16);
- Chief of Naval Operations Instruction 3120.32D, "Standard Organization and Regulations of the U.S. Navy," July 16, 2012;
- Chief of Naval Operations Instruction 4730.5R, "Trials and Material Inspections of Ships Conducted by the Board of Inspection and Survey," May 27, 2014;
- Chief of Naval Operations Manual 5090.1D, "Environmental Readiness Program Manual," January 10, 2014;
- American Bureau of Shipping Rules for Steel Vessels for International Voyages, August 14, 2017; and
- various Commander, Military Sealift Command Instructions pertaining to ship maintenance.

Finally, we reviewed MSC prepositioning ship contracts and performance work statements to identify contractor performance requirements.

Our review focused on GOCO ships because these ships make up 20 of the 26 ships in the prepositioning fleet. We also determined that MSC was not responsible for maintaining the four COCO ships and that the two GOGO ships carried less risk of improper maintenance. We reviewed historic SAMM data from January 2013 through December 2017 for a nonstatistical sample of seven

prepositioning ships including the USNS *Stockham*, USNS *Bobo*, USNS *Williams*, USNS *Red Cloud*, USNS *Watson*, USNS *Seay*, and USNS *Montford Point*. We reviewed this data to identify trends in preventative maintenance deferrals. Additionally, we tested this sample of ships to determine whether OCI findings were addressed appropriately. We selected the sample to ensure representation from each class of GOCO prepositioning ship.<sup>21</sup>

We conducted a site visit to MSC Headquarters in Norfolk, Virginia in February 2018 to understand the maintenance and contracting process from a program office perspective. While there, we interviewed the Deputy Director of Ship Management, Prepositioning Program Manager, Life Cycle Manager, and the Contracting Division Director. In March 2018, we visited the USNS *Dahl* while it was receiving overhaul maintenance at a dry dock in Boston, Massachusetts. Our objective was to gain an understanding of the oversight that MSC provided while its ships were being overhauled. While onsite, the audit team interviewed representatives from the American Bureau of Shipping and the Coast Guard who are responsible for ensuring that ships are in compliance with applicable guidelines and standards. We also interviewed contracting monitoring and surveillance representatives from MSC and reviewed change orders the USNS *Dahl* incurred while in dry dock.

Finally, the audit team conducted a site visit to Saipan, Central Northern Mariana Islands, to observe prepositioned ships while on station and to understand the preventative maintenance process from the contractors' perspective. Specifically, the audit team met with the ship's contractor crew for the USNS *John Glenn*, USNS *Red Cloud*, and USNS *Pililaau*. We visually observed contractor crew members documenting preventative maintenance in SAMM and interviewed a member of the Maritime Prepositioning Squadron 3, an organization designed to be a liaison between the Prepositioning Program Management Office and prepositioning ships.

## Use of Computer-Processed Data

We used computer-processed data that MSC engineering personnel extracted from the SAMM system and provided to us in Microsoft Excel spreadsheets. We used the data to identify trends in the process for deferring preventative maintenance. To validate the data received, we requested read-only access to the active SAMM system and performed an analysis to ensure that the data received matched the data in the system. As a result, the audit team determined that the computer-processed data were sufficiently reliable to draw our conclusions.

<sup>21</sup> We excluded the Offshore Petroleum Distribution class and High-Speed Transport because they do not hold prepositioning equipment.

## Prior Coverage

During the last 5 years, the Government Accountability Office (GAO) issued three reports discussing the Navy's ship readiness and maintenance. Unrestricted GAO reports can be accessed at <http://www.gao.gov>.

### GAO

Report No. GAO-17-798T, "Navy Readiness: Actions Needed to Address Persistent Maintenance," September 7, 2017

The Navy has increased deployment lengths, shortened training periods, and reduced or deferred maintenance to meet high operational demands, which has resulted in declining ship conditions and a worsening trend in overall readiness. Overseas homeported ships had limited dedicated training and maintenance periods, which resulted in difficulty keeping crews fully trained and ships maintained. Both public and private shipyards are having difficulty completing maintenance on time due to the Navy's inability to accurately predict how much maintenance is needed.

Report No. GAO-17-503, "Navy Readiness: Actions Needed to Maintain Viable Surge Sealift and Combat Logistics Fleets," August 22, 2017

The surge sealift and combat logistics fleets have maintenance periods running longer than planned, indicating declining materiel readiness across both fleets. As deferrals increase, the materiel condition of the ships decline, and the eventual cost of repairs is higher than it would have been had maintenance been performed as planned. A declining sealift capacity increases the risk that the United States will be unable to deliver the equipment and supplies called for by the Army, Marine Corps, and other forces in the initial phases of operational plans or to support a major contingency which could potentially hinder U.S. operations.

Report No. GAO-16-466R, "Military Readiness: Progress and Challenges in Implementing the Navy's Optimized Fleet Response Plan," May 2, 2016

Increased deployment lengths have resulted in declining ship conditions and materiel readiness, and in a maintenance backlog. The declining condition of ships has increased the duration of time that ships spend undergoing maintenance in the shipyards, which in turn compresses the time available in the schedule for training and operations.

## Appendix B

### Potential Monetary Benefits

The following table identifies \$695,629.04 of Marine Corps funds that could have been put to better use. This amount includes the additional equipment maintenance costs of \$517,648.58 incurred by the Marine Corps due to the equipment's prolonged exposure to environmental elements resulting from two prepositioning ships' overhauls extending beyond schedule. Also included is a loss of \$177,980.46 associated with extending the Marine Corps stevedore contract due to prepositioning ship unplanned overhaul extension.

In addition, the table identifies the total value of the five GOCO prepositioning contracts as of March 2018, including option periods and extensions. MSC committed \$544,743,015.00 to the contracts without assurance that the contractors would execute all of the required maintenance on its prepositioning fleet.

*Table. Potential Monetary Benefits*

Recommendations	Type of Benefit	Amount of Benefit	Accounts
All	Funds put to better use	\$695,629.04	Multiple accounts will be impacted
All	Questioned Costs	\$544,743,015.00	Multiple accounts will be impacted

Source: The DoD OIG.

# Management Comments

## Military Sealift Command



DEPARTMENT OF THE NAVY  
COMMANDER MILITARY SEALIFT COMMAND  
471 EAST C STREET  
NORFOLK VA 23511-2419

5000  
Ser N00/307  
22 Aug 18

From: Commander, Military Sealift Command  
To: Department of Defense Office of Inspector General

Subj: RESPONSE TO DEPARTMENT OF DEFENSE INSPECTOR GENERAL DRAFT  
REPORT – AUDIT OF MILITARY SEALIFT COMMAND’S MAINTENANCE OF  
PREPOSITIONING SHIPS (PROJECT NO. D2018-D000JB-0068.000)

Ref: (a) DODIG Draft Report, Project No. D2018-D000JB-0068.000 of 09 Aug 18

Encl: (1) Military Sealift Command (MSC) Response to the Findings and Recommendations  
contained in the subject report.

1. In response to reference (a), enclosure (1) provides Military Sealift Command’s (MSC) response to the recommendations included in the subject report. I appreciate the significant work by the audit team in examining MSC’s Prepositioning Force and in providing my team and I the results of that effort, to include deficiencies and areas for improvement. We are a learning organization and strive for continuous improvement; the feedback provided in this report will be invaluable to improving MSC mission effectiveness and the support we provide to the Navy and our joint partners.

2. In addition to enclosure (1), I’d like to also offer some strategic context to complement the specific issues discussed within it and the draft report itself. MSC concurs with and in fact has previously identified many of the deficiencies cited in the draft report, with corrective action plans well underway at the time this audit was conducted. That said, the current state of the Prepositioning Force has its roots in shortcomings over an extended period in both processes and resources required to manage and sustain the health of the force. While a culture of efficiency has always been encouraged at MSC and is important to our stewardship of taxpayer dollars, significant year over year fiscal constraints has pressurized that culture and contributed to an erosion of processes, in effect short-changing effective management in some areas as the command prioritized staff and resources on keeping pace with near-term operational demands. This was exacerbated by the loss of continuity in personnel and the need for reconstituting staff and processes as the command relocated from Washington, DC to Norfolk, VA in phases from 2015 to 2017. Moreover, funds apportioned specifically for the Prepositioning Force were substantially reduced in favor of other capability and readiness priorities within Navy and DoD. For example, average annual funding per ship decreased by 40% in constant dollars over the last decade, from \$42.9M in 2006-2008 to \$26.4M in 2016-2018. While these reductions were mitigated somewhat through efficiencies, this reduction in resources over a sustained period led to reductions and deferrals in maintenance, reduced technical support critical to maintenance and modernization planning, and less government oversight of contracts supporting the readiness and sustainment of the force.



## Military Sealift Command (cont'd)

Subj: RESPONSE TO DEPARTMENT OF DEFENSE INSPECTOR GENERAL DRAFT  
REPORT – AUDIT OF MILITARY SEALIFT COMMAND'S MAINTENANCE OF  
PREPOSITIONING SHIPS (PROJECT NO. D2018-D000JB-0068.000)

3. With the recent shift in strategy emphasizing more focus on high end, near peer potential adversaries, DoD and Navy have recognized the increasing importance of the contributions of this force to that high end fight, and average annual per ship funding is expected to increase to \$31.2M in FY20. In addition, MSC has implemented a number of programs and process improvements, some cited in the draft report, to implement controls and provide for more holistic readiness assessments across the force. As an example of improvements in management controls, MSC is also standardizing current Operating and Maintenance (O&M) contracts for all of our contractor-operated ships to better articulate specific maintenance requirements, measures of performance, and responsibilities of the contractor, enabling more effective oversight and enforcement of contract actions. Just as importantly, these programs are guiding more effective targeting of resources to correct deficiencies contributing the most to lost operational availability and mission degradation. While it will take some time to regain required standards after several years of inadequate maintenance and sustainment, MSC is committed to improving the posture of the Prepositioning Force and ensure their readiness to support the joint warfighter.

4. Thank you for the opportunity to review and comment on the findings and recommendations. Freedom of Information Act (FOIA) and Information Security reviews will be forwarded via separate correspondence. My points of contact are [REDACTED]  
[REDACTED]



DEE L. MIFFLIN

Copy to:  
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COMUSFLTFORCOM  
COMUSTRANSCOM  
NAVINGEN  
MSC (DSM, DMO, N02IG)

## Military Sealift Command (cont'd)

**Military Sealift Command Response to  
DoDIG Draft Report of 9 August 2018  
On  
Military Sealift Command's Maintenance of Prepositioning Ships  
(Project No. D2018-D000JB-0068.000)**

**Recommendation 1:**

**1. a. We recommend that the Director, Military Sealift Command Engineer Directorate update the technical drawings and manuals for its prepositioning fleet.**

**MSC Response: Concur**

MSC agrees with the recommendation to update the technical drawings and manuals for its prepositioning fleet. In order to accomplish this recommendation additional funding is needed. MSC submitted requests for additional funding in the amounts of \$12,610,000 and \$11,578,000 per year for five years in the POM 19 and POM 20 Issue papers (respectively) to update Selected Record Drawings(SRDs) and Technical Manuals; these requests include the prepositioning vessels. A small percentage of the FY19 and FY20 requests were funded and will be executed in their respective FYs. In September of 2018, MSC will submit a POM 21 Issue paper to request additional funding to update Selected Record Drawings(SRDs) and Technical Manuals. The timeline to accomplish this recommendation is dependent upon receiving the additional funding requested but is anticipated to be an ongoing effort over the FYDP.

**1. b. We recommend that the Director, Military Sealift Command Engineer Directorate revise Military Sealift Command policies so that all system users are provided initial and annual refresher training on the proper use of the Shipboard Automated Maintenance Management system. Training should include the use of the different modules and of the feedback log.**

**MSC Response: Concur**

MSC agrees with the recommendation. To accomplish the recommendation, revisions are in progress to incorporate the initial and annual refresher Shipboard Automated Maintenance Management System training requirements into the Operating Contracts for Government-Owned, Contractor-Operated ships. Additionally, revisions to the following policy documents, applicable to all SAMM users, are in progress and will incorporate initial and annual SAMM System Training: N0711-001.00-AQ Condition Monitoring and Preventive Maintenance Management and N0711-002.00-AQ Corrective Maintenance. MSC plans to finalize the revision and approval of these documents in FY19.

## Military Sealift Command (cont'd)

**1. c. We recommend that the Director, Military Sealift Command Engineer Directorate update the Shipboard Automated Maintenance Management system so that its data fields will provide users with clear choices, capture preventative maintenance information more accurately, and allow for Military Sealift Command to extract aggregate metrics for assisting with maintenance planning and decision making.**

**MSC Response: Concur**

MSC agrees with the recommendation. Enhancements are continuously made to the SAMM System through the MSC Business Systems Contract. The software change requirements necessary to complete this recommendation were identified and added to the SAMM Software Backlog executed under the MSC Business Systems Contract. Implementation and release of these updates began in 2017. The accomplishment of this recommendation is dependent upon funding and is anticipated for release towards the end of FY19.

**Recommendation 2:**

**2. a. We recommend that the Director, Military Sealift Command Contracting Office, in conjunction with the Program Manager, Prepositioning Program Management Office conduct a review and modify all contracts to require formal Shipboard Automated Maintenance Management system training for all users as well as clarify vague requirements and align contract language with Military Sealift Command procedures. The updated contracts should include, at a minimum, detailed requirements for the contractor's expected use of Shipboard Automated Maintenance Management System, including data inputs and the feedback log process.**

**MSC Response: Concur.**

MSC has undertaken efforts to modify and standardize contract language in all of our operating contracts. As part of that effort, we are incorporating revised language regarding SAMM use and training. Once this language has been finalized, we will forward a copy of the pertinent sections to the DoD IG.

**2. b. We recommend that the Director, Military Sealift Command Contracting Office, in conjunction with the Program Manager, Prepositioning Program Management Office ensure that contracting officers appoint a qualified contracting officer's representative or contracting officer's technical representative to conduct regular surveillance of contractors at sea and during shipyard availabilities. Military Sealift Command should also ensure the contracting officer's representative or contracting officer's technical representative executes quality assurance using a quality assurance surveillance plan.**

**MSC Response: Concur.**

As stated in the report, MSC has a plan to increase technical representative oversight of the ships by assigning a Port Engineer for each vessel by requesting additional billets in the POM 21

## Military Sealift Command (cont'd)

submittal. These personnel will be designated as Assistant CORs (ACORs) which should address the auditor's concerns about having Contracting Officer's designation to officially act under these contracts. The report states that a solution is needed prior to FY21. As such, MSC will overhire these billets starting in FY19. There are no resources currently available within MSC to fulfill this recommendation. Contracting Officers will ensure that CORs and COTRs are familiar with the existing QASP for their contract.

**2. c. We recommend that the Director, Military Sealift Command Contracting Office, in conjunction with the Program Manager, Prepositioning Program Management Office document and address future contractual deficiencies through formal, written coordination with the contractor, such as through Contract Deficiency Reports and Contractor Performance Assessment Reporting System ratings, as required by the Federal Acquisition Regulation.**

**MSC Response: Concur.**

Historically MSC has documented performance through CPARS. We have increased the use of other various means to document performance as evidenced by one letter of concern and one CDR that have been issued in the last month for these contracts. Further, MSC has revised its CDR form and process to make documentation of concerns and apparent performance issues more timely and less cumbersome. MSC feels that we have taken appropriate action regarding this recommendation.

## Acronyms and Abbreviations

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<b>CDR</b>	Contract Deficiency Report
<b>COCO</b>	Contractor-Owned, Contractor-Operated
<b>COR</b>	Contracting Officer's Representative
<b>COTR</b>	Contracting Officer's Technical Representative
<b>GOCO</b>	Government-Owned, Contractor-Operated
<b>GOGO</b>	Government-Owned, Government-Operated
<b>MSC</b>	Military Sealift Command
<b>OCI</b>	Onboard Condition Inspection
<b>SAMM</b>	Shipboard Automated Maintenance Management
<b>USNS</b>	United States Naval Ship





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### **U.S. DEPARTMENT OF DEFENSE**

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