United States Government Accountability Office

GAO

Report to the Ranking Minority Member, Subcommittee on Defense, Committee on Appropriations, House of Representatives

January 2007

FORCE STRUCTURE

Joint Seabasing Would Benefit from a Comprehensive Management Approach and Rigorous Experimentation before Services Spend Billions on New Capabilities

GAO-07-211

Report Documentation Page

Form Approved
OMB No. 0704-0188

1. REPORT DATE	2. REPORT TYPE	3. DATES COVERED
JAN 2007		**00-00-2007 to 00-00-2007**

4. TITLE AND SUBTITLE	5a. CONTRACT NUMBER
Force Structure. Joint Seabasing Would Benefit from a Comprehensive Management Approach and Rigorous Experimentation before Services Spend Billions on New Capabilities	5b. GRANT NUMBER
	5c. PROGRAM ELEMENT NUMBER
6. AUTHOR(S)	5d. PROJECT NUMBER
	5e. TASK NUMBER
	5f. WORK UNIT NUMBER
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) **U.S. Government Accountability Office,441 G Street NW,Washington,DC,20548**	8. PERFORMING ORGANIZATION REPORT NUMBER
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)	10. SPONSOR/MONITOR'S ACRONYM(S)
	11. SPONSOR/MONITOR'S REPORT NUMBER(S)

12. DISTRIBUTION/AVAILABILITY STATEMENT
Approved for public release; distribution unlimited

13. SUPPLEMENTARY NOTES

14. ABSTRACT

15. SUBJECT TERMS

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE			
unclassified	**unclassified**	**unclassified**		**49**	

January 2007

FORCE STRUCTURE

Joint Seabasing Would Benefit from a Comprehensive Management Approach and Rigorous Experimentation before Services Spend Billions on New Capabilities

GAO Accountability · Integrity · Reliability

Highlights

Highlights of GAO-07-211, a report to the Ranking Minority Member, Subcommittee on Defense, Committee on Appropriations, House of Representatives

Why GAO Did This Study

Joint seabasing is one of several evolving concepts for projecting and sustaining forces without relying on immediate access to nearby land bases and could be the source of billions of dollars of investment. In future security environments, the Department of Defense (DOD) expects to encounter situations of reduced or denied access to areas of operation. Even where forward operating bases are otherwise available, their use may be politically undesirable or operationally restricted. GAO was asked to address the extent to which (1) DOD has employed a comprehensive management approach to joint seabasing, (2) DOD has developed a joint experimentation campaign plan for joint seabasing, and (3) DOD and the services have identified the costs of joint seabasing options. For this review, GAO analyzed joint requirements documents, experimentation efforts, and service acquisition plans.

What GAO Recommends

GAO recommends that DOD develop a management approach that includes senior leadership involvement, a dedicated implementation team, and a communications strategy; and develop an experimentation campaign plan and total ownership cost estimates for seabasing options. DOD agreed with the recommendations, except for the need for a dedicated implementation team.

www.gao.gov/cgi-bin/getrpt?GAO-07-211.

To view the full product, including the scope and methodology, click on the link above. For more information, contact Janet St. Laurent at (202) 512-4402 or stlaurentj@gao.gov.

What GAO Found

While DOD has taken action to establish a joint seabasing capability, it has not developed a comprehensive management approach to guide and assess joint seabasing. GAO's prior work showed that sound management practices for developing capabilities include involving top leadership, dedicating an implementation team, and establishing a communications strategy. DOD is developing a joint seabasing concept and various DOD organizations are sponsoring seabasing initiatives. However, DOD has not provided sufficient leadership to guide joint seabasing development and service initiatives are outpacing DOD's analysis of joint requirements. DOD also has not established an implementation team to provide day-to-day management to ensure joint seabasing receives the focused attention needed so that efforts are effective and coordinated. Also, DOD has not fully developed a communications strategy that shares information among the organizations involved in seabasing. Without a comprehensive management approach containing these elements, DOD may be unable to coordinate activities and minimize redundancy among service initiatives.

DOD has not developed a joint experimentation campaign plan, although many seabasing experimentation activities—including war games, modeling and simulation, and live demonstrations—have taken place across the services, combatant commands, and other defense entities. No overarching joint seabasing experimentation plan exists to guide these efforts because the U.S. Joint Forces Command has not taken the lead in coordinating joint seabasing experimentation, although it has been tasked with developing a biennial joint experimentation campaign plan for future joint concepts. While the U.S. Joint Forces Command is in the process of developing the plan, it is unclear the extent to which this plan will address joint seabasing or will be able to guide joint seabasing experimentation efforts. Without a plan to direct experimentation, DOD and the services' ability to evaluate solutions, coordinate efforts, and disseminate results could be compromised.

While service development efforts tied to seabasing are approaching milestones for investment decisions, it is unclear when DOD will complete development of total ownership cost estimates for a range of joint seabasing options. Joint seabasing is going through a capabilities-based assessment process that is intended to produce preliminary cost estimates for seabasing options. However, DOD has not yet begun the specific study that will identify potential approaches, including changes to doctrine and training as well as material solutions, and produce preliminary cost estimates. DOD officials expect the study will not be complete for a year or more. Meanwhile, the services are actively pursuing a variety of seabasing initiatives, some of which are approaching milestones which will guide future program investments. Until total ownership cost estimates for joint seabasing options are developed and made transparent to DOD and Congress, decision makers will not be able to evaluate the cost-effectiveness of individual service initiatives.

Contents

Figures

Abbreviations

DOD	Department of Defense
JCIDS	Joint Capabilities Integration and Development System
OSD	Office of the Secretary of Defense

GAO
Accountability * Integrity * Reliability

United States Government Accountability Office
Washington, DC 20548

January 26, 2007

The Honorable C. W. Bill Young
Ranking Minority Member
Subcommittee on Defense
Committee on Appropriations
House of Representatives

Dear Mr. Young:

Future security environments are expected to become increasingly complicated through unstable international political relationships, increased acts of terrorism, the expanded influence of nonstate actors, and the proliferation of weapons of mass destruction. In a complicated operational environment, the Department of Defense (DOD) may encounter situations of reduced or denied access to desired areas of operation. Even where overseas bases are otherwise available, their use may be politically undesirable or operationally restricted for military use, or a commander may desire to reduce the footprint and visibility of the joint force in a host nation. As a result, the capability to project and sustain forces in such antiaccess environments could become increasingly important in enabling DOD to confront unexpected threats and deter aggression or seize the initiative.

Joint seabasing is one of several evolving concepts describing how commanders in the future will project and sustain forces for conducting joint military operations without relying on immediate access to nearby land bases. Seabasing is defined as the rapid deployment, assembly, command, projection, reconstitution, and reemployment of joint combat power from the sea, while providing continuous support, sustainment, and force projection to select expeditionary joint forces without reliance on land bases within the joint operations area. Joint seabasing is a scalable concept with many potential options for achieving its desired capability. These options range from a single ship to a larger family of amphibious and logistics ships, with supporting surface and air connectors, as well a concept of operations and employment options. Enhancing a seabasing capability is expected to be costly, in light of the many options that could be developed to support joint seabasing, and could be the source of billions of dollars of investment if DOD chooses an option involving the development of new ships. While joint seabasing is one option for how the joint force commander could conduct joint military operations in the future, other means of projecting and sustaining forces in an antiaccess

environment exist and continue to evolve. These include rapid strategic airlift and fast sealift of forces from the United States to the area of operation, airfield and port seizure, rapid base construction, and several others. At a time when DOD is under pressure to control costs, it is increasingly important for decision makers to evaluate competing priorities and alternatives to determine the most cost-effective solutions for conducting future military operations.

Joint seabasing represents a major change in the way DOD would manage its forces. Inherent in implementing an organizational transformation such as joint seabasing are possible changes in force structure, acquisition, logistics concepts, command and control, training, and other factors important to successful military operations. The concept could also have a significant effect on near- and long-term funding priorities.

You asked us to conduct a review of DOD's assessments and plans to implement joint seabasing, with particular attention to the following three questions: (1) To what extent has DOD employed a comprehensive management approach for developing a joint seabasing capability? (2) To what extent has a joint experimentation campaign plan been developed, implemented, and used to inform decisions on joint seabasing options? (3) To what extent have DOD and the services identified the cost of joint seabasing options so that decision makers can make informed, cost-effective decisions?

To assess DOD's management oversight and leadership approach for joint seabasing, we obtained and analyzed briefings and studies on joint seabasing, reviewed joint requirements policies and procedures, interviewed DOD and service officials, and compared DOD's approach with our prior work on best practices for transformations of large organizations. To assess the extent to which a joint experimentation campaign plan has been developed, implemented, and used to inform decisions on joint seabasing options, we obtained briefings from and interviewed DOD and service officials on their experimentation efforts, and examined DOD and service guidance on conducting and leading experimentation campaigns. To assess the development of cost estimates for joint seabasing, we obtained and analyzed key briefings, reports, data, and plans from DOD and the services that included information and analysis regarding estimated costs related to joint seabasing and conducted interviews with relevant DOD and service officials. We compared the cost estimates for joint seabasing to DOD instructions for developing cost estimates, along with best practices on developing total ownership costs. We conducted our review from February 2006 through October 2006 in accordance with generally accepted government auditing

standards and determined that any data used were sufficiently reliable for our objective. The scope and methodology used in our review are described in further detail in appendix I.

Results in Brief

While DOD has taken several actions to establish a joint seabasing capability, it has not provided sufficient leadership to integrate service initiatives and guide the development of joint seabasing. Specifically, DOD's management approach has not fully incorporated key sound management practices or integrated service initiatives. In our prior work, we identified several key sound management practices at the center of successful mergers, acquisitions, and transformations. These key sound management practices include (1) ensuring top leadership drives the transformation, (2) dedicating an implementation team to manage the transformation process, and (3) establishing a communication strategy to create shared expectations and report related progress. DOD has developed a *Seabasing Joint Integrating Concept* and is currently assessing the concept within DOD's joint requirements process. However, the services have their own seabasing concepts and approaches and there are a number of ongoing service initiatives. While some service initiatives are in the early stages of concept development, others are outpacing joint seabasing in development and are expected to cost billions of dollars. However, DOD has not provided sufficient leadership to ensure these initiatives are fully leveraged, properly focused, and complement each other. In addition, despite recommendations for a joint office to manage and lead joint seabasing by DOD officials, the Defense Science Board, and the Naval Studies Board, an overarching, dedicated implementation team has not been established. Without such an implementation team, DOD has no single entity that can provide day-to-day management of joint seabasing and help to reach agreement on work priorities. Furthermore, in the absence of a formal mechanism for communicating joint seabasing information, officials from the Navy and Marine Corps told us they face challenges in determining what other DOD and research organizations are involved in joint seabasing and what they are doing. Without a comprehensive management approach, DOD may not be able to evaluate seabasing options or develop the joint seabasing capability in an efficient and cost-effective manner.

While DOD has conducted some seabasing experiments, it has not developed or implemented an overarching joint experimentation campaign plan to inform decisions about joint seabasing. According to defense best practices, key aspects of an experimentation campaign plan include (1) designated leaders, (2) clear focus and objectives, (3) a spectrum of experiments, (4) data collection and analysis, (5) broad dissemination of

results, and (6) a feedback mechanism to discuss and interpret results. Many seabasing experimentation activities have taken place across the services, combatant commands, and defense entities, including war games, modeling and simulation, and live demonstrations. However, no overarching joint seabasing experimentation plan exists within DOD to guide these efforts because the U.S. Joint Forces Command, which has primary responsibility for joint warfighting experimentation, has not taken the lead in coordinating joint seabasing experimentation. While the U.S. Joint Forces Command is in the process of developing an experimentation plan for joint concepts, it is unclear the extent to which this plan will address joint seabasing. Moreover, it is also unclear the extent to which this plan will be able to guide joint seabasing experimentation efforts because the U.S. Joint Forces Command does not have the authority to direct the experimentation activities of the services. Furthermore, while some data collection and analyses has been done on seabasing experimentation activities, an overall data collection and analysis plan does not exist to ensure data were captured and interpreted into findings. Additionally, DOD lacks a systematic means to communicate and disseminate findings and observations on joint seabasing experimentation, and obtain feedback. Without an overarching experimentation plan, DOD may not have a strong analytical basis to evaluate joint seabasing options.

While service acquisitions tied to seabasing are approaching milestones for investment decisions, it is unclear when DOD will complete development of total ownership cost estimates for a range of joint seabasing options. Total ownership cost estimates include the cost to develop, acquire, own, operate, and dispose of weapon and support systems and help organizations analyze and compare options. DOD policy stresses the importance of identifying the total costs of ownership, including major cost drivers, while considering the affordability of establishing new capability requirements. Joint seabasing is currently going through an assessment within DOD's requirements process that will examine potential approaches and develop preliminary cost assessments for seabasing options. However, according to DOD officials, DOD has not yet begun or established a firm reporting milestone for completing this assessment and it is not clear whether it will be completed before the services reach upcoming milestones on programs tied to joint seabasing. For example, the Navy plans to procure a Maritime Prepositioning Force (Future)—a squadron of ships designed to project and sustain Marine forces—at an estimated cost of $14.5 billion, along with several supporting surface and air connectors, as a means to develop a seabasing capability. Furthermore, the Army is exploring its own initiatives to establish a seabasing capability, such as modified commercial cargo ships with flight decks. Some of these service initiatives, such as the Maritime

Prepositioning Force (Future), are scheduled for milestones in fiscal year 2008 that will guide future investment decisions. Until total ownership cost estimates for joint seabasing options are developed and made transparent to DOD and Congress, decision makers may not be able to evaluate the cost-effectiveness of individual service initiatives.

To facilitate cost-effective evaluation of the joint seabasing concept as an option for force projection and sustainment in an antiaccess environment, we recommend that the Secretary of Defense (1) establish an implementation team to provide oversight and develop a management plan for joint seabasing, (2) direct the U.S. Joint Forces Command to lead and coordinate joint seabasing experimentation efforts, with oversight by the joint seabasing implementation team, and (3) direct the implementation team or other appropriate entity to synchronize the development of total ownership cost estimates for a range of joint seabasing options so decision makers have sufficient information to make informed, cost-effective investment decisions regarding seabasing initiatives.

DOD, in its comments on a draft of this report, partially agreed with our recommendations, except for the need for a dedicated implementation team to provide oversight of seabasing initiatives. In its comments, DOD stated that it is premature to establish additional oversight at this time but that it will determine if additional oversight is needed after DOD defines the joint seabasing capabilities needed. DOD also stated that in the interim the Force Management Joint Capabilities Board, which includes the services, combatant commands, and other organizations, is providing an appropriate level of management oversight. We disagree that DOD's current approach is sufficient to provide effective oversight because (1) DOD has already begun a number of acquisition programs that support seabasing even though it has not yet established joint seabasing requirements and (2) the Force Management Joint Capabilities Board's oversight does not go far enough in providing comprehensive management oversight of numerous, disparate service and defense organization initiatives related to joint seabasing. While the Board is responsible for leading the joint seabasing capabilities-based assessment, the Board's responsibilities do not constitute the type of oversight needed to ensure ongoing or planned service initiatives that may support joint seabasing are coordinated and complement each other. Because of this, we continue to believe that DOD should establish an implementation team to provide day-to-day management oversight of joint seabasing as soon as possible rather than considering this as an option once joint seabasing capabilities are defined. DOD's comments and our evaluation of them are on page 33.

Background

In 2002, the Navy's *Sea Power 21*[1] vision stated that shore-based capabilities would be transformed to seabased capabilities whenever practical to improve the reach, persistence, and sustainability of systems that are already afloat. The objective for the United States to maintain global freedom of action is a consistent theme throughout the *National Defense Strategy* and *National Military Strategy*.[2] DOD's 2006 *Quadrennial Defense Review Report*[3] further stated that the future joint force will exploit the operational flexibility of seabasing to counter political antiaccess and irregular warfare challenges.

The joint seabasing concept is currently going through the Joint Capabilities Integration and Development System (JCIDS), a DOD decision support process for transforming military forces. Figure 1 shows the JCIDS process, including the major elements of a capabilities-based assessment. The purpose of JCIDS is to identify, assess, and prioritize joint military capability needs. Capabilities represent warfighting needs that are studied as part of the system's capabilities-based assessment process. The process identifies warfighter skills and attributes for a desired capability (Functional Area Analysis), the gaps to achieving this capability (Functional Needs Analysis), and possible solutions for filling these gaps (Functional Solution Analysis). The results of this assessment are used as the basis for identifying approaches for delivering the desired capability. When identifying these approaches, cost is one factor that is considered. One way costs are used to evaluate potential approaches is by developing total ownership cost estimates. The Joint Requirements Oversight Council[4] has overall responsibility for JCIDS and is supported by eight Functional Capabilities Boards (Command and Control, Battlespace Awareness, Focused Logistics, Force Management, Force Protection, Force application, Net-Centric, and Joint Training), which lead the capabilities-

[1]Admiral Vern Clark, USN, "Sea Power 21: Projecting Decisive Joint Capabilities," *Naval Institute Proceedings* (October 2002).

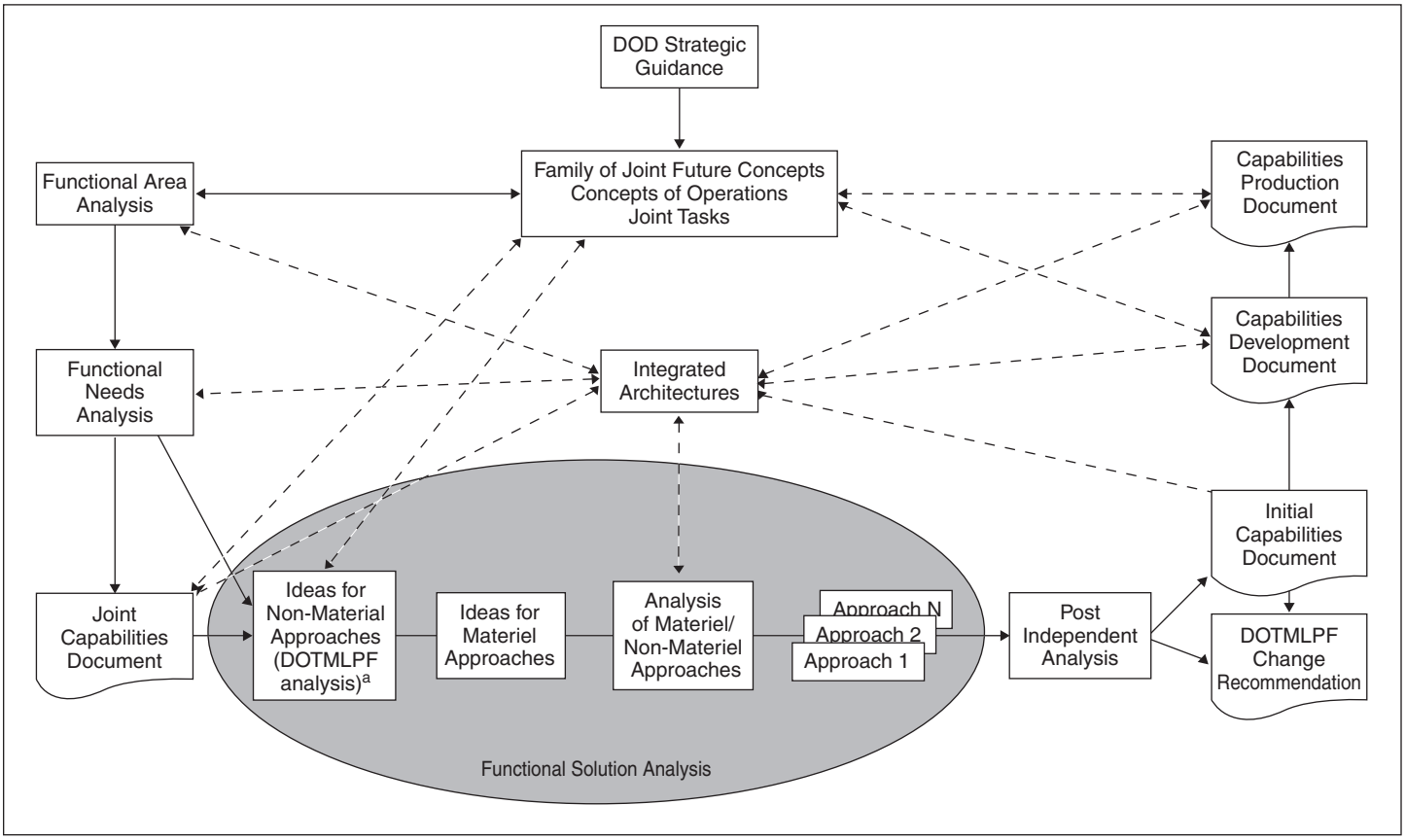
[2]Secretary of Defense, *National Defense Strategy of the United States of America* (Washington, D.C.: March 2005) and Joint Chiefs of Staff, *National Military Strategy of the United States of America* (Washington, D.C.: 2004).

[3]Secretary of Defense, *Quadrennial Defense Review Report* (Washington, D.C.: Feb. 6, 2006).

[4]The Chairman of the Joint Chiefs of Staff is the Chairman of the Joint Requirements Oversight Council, though the functions of the Joint Requirements Oversight Council chairman are delegated to the Vice Chairman of the Joint Chiefs of Staff. The Secretary of the Joint Requirements Oversight Council is the Joint Staff Director for Force Structure, Resources, & Assessment.

based assessment process. DOD's anticipated timeframe for an operational joint seabasing capability as currently envisioned in the *Joint Integrating Concept* is 2015–2025.

Figure 1: The JCIDS Analysis Process



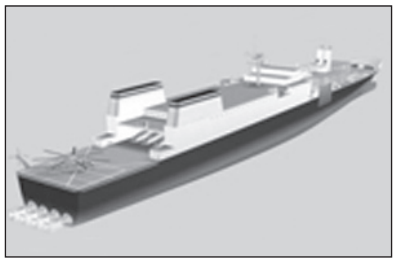
Source: The Joint Staff.

[a]DOTMLPF = Doctrine, organization, training, materiel, leadership and education, personnel, and facilities.

The services are either considering or actively pursuing material solutions to support seabasing. According to service officials and documentation, these solutions will play a critical role in enhancing current seabasing capabilities. For example, the Navy and Marines plan to acquire the Maritime Prepositioning Force (Future) along with several supporting connectors needed for it to be able to achieve its mission. As part of the seabase, the Maritime Prepositioning Force (Future) will be a squadron of ships to transport and deliver the personnel, combat power, and logistic

support of the Marine Expeditionary Brigade. The connectors, which are envisioned to provide both intertheater lift to the seabase and intratheater lift within the seabase, include sealift, such as the Joint High Speed Vessel, Joint High Speed Sealift, and Joint Maritime Assault Connector (this vessel is intended to replace the Landing Craft Assault Connector), and airlift, such as the V-22 Osprey and CH-53K heavy lift helicopter. Figure 2 illustrates and describes several sealift and airlift connectors. The Army is also exploring new capability initiatives for establishing a seabasing capability. In conjunction with the Navy and Marine Corps, the Army is developing the Joint High Speed Vessel and Joint High Speed Sealift ships. Furthermore, the Army is also in the early stages of development of its Afloat Forward Staging Base, which is a ship concept whose mission would be providing aerial maneuver with Army forces from the sea. One option the Army is exploring for the Afloat Forward Staging Base is to add flight decks to a commercial container ship, along with other alterations, as a means to provide aerial maneuver to Army forces.

Figure 2: Illustrative Connectors for Use in Joint Seabasing

	Joint High Speed Vessel (pictured is the High Speed Vessel 2 Swift)—The Joint High Speed Vessel is expected to enable rapid force closure of fly-in forces to the seabase from advanced bases, logistics from prepositioned ships to assault shipping, ship-to-ship replenishment, and, in appropriate environments, maneuver of assault forces to in-theater ports and austere ports. The Joint High Speed Vessel is currently in the technology development phase of acquisition and is expected to enter the system development and demonstration phase in fiscal year 2008.
	Joint High Speed Sealift (artist rendition)—The Joint High Speed Sealift ship is intended to be an intertheater connector that provides strategic force closure for forces based in the continental United States. The Marine Corps envisions using the vessel to transport non-self-deploying aircraft, personnel, and select equipment, as well as the Army's non-self-deploying aircraft and personnel, and Brigade Combat Team rolling stock and personnel, permitting rapid force closure of this equipment. The Joint High Speed Sealift is very early in the acquisition cycle and has not entered the concept refinement phase.
	Landing Craft Air Cushion and Joint Maritime Assault Connector (pictured is a Landing Craft Air Cushion)—The Landing Craft Air Cushion is a high-speed, fully amphibious landing craft capable of carrying a 60-ton payload (75 tons in overload) at speeds in excess of 40 knots and a nominal range of 200 nautical miles. Its ability to ride on a cushion of air allows it to operate directly from the well decks of amphibious warships. Its replacement, the Assault Connector, is expected to provide high-speed, heavylift for over-the-horizon maneuver, surface lift, and shipping; and carry up to 150 tons. The Landing Craft Air Cushion is currently in use, while the Joint Maritime Assault Connector is early in the acquisition process, expected to reach initial operating capability in 2015.
	V-22 Osprey—The V-22 is a joint service, multimission aircraft with vertical take-off and landing capability. It performs missions like a conventional helicopter while also having the long-range cruise abilities of a twin turboprop aircraft. The Marine Corps, Navy, and Air Force each have their own version of the aircraft. Initial operating capability for the V-22 is planned for fiscal year 2007.
	CH-53K (pictured is a CH-53E Super Stallion)—The CH-53K is the heavy lift replacement helicopter being developed to supersede the Marine Corps's CH-53E. The CH-53K is intended to operate from austere and remote forward bases and serve as a logistics connector to the Marine Corps. The CH-53K is early in development, with initial operating capability expected to take place in fiscal year 2015.

Source: U.S. Navy and Marine Corps.

DOD Has Not Fully Established a Comprehensive Management Approach to Guide Joint Seabasing and Integrate Service Initiatives

Although DOD has taken action to begin the development of joint seabasing, DOD has not fully established a comprehensive management approach to effectively guide and assess joint seabasing as an option for projecting and sustaining forces in an antiaccess environment and integrate service initiatives. Specifically, DOD has not fully incorporated sound management practices—such as providing leadership, dedicating an implementation team, and establishing a communications strategy—that our prior work has shown are found at the center of successful transformations.[5]

DOD Has Taken Action to Develop Joint Seabasing

DOD has taken action to develop joint seabasing by pursuing it within DOD's Joint Capabilities Integration and Development System (JCIDS). JCIDS is a key DOD decision support process that uses a capabilities-based approach to assess existing capabilities, identify capability gaps, and develop new warfighting capabilities. Within JCIDS, future capability needs are intended to be developed from top-level strategic guidance such as the *National Military Strategy*, a "top-down" approach. Under the former process, requirements grew out of the individual services' unique strategic visions, a "bottom-up" approach. In January 2006 we reported that JCIDS is not yet functioning as envisioned to define gaps and redundancies in existing and future military capabilities across the department and to identify solutions to improve joint capabilities.[6] We reported that requirements continue to be defined largely from the "bottom up"—by the services—although DOD uses the JCIDS framework to assess the services' proposals and push a joint perspective.

According to Office of the Under Secretary of Defense, Acquisition, Technology, and Logistics officials, seabasing is going through the JCIDS process to become more of a joint concept that is developed through input from the services, combatant commands, and other DOD organizations. DOD has produced a *Seabasing Joint Integrating Concept* that outlines

[5]GAO, *Results-Oriented Cultures: Implementation Steps to Assist Mergers and Organizational Transformations*, GAO-03-669 (Washington, D.C.: July 2, 2003).

[6]GAO, *Defense Acquisitions: DOD Management Approach and Processes Not Well-Suited to Support Development of Global Information Grid*, GAO-06-211 (Washington, D.C.: Jan. 30, 2006).

the concept for joint seabasing and identifies essential capabilities. Under JCIDS, the capabilities-based assessment follows a structured, four-step process. The first step in this process, the *Functional Area Analysis*, dated October 2005, identified the seabasing tasks, conditions, and standards needed to meet military objectives. The *Functional Area Analysis* identified such critical joint seabasing tasks as providing for maintenance of equipment in the joint operations area, attacking operational targets, and building and maintaining sustainment bases in the joint operations area. The second step of the capabilities-based assessment, the *Functional Needs Analysis*, dated November 2006, provided a prioritized list of joint seabasing capabilities and capability gaps, and identifies potential mitigation areas from which the identified capability gaps may be addressed. The 17 seabasing capability gaps include at-sea assembly, forcible entry, and conducting operational movement and maneuver. The analyses that are currently being developed are intended to further define and organize the capability gaps identified in the *Functional Needs Analysis* and recommend potential solutions for consideration in future analyses.

DOD's Management Approach Has Not Fully Incorporated Sound Management Principles or Integrated Service Initiatives

Despite pursuing joint seabasing within JCIDS, DOD has not fully incorporated key sound management practices into its approach for managing the development of joint seabasing requirements and integrating service initiatives. In our prior work, we identified several key sound management practices at the center of successful mergers, acquisitions, and transformations. These key sound management practices include (1) ensuring top leadership drives the transformation, (2) dedicating an implementation team to manage the transformation process, and (3) establishing a communication strategy to create shared expectations and report related progress. Without a management approach that contains these elements, DOD may be unable to guide and assess joint seabasing in an efficient and cost-effective manner. Moreover, without central coordination, it is unclear whether DOD will be able to effectively manage billions of dollars of potential service investments in interdependent complex platforms, connectors, and logistics technologies that will need to be coordinated using a common set of standards, requirements, timeframes, and priorities.

First, although joint seabasing capability development is underway, DOD has not provided sufficient leadership to integrate service initiatives and guide the development of joint seabasing. While the joint seabasing JCIDS process is still in the early stages of assessing needed capabilities, the services have developed their own concepts and approaches for seabasing, and in some cases systems that will support joint seabasing are

further along than the concept in JCIDS development. For example, the Maritime Prepositioning Force (Future) and the Joint High Speed Vessel are approaching their second major milestone, or decision point, within DOD's acquisition system, which will initiate systems-level development, whereas the joint seabasing concept is still being refined. Preliminary cost estimates for both these systems range from nearly $12 billion to over $15 billion. The 2005 National Research Council Committee's report, *Sea Basing*, concluded that developing a system of systems such as seabasing that is comprised of complex platforms, connectors, and logistics technologies will require a common set of standards, requirements, timeframes, and priorities.[7] Various ship, airlift, and sealift connector components of the seabase will need to interface, and the capabilities of some of these components will be interdependent. In addition, joint operations from a seabase will require robust logistics technologies and command and control. Prematurely developing such systems to meet individual service requirements rather than joint requirements may result in initiatives that duplicate each other and systems that are not interoperable and compatible. Moreover, in addition to the billions of dollars being spent to procure these systems, it may be costly to realign or adjust the efforts of the services in the future if they do not meet the joint requirements of seabasing.

In addition, DOD leadership has not provided an official, unified vision for joint seabasing to guide the transformation, ensure that focus is maintained on providing a capability that is the best option for projecting and sustaining forces in an antiaccess environment, and ensure that joint seabasing is evaluated against competing options. Joint Staff officials told us that the joint seabasing JCIDS process has been addressing how seabasing can be used to counter the problem of projecting and sustaining forces in an antiaccess environment, rather than examining specific solutions. We reported in 2003 that key practices and implementation steps for successful transformations include ensuring top leadership drives the transformation.[8] We found that leadership must set the direction, pace, and tone for the transformation. Concerns have been raised by other organizations about the lack of leadership to guide the development of joint seabasing. For example, the National Research Council Committee's report, *Sea Basing*, stated that "given the complexity

[7]Committee on Sea Basing, Naval Studies Board, National Research Council of the National Academy of Sciences, *Sea Basing: Ensuring Joint Force Access From the Sea* (Washington, D.C.: The National Academies Press, 2005).

[8]GAO-03-669.

of [the process for developing a joint seabasing capability] and the long-term nature of the major capital investments by Services in new platforms, development of advanced technologies, and the introduction of appropriate joint doctrine, such a unifying vision will be essential in order to best leverage existing currently programmed and future Service capabilities."[9] Also, in 2003 the *Defense Science Board Task Force on Sea Basing* found that developing the seabase requires persistent, top-down leadership to coordinate the numerous initiatives—including concepts of operations, ships, aircraft, weapons, and transportations systems—that support the seabase.[10] Absent leadership, DOD can not be certain joint seabasing has been evaluated against competing options for projecting and sustaining forces in an antiaccess environment. Moreover, without leadership that has the authority, responsibility, and accountability to guide joint seabasing and integrate service initiatives, DOD cannot be sure that ongoing or planned initiatives are cost-effective, fully leveraged, properly focused, and complement each other.

Second, DOD has not established a dedicated implementation team to provide day-to-day management oversight. We reported in 2003 that a dedicated implementation team should be responsible for the day-to-day management of transformation to ensure various initiatives are integrated.[11] Such a team would ensure that joint seabasing receives the focused, full-time attention necessary to be sustained and effective, by establishing clearly defined roles and responsibilities, helping to reach agreement on work priorities, and keeping efforts coordinated. There are several groups and DOD organizations tasked with specific responsibilities for developing joint seabasing within JCIDS; however, none of these organizations have the overall authority, responsibility, and accountability to coordinate initiatives and the acquisition of systems that may support joint seabasing. For example, the Navy was designated the sponsor of the *Seabasing Joint Integrating Concept* and is responsible for all common documentation, periodic reporting, and funding actions required to support the seabasing capabilities development and acquisition process. The Force Management Functional Capabilities Board is responsible for leading the seabasing capabilities-based assessment and oversees the sponsor (the Navy) in developing documents. The Seabasing Working Group was organized and tasked by the Joint Staff to assist the Force

[9]Committee on Sea Basing, *Sea Basing*.

[10]Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics, *Defense Science Board Task Force on Sea Basing* (Washington, D.C.: August 2003).

[11]GAO-03-669.

Management Functional Capabilities Board in completing the joint seabasing analyses. The Seabasing Working Group is comprised of members from the Joint Staff, combatant commands, the services, and other organizations, and serves as a source of expertise and as a joint sounding board for collaboration and focusing the direction of the analyses. According to Joint Staff officials, the working group can ask the services and combatant commands to participate and provide input to the analyses, but they have no authority to force their participation in the development of the analyses nor do they have authority over service initiatives that may support joint seabasing.

Recommendations have been made for a joint office to manage and lead joint seabasing by DOD officials, the Defense Science Board Task Force on Sea Basing, and the Naval Studies Board,[12] but a leadership body has not been established. In November 2003, the Under Secretary of Defense for Acquisition, Technology, and Logistics directed that a terms of reference be developed for a Joint Expeditionary Force Projection/Seabasing Capabilities Office. According to the *Terms of Reference*, the office would organize all joint seabasing-related DOD activities—ranging from experimentation efforts to solutions development to training—into a coherent direction. In addition, the office would be comprised of members from each of the four services and the U.S. Joint Forces Command and would have limited contract authority. However, DOD officials decided to forgo the joint office and pursue joint seabasing within the JCIDS process. According to officials from the Office of the Under Secretary of Defense Acquisition, Technology, and Logistics, one reason a joint office was not set up for joint seabasing was because there was no staff available at the time. According to Joint Staff officials, one downfall to joint seabasing being developed under the JCIDS process is that consensus is required on all decisions before moving forward, which may result in compromising solutions. Although use of the JCIDS process has encouraged the Army, Air Force, and Marine Corps to participate with the Navy in the development of the *Joint Integrating Concept* and JCIDS analyses, the services continue to pursue their own initiatives. As previously mentioned, some of these initiatives are still in the early stages of concept development, whereas other initiatives are further along in the acquisition process ahead of joint seabasing. A key official from the Defense Science Board Task Force on Sea Basing told us that the need for a joint office to coordinate efforts between the services still exists. According to the official, the lack of action in setting up a joint seabasing

[12]Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics, *Defense Science Board Task Force on Sea Basing*; Committee on Sea Basing, *Sea Basing*.

office makes achieving compatible systems to support joint seabasing more difficult considering some supporting systems are ahead of joint seabasing in the development process. The Naval Studies Board also recommended a joint planning office be set up to "correlate Service requirements and advise Service procurements" so common capabilities among the services can be taken advantage of and incompatible acquisitions will not be made.[13] We and the DOD Office of the Inspector General have found similar management challenges[14] in DOD's efforts to field other joint capabilities such as the Global Information Grid and network-centric warfare.[15] Without formally designating a dedicated leadership body to provide day-to-day management oversight by providing a coherent direction for related activities, establishing clearly defined roles and responsibilities, helping to reach agreement on work priorities, and keeping efforts coordinated, DOD's ability to develop a joint seabasing capability in an efficient manner may be hindered. Furthermore, without a dedicated implementation team, it may be difficult for DOD to sustain joint seabasing development over a long period of time.

Third, DOD has not fully developed a communications strategy that encourages communication, shares knowledge, and provides information to DOD organizations involved in joint seabasing initiatives. We previously reported that creating an effective, ongoing communication strategy is central to forming the partnerships that are needed to develop and implement the organization's strategies.[16] As previously mentioned, there are numerous groups and DOD organizations involved in joint seabasing

[13]Committee on Sea Basing, *Sea Basing*.

[14]In GAO-06-211, we state that because the Global Information Grid will comprise a system of interdependent systems, it needs clearly identified leadership that has the authority to enforce decisions that cut across organizational lines. The report found that without a management approach optimized to enforce decisions across the department, DOD is at risk of continuing to develop and acquire systems in a stovepiped and uncoordinated manner. The Inspector General's report, Department of Defense Office of the Inspector General, *Joint Warfighting and Readiness: Management of Network Centric Warfare Within the Department of Defense*, D-2004-091 (Washington, D.C.: June 22, 2004), recommended that DOD formalize roles, responsibilities, and processes for the overall development, coordination, and oversight of DOD network-centric warfare efforts to ensure that ongoing or planned initiatives are properly focused and complement each other. According to the report, DOD management agreed with the need for leadership improvements.

[15]Network-centric warfare is collaborative information sharing linking sensors, decision makers, and shooters, which is intended to result in increased mission effectiveness.

[16]GAO-03-669.

and various initiatives that may affect joint seabasing. The seabasing working group hosts meetings that provide a forum for discussion on joint seabasing among members. In addition, it has established a Web site that posts meeting minutes and various joint seabasing JCIDS analysis documents. While this Web site provides some transparency into the analysis process, it does not serve as a central repository for communicating information on joint seabasing because it does not provide information on joint seabasing efforts conducted by the services and combatant commands outside of the JCIDS process. In addition, we found no evidence of a formal mechanism that communicated joint seabasing information. Officials from the Navy and Marine Corps told us they face challenges in determining what organizations are involved in joint seabasing and what they are doing. According to Marine Corps officials, this impedes their ability to leverage activities and minimize redundancy. Furthermore, Joint Staff officials have acknowledged that the lack of a central, authoritative source of information significantly hindered timely completion of analyses. For example, the data management tool used to associate essential seabasing capabilities with the appropriate functional area did not provide a systematic method for identifying relevant information and some data was missing. Moreover, they also recognized that a means for identifying DOD-wide initiatives that affect joint seabasing needs to be established. In the absence of clear communication of joint seabasing information throughout DOD via an overall communications strategy, joint seabasing participants may not be able to effectively leverage activities and minimize redundancy, and the overall development of joint seabasing may be impeded.

DOD Has Not Developed a Joint Experimentation Campaign Plan to Inform Decisions About Joint Seabasing

DOD has not developed, implemented, or used an overarching joint experimentation campaign plan to inform decisions about joint seabasing. Experimentation campaign plans play an important role in developing transformational concepts by coordinating and guiding experimentation efforts using a series of related experiments that develop knowledge about a concept or capability. Many seabasing experimentation activities have taken place across DOD and the services; however, an overarching experimentation campaign plan to coordinate and guide joint seabasing experimentation does not exist because the U.S. Joint Forces Command—DOD's leader of joint warfighting experimentation—has not taken the lead in coordinating joint seabasing experimentation efforts. Additionally, DOD lacks a systematic means to analyze, communicate, and disseminate information on joint seabasing experimentation. Moreover, DOD lacks a feedback mechanism to interpret and clarify results from joint seabasing experimental activities.

Experimentation Campaign Plans Coordinate and Guide Experimentation Efforts

According to military experimentation guides, experimentation campaign plans play an important role in developing transformational concepts by coordinating and guiding experimentation efforts using a series of related experiments that develop knowledge about a concept or capability. Taken together, the results of these experiments can inform decisions about future research and technology programs, acquisition efforts, risk, organizational changes, and changes in operational concepts. A well-planned experimentation campaign provides a framework for much of what needs to be known about a new concept or capability. According to defense best practices, key aspects of an experimentation campaign include: (1) designated campaign leaders; (2) clear campaign focus and objectives; (3) a spectrum of well-designed and sequenced experimental activities, including studies and analyses, seminars and conferences, war games, modeling and simulation, and live demonstrations; (4) data collection and analyses; (5) broad dissemination of results; and (6) a feedback mechanism to discuss and interpret results. Experimentation campaigns that include these aspects can reduce the risk in developing and fielding a new concept or capability by addressing a spectrum of possibilities and building upon experimentation activities systematically, with continual analyses and feedback to interpret the results into useful information.

Single experiments alone are insufficient to develop transformational concepts because they can only explore a limited number of variables, and their contributions are limited unless their findings can be replicated in other experiments. Campaigns can provide conclusive and robust results through their ability to replicate findings and conduct experiments in a variety of scenarios and operating environments. A well-planned experimentation campaign can mitigate the limitations of a single experiment by synthesizing outputs from a series of activities into coherent advice to decision makers.

Many Seabasing Experimentation Activities Have Taken Place but an Overarching Experimentation Campaign Plan to Guide These Activities Does Not Exist

Many experimentation activities involving seabasing have taken place; however, an overarching DOD experimentation campaign plan to guide and coordinate these activities does not exist. All of the services, combatant commands, and some defense entities have been involved with seabasing experimentation through war games, studies, workshops, modeling and simulation, and live demonstrations. For example, in 2004 the Joint Chiefs of Staff led a war game called Nimble Viking that brought the services together and addressed gaps in their understanding of the joint seabasing concept. The services conducted studies addressing gaps in the joint seabasing concept, such as the Navy's 40 Knot Marine Expeditionary Brigade study, which identified gaps in conducting forcible

entry operations with Marine Corps forces using seaborne lift capable of speeds of 40 knots. Moreover, the Marine Corps modeled plans for landing seabased forces from amphibious ships, the results of which, according to the Marine Corps, shaved hours off the landing of forces from amphibious ships. In addition, the U.S. Joint Forces Command and services worked together in cosponsoring several war games involving joint seabasing, including Unified Course 2004, Joint Urban Warrior 2004, Pinnacle Impact 2003, and Sea Viking 2004. While many of the reports from these war games recognized joint seabasing as a potential concept for addressing antiaccess and force projection issues, they stated that further experimentation was needed before joint seabasing moved forward.

Additionally, material solutions being developed to support joint seabasing have undergone planned experimentation and testing activities. For example, U.S. Transportation Command officials believe that DOD's Joint-Logistics-Over-the-Shore program[17] could support joint seabasing logistical operations, such as heavy cargo transfer at sea. To that end, in June 2006 they sponsored a Joint-Logistics-Over-the-Shore exercise to transfer equipment and bulk materials from large ships to the beach using smaller landing craft. Figure 3 shows forces using a barge to move construction vehicles from ships to shore during a Joint-Logistics-Over-the-Shore exercise at Naval Magazine, in Indian Island, Washington.

[17]Joint-Logistics-Over-the-Shore is a joint logistical operation to load or unload ships through inadequate or damaged ports or over a bare beach when facilities are not available or nonexistent. It is a system of systems involving sealift, shipboard cranes, ramps, and interfaces, and lighters. The U.S. Transportation Command oversees developmental and acquisition efforts for this program.

Figure 3: Navy Forces Use a Barge to Move Construction Vehicles During a Joint Logistics-Over-the-Shore Exercise at Naval Magazine, in Indian Island, Washington

Source: U.S. Navy.

The Navy's Program Executive Office for Ships, which manages the Maritime Pre-positioning Force (Future) and the Joint High Speed Vessel programs, reports that the Maritime Pre-positioning Force (Future) program has planned and is executing a series of jointly coordinated tests involving modeling and simulation and live demonstrations. According to the Program Manager, demonstrations included at-sea evaluation of the Mobile Landing Platform concept[18] and its ability to interface with other vessels supporting the joint seabase. Additionally, the Navy's Office of Naval Research is developing a number of technologies, such as internal ship cargo handling and ship-to-ship cargo transfers, to address capability gaps in joint seabasing operations.

[18]The Mobile Landing Platform is a vessel in the planned Maritime Prepositioning Force (Future) squadron that would facilitate at-sea cargo transfer by partially submerging in water to allow cargo to float on and off of it. The Mobile Landing Platform will link large roll-on/roll-off cargo ships to smaller ships.

Although joint seabasing experimental activities have taken place, an overarching experimentation campaign plan to coordinate and guide these activities does not exist because the U.S. Joint Forces Command has not taken the lead in coordinating joint seabasing experimentation efforts. Moreover, involvement in these activities by the services, combatant commands, and defense entities has been inconsistent due to budget restraints, other competing priorities, and the lack of timely coordination and advance notice of events. In May 1998, the Secretary of Defense designated the U.S. Joint Forces Command as the DOD executive agent for joint warfighting experimentation. In this role the command is responsible for conducting joint experimentation on new warfighting concepts and disseminating the results of these activities to the joint concept community, which includes the Office of the Secretary of Defense, Joint Staff, combatant commands, services, and defense agencies. The U.S. Joint Forces Command is also responsible for coordinating joint experimentation efforts by developing a biennial joint concept development and experimentation campaign plan. In January 2006, a memo from the Chairman of the Joint Chiefs of Staff further underscored this responsibility by providing explicit direction to the U.S. Joint Forces Command on developing a campaign plan that provided guidance to the joint concept community on coordinating joint experimentation efforts, and capturing and disseminating the results of these efforts.[19] While the U.S. Joint Forces Command said it is in the process of developing the plan, it is unclear the extent to which this plan will address joint seabasing. According to the U.S. Joint Forces Command, other more near-term priorities, such as improvised explosive devices and urban warfare, have prevented them from focusing on joint seabasing during the past few years.

Once the U.S. Joint Forces Command develops and implements the plan, which it intends to do by fiscal year 2008, it is also unclear the extent to which this plan will be able to guide and coordinate joint seabasing experimentation efforts because the U.S. Joint Forces Command does not have the authority to direct service and other DOD organizations' experimentation plans. The services and combatant commands are responsible for working with the U.S. Joint Forces Command in executing the joint concept development and experimentation campaign plan, and for providing them with observations, insights, results, and recommendations related to all joint experimentation efforts. However, the services and combatant commands are not required to go through the

[19]Chairman of the Joint Chiefs of Staff Memorandum, *Joint Experimentation (JE) Guidance for FY 2006 and FY 2007* (Washington, D.C.: Jan. 9, 2006).

U.S. Joint Forces Command before executing their own experimentation activities. Moreover, the U.S. Joint Forces Command says it does not have authority to make the services and combatant commands take specific joint actions. Additionally, there are many entities within the services involved in joint seabasing experimentation and there are no formalized leaders coordinating service efforts. As a result, these entities operate independently and do not coordinate their efforts with the U.S. Joint Forces Command. This lack of coordination poses risks of duplicating experimentation efforts and conducting experimentation that does not build upon previous activities.

Furthermore, no overarching campaign plan to guide joint seabasing experimentation exists within any other DOD entity. While the Navy and Marine Corps have seabasing experimentation campaign plans, officials told us these plans are not overarching within each of the services and it is unclear the extent to which they are being implemented. For example, a seabasing experimentation plan exists as part of the Navy's *Sea Trial Concept Development and Experimentation Campaign Plan*;[20] however, Navy officials said there is not a lot of joint seabasing experimentation being conducted within this plan and the plan does not encompass all of the Navy's efforts. In addition, the Marine Corps has a plan that broadly focuses on issues that need to be addressed for seabasing capabilities such as the Maritime Pre-positioning Force (Future) and the Joint High Speed Vessel. However, its plan does not identify designated leaders and specific experimentation activities that should take place, nor does the plan identify timelines, resources, or staff to conduct experimentation. It also does not contain plans for data collection and analysis or any provisions for disseminating results. In addition, according to Marine Corps officials, the plan is not being fully executed due to lack of funding and staff.

Many service officials expressed concern over the lack of coordination and guidance on joint seabasing experimentation. They stated that the U.S. Joint Forces Command has not shown much interest in experimentation for future concepts such as joint seabasing, instead focusing experimentation efforts on short-term concepts and immediate priorities such as improvised explosive devices. One service official commented that there is no single point of contact for joint seabasing at the U.S. Joint

[20]Sea Trial is the Navy's process for formulating and testing innovative operational concepts. At its core is the *Sea Trial Concept Development and Experimentation Campaign Plan*, which outlines plans to rapidly mature concept, technology, and doctrine. Sea Trial supports Sea Power 21, the Navy's vision for how it will organize, integrate, and transform itself in the 21st century.

Forces Command. Additionally, the Joint Chiefs of Staff states in the *Functional Needs Analysis* that more joint experimentation is needed to inform and further refine capability gaps in the joint seabasing concept.

DOD Lacks a Systematic Means to Analyze, Communicate, and Disseminate Information on Joint Seabasing Experimentation

DOD also lacks a systematic means to analyze, communicate, and disseminate information about joint seabasing experimentation across the department. According to military experimentation guides, a significant part of an experiment consists of gathering data, interpreting it into findings, and combining it with already known information. Additionally, data collection and analysis plans are important to experimentation because they ensure valid and reliable data are captured and understood, and that the analysis undertaken addresses the key issues in the experiment. However, we found no overarching data collection and analysis plan to guide the analysis of joint seabasing experimentation results. Furthermore, officials in the Office of the Secretary of Defense's Program Analysis and Evaluation division described a lack of analysis in joint seabasing to inform the capabilities-based assessment, which could lead to inaccurately identifying gaps in implementing the concept. They said that no comprehensive analytical framework was ever established to guide development of the joint seabasing concept; consequently, the value joint seabasing will bring to the warfighter is unknown. Without an overarching campaign plan, experimental results for joint seabasing are being obtained and interpreted using different data collection and analysis methods, which may lead to inconsistent reporting methods. As a result, experimentation data may be analyzed, interpreted, and shared inconsistently and with little transparency across the community.

Additionally, DOD and service officials commented on the lack of sufficient modeling and simulation tools available to provide valid data on joint seabasing. Modeling and simulation tools play an important role in experiments. Unlike live demonstrations, modeling and simulation techniques can inexpensively vary the values of variables to represent a wide variety of conditions. They also provide a great deal of control over the variables in the experiment, which allows for replication. The Joint Chiefs of Staff noted the absence of high-level modeling tools capable of end-to-end modeling of seabasing[21] in the *Functional Needs Analysis*, saying that the absence of this type of modeling precluded effective and meaningful data to validate warfighter needs and thus limited the depth of their analysis. Furthermore, officials in the Office of the Secretary of

[21]End-to-end modeling involves modeling seabasing throughout the employment, sustainment, and reconstitution phases.

Defense's Program Analysis and Evaluation division also commented that the lack of modeling could result in missing critical gaps in the joint seabasing concept that have not yet been identified. The Joint Chiefs of Staff identified the U.S. Joint Forces Command as a possible lead for end-to-end modeling and simulation of joint seabasing because of its role in joint concept development and experimentation, and its expertise in developing comprehensive modeling and simulation tools.

While some communication takes place among the entities involved with developing the seabasing concept, there is no established method for communicating observations, insights, and upcoming events across the entire community. DOD and service officials described the joint seabasing community as an informal community of practice, where the services, combatant commands, and defense entities invite each other to participate in their experimentation activities. The U.S. Joint Forces Command and the services track to some degree the experimental efforts of the joint seabasing community. For example, the U.S. Joint Forces Command says it tries to leverage off the services' efforts by partnering with them in experimental activities. However, despite this informal community, DOD and service officials describe a lack of coordination and awareness of experimental activities. A Marine Corps official stated that some officials are more aware than others are; but no one is completely aware of what is going on across the entire community. In fact, many officials we spoke with were either unaware or had very little advance notice of an upcoming war game involving seabasing. Without an established communication method, joint seabasing experimentation efforts are not transparent to the entire community, which can contribute to a lack of consensus on the types of activities that take place, conflicts in scheduling events, and duplication of efforts.

Additionally, there is no overarching system to disseminate observations and results on joint seabasing experimentation. The U.S. Joint Forces Command has a database containing documents and reports from experimentation activities; however, the database contains different levels of information based on what the services choose to publish. As a result, the database is not a comprehensive resource of joint experimentation information. The Navy's Warfare Development Command[22] also maintains a Web site of information pertaining to its Sea Trial campaign, which other entities within the Navy contribute to, but it is not overarching within the

[22]The Navy Warfare Development Command mission is to focus and champion Navy warfare innovation, operating concepts, and concept of operations development in a naval, joint, and coalition environment.

Navy. In response to a January 2006 memo from the Chairman of the Joint Chiefs of Staff, the U.S. Joint Forces Command is developing an online knowledge management portal to disseminate information on experimentation activities across the joint concept community.[23] The portal contains a repository of information on experimentation concepts, projects, and documents; a bulletin board to post insights and observations; hotlinks to other sites; and a calendar function for upcoming experimentation activities. The portal also contains a section on activities relating to joint logistics, and joint deployment and sustainment; however, it does not yet contain information on joint seabasing. Furthermore, while the portal has the ability to disseminate information, it may not be successful in increasing communication across the joint seabasing community because the services have not been directed to use the portal in planning their activities.

DOD Lacks a Feedback Mechanism to Interpret Results From Joint Seabasing Experimentation

DOD lacks a feedback mechanism to interpret and clarify results from joint seabasing experimental activities. Feedback on analyses and findings produced from experimental activities provides the joint seabasing experimentation community an opportunity to comment on the results and ask questions. It also gives the experiment sponsor an opportunity to see how the work was received, assist in interpreting results, and provide further advice on how the results should be used. In the context of an experimentation campaign, it may also give the sponsor an opportunity to clarify how the results affect the overarching campaign concept. While individual seabasing experiments may have had some form of feedback, the lack of an overarching joint seabasing experimentation campaign plan that includes procedures for providing and obtaining feedback may prevent the joint seabasing experimentation community from fully realizing how the results of individual experiments affect the development of joint seabasing.

[23]Chairman of the Joint Chiefs of Staff Memorandum, *Joint Experimentation (JE) Guidance for FY 2006 and FY 2007* (Washington, D.C.: Jan. 9, 2006).

Timeframe for Completing Joint Seabasing Total Ownership Cost Estimates is Uncertain

While some service acquisitions tied to seabasing are approaching milestones for investment decisions, it is unclear when DOD will complete development of total ownership cost estimates for a range of joint seabasing options. Understanding estimated total ownership costs helps decision makers measure the whole cost of owning and operating assets and make comparisons between competing options. The joint seabasing capability is being assessed in the JCIDS analysis process. However, DOD has not yet begun a key study of approaches and their associated costs and may not complete this study for at least a year. In the meantime, the services are considering or pursuing systems to enhance seabasing capabilities. For example, a major Navy-Marine Corps initiative is scheduled to undergo a major milestone review in fiscal year 2008. Until total ownership cost estimates for joint seabasing options are developed and made transparent to DOD and Congress, decision makers will not be able to evaluate the cost-effectiveness of individual service initiatives.

Total Ownership Cost Estimates Help Decision Makers Evaluate Options

In order to evaluate options and make informed, cost-effective decisions, decision makers must have an understanding of the total ownership costs for establishing a desired capability. A total ownership cost estimate includes the costs to develop, acquire, operate, maintain, and dispose of all systems required to establish a seabasing capability. Understanding total ownership cost estimates helps organizations measure the whole cost of owning and operating assets by providing a consistent framework for analyzing and comparing options. Total ownership cost estimates can be used to assess the possible return on investment of new initiatives. According to DOD guidance,[24] all parties involved in the defense acquisition system must be cognizant of the reality of fiscal constraints and treat cost as an independent variable when developing systems. Furthermore, the policy stresses the importance of identifying the total costs of ownership, including major cost drivers, while considering the affordability of establishing needed capabilities. Even with future concepts, such as joint seabasing, where uncertainty exists, total ownership cost estimates can be developed. According to DOD cost analysis guidance, in such cases, areas of uncertainty can be quantified using ranges of cost, thereby giving decision makers, at a minimum, a rough estimate of the total costs to achieving a desired capability. For systems of systems, such as seabasing, a total ownership cost estimate should include research, acquisition, operation, maintenance, and disposition costs of all systems, primary and support, needed to achieve

[24]Department of Defense Directive 5000.1, *The Defense Acquisition System*, Section E1.1.4 (May 12, 2003).

the desired end state. Understanding the estimated total ownership costs of seabasing options can help decision makers make informed decisions to determine the most cost-effective method of achieving a seabasing capability. Furthermore, they can be used to more effectively evaluate joint seabasing against alternative methods of projecting and sustaining forces in an antiaccess environment.

JCIDS Has Not Yet Produced Cost Estimates for Joint Seabasing Capability Options and Timeframes Are Uncertain

Joint seabasing is currently going through the capabilities-based assessment phase of the JCIDS analysis process. One part of the JCIDS analysis process is the Functional Solutions Analysis—an operationally based assessment of all potential approaches, including changes to doctrine, organization, training, as well as material solutions, to solve identified capability gaps. According to Joint Chiefs of Staff guidance, this process will assess the costs of potential approaches to joint seabasing. For any material approaches that are developed, the cost to develop, procure, and sustain each approach will be estimated. These estimates should provide decision makers with some understanding of the costs of these approaches. However, the timeframe for when these cost assessments will take place is unclear. According to DOD officials, cost assessments for joint seabasing approaches have not yet begun and may not be completed for a year or more. Furthermore, the Joint Chiefs of Staff guidance does not provide a specific methodology for what level of cost assessment should take place. Rather, the guidance only states that the process should "roughly assess" the costs of each identified approach.[25]

Service Acquisitions May Outpace Joint Seabasing Cost Analysis

Although DOD has not yet begun its analysis of joint seabasing approaches and costs, the services are either considering or actively pursuing systems to develop enhanced seabasing capabilities. For example, the Department of the Navy Fiscal Year 2007 Budget includes funding for the development of seabasing ships, including ships for the Maritime Prepositioning Force (Future) and Joint High Speed Vessels. Furthermore, the Navy has included eleven ships for its Maritime Prepositioning Force (Future), three Joint High Speed Vessels, and one Joint High Speed Sealift ship in its *Annual Long-Range Plan for Construction of Naval Vessels for Fiscal*

[25]CJCSI 3170.01E, *Joint Capabilities Integration and Development System* (Washington, D.C.: May 11, 2005).

Year 2007 report to Congress.[26] Although the plan could change as the Navy continues to assess its requirements and address affordability issues, the Navy estimates that these investments will cost nearly $12 billion.[27] The ships the Navy has programmed for the Maritime Prepositioning Force (Future) do not include the cost of a Landing Helicopter Deck (LHD) amphibious assault ship, which is planned to be part of the squadron.[28] The Congressional Research Service has reported that this ship has an estimated cost of $2.2 billion, and that the estimated cost of the entire Maritime Prepositioning Squadron is about $14.5 billion.[29] However, unknown factors remain that could affect these estimates. Furthermore, the number of connectors required to support the Maritime Prepositioning Force (Future) is yet to be determined. Within the Maritime Prepositioning Force (Future) squadron, several factors that could influence cost—such as manning and ship survivability levels—remain in flux. Figure 4 shows the ships of the Maritime Prepositioning Force (Future).

[26]According to 10 U.S.C. § 231, the Secretary of Defense is required to submit with the Defense Budget, an annual long range plan for the construction of naval vessels. One requirement of this plan is to include a detailed program for the construction of combatant and support vessels for Navy over the next 30 fiscal years.

[27]Based on fiscal year 2007 dollars.

[28]The *Annual Long-Range Plan for Construction of Naval Vessels for Fiscal Year 2007* assumes the transfer of one steam-powered LHD from the expeditionary warfare ship force to the Maritime Prepositioning Force (Future) squadron, which could affect the Marine Corps's lift requirement of 10 operationally available large-deck aviation-capable ships.

[29]Congressional Research Service, *Navy-Marine Corps Amphibious and Maritime Prepositioning Ship Programs: Background and Oversight Issues for Congress* (Washington, D.C.: July 26, 2006).

Figure 4: Ships in the Maritime Prepositioning Force (Future) Squadron

Ship	Ship mission	Included in Navy plan	# of ships	First ship construction year	Average cost per ship (fiscal year 2007 dollars)	Ship total ownership cost
Landing Helicopter Assault (Replacement) (LHA(R)) 	Incorporate the Marine Corps's Future Air Combat Element including F-35B Joint Strike Fighter and MV-22 Osprey, provide vehicle and cargo stowage capacities, and enable a flexible command and control capability.	Yes	2	FY 2011	$2.1 billion	Not available until Milestone B Review scheduled for mid-2008.
Landing Helicopter Deck (LHD) 	Embark, transport, deploy, command, and fully support all elements of a Marine Expeditionary Unit of 2,000 Marines. There are no new construction LHDs included in the Navy's long-range plan for naval vessel construction.	No	1	Not determined	$2.2 billion	The Navy intends to transfer an LHD from the expeditionary battle force to the squadron.
Large Medium-Speed Roll-on/Roll-off Ship (LMSR T-AKR) 	Transport heavy or bulky equipment, equipped with on-board cranes and self-contained ramps.	Yes	3	FY 2010	$902 million	Not available until Milestone B Review scheduled for mid-2008.
Mobile Landing Platform (MLP) 	Facilitate at-sea cargo transfer by partially submerging in water and allowing cargo to float on and float off. MLPs link large cargo ships to smaller connectors which take cargo to shore.	Yes	3	FY 2009	$784 million	Not available until Milestone B Review scheduled for mid-2008.
Advanced Auxillary Dry Cargo Ship (T-AKE) 	Transfer cargo (ammunition, food, parts, etc.) at sea to station ships and other naval warfare forces.	Yes	3	FY 2009	$384 million	Not available until Milestone B Review scheduled for mid-2008
Legacy Maritime Prepositioning Ship (MPS) 	Existing dense-packed maritime prepositioning ships that carry equipment, supplies, and ammunition to help support a Marine Expeditionary Brigade. Cranes enable MPS ships to unload their own cargo.	No	2	Not applicable	Not applicable	The Navy intends to transfer two Maritime Prepositioning Ships to the squadron.

Source: U.S. Navy.

The Navy and Marine Corps have not yet estimated the total ownership costs of their preferred options for establishing a seabasing capability. However, both the Maritime Prepositioning Force (Future) and the Joint High Speed Vessel, which will play a critical role in establishing a joint seabasing capability, are in development and progressing through DOD's acquisition system. The Maritime Prepositioning Force (Future) is approaching its second major milestone, which initiates system development and demonstration, in mid-2008. Prior to this milestone, a total ownership cost estimate will be required in order for the Maritime Prepositioning Force (Future) to be validated and approved before program initiation. Although a total ownership cost estimate may be available for the Maritime Prepositioning Force (Future) squadron for this milestone, according to service documentation, the costs of the supporting vehicles and vessels needed for the squadron to operate as planned for use in joint seabasing will not be included. Furthermore, one of the ships in the squadron—the Mobile Landing Platform—is going through its own acquisition process with its second milestone scheduled in fiscal year 2008. Furthermore, because the JCIDS analysis process for Joint Seabasing will not produce any cost assessments for at least 1 year, decision makers risk making substantial investment concerning the Maritime Prepositioning Force (Future) without knowledge of the potential costs of other joint seabasing options. The Navy plans to acquire the first ship for the squadron in 2009.

The Army is also exploring new initiatives for establishing a seabasing capability. In conjunction with the Navy and Marine Corps, the Army is developing the Joint High Speed Vessel and Joint High Speed Sealift ships. Although not being developed specifically for seabasing, according to service documentation, these systems will have a significant role in establishing a seabasing capability. The Army plans to acquire five Joint High Speed Vessels beginning in fiscal year 2008, with a total acquisition cost of $210 million for the first ship and $170 million for the remaining ships. The Navy's long-range shipbuilding plan estimates the Joint High Speed Sealift ship to cost around $920 million. Furthermore, the Army is also in the early stages of exploring ideas for its Afloat Forward Staging Base to provide aerial maneuver to Army forces. One option the Army is exploring for the Afloat Forward Staging Base is to add flight decks to a commercial container ship, along with other alterations, as a means to provide aerial maneuver to Army forces. Several research organizations also recommended this option, because it is seen as a potentially low-cost means of establishing a seabasing capability. A rough order of magnitude

estimate of the cost to convert a commercial cargo ship is approximately $300 million to $600 million.[30]

Options Cannot Be Compared without Cost Estimates

In addition to the options in development, additional means for projecting and sustaining forces in an antiaccess environment exist. However, they cannot effectively be compared when total ownership costs are not known. For example, the U.S. Transportation Command is working to enhance the military's joint logistics over-the-shore capabilities, which utilize existing assets, such as the Army's Logistics Support Vessel and the Navy's Improved Navy Lighterage System,[31] to deploy and sustain forces by allowing strategic sealift ships to discharge through austere or damaged ports, or over a bare beach. Furthermore, the Air Force has developed its Expeditionary Airbase Operating Enabling Concept. This concept is a methodology and plan for rapid airbase seizure, establishment, and operation to support the joint force commander in sustaining forces. Other possibilities include Army air-dropped or air-landed operations to roll-back enemy shore-based defense or joint special operations forces to attack high-value coastal defense assets prior to or in concert with naval strikes from the sea. Some of these options represent existing capabilities, which could prove to be a more cost-effective means of projecting and sustaining forces in an antiaccess environment. Until total ownership costs are developed, the cost-effectiveness of these options cannot be effectively evaluated.

Conclusions

While DOD's ability to project and sustain forces in an antiaccess environment is expected to become increasingly important, DOD has not taken all of the steps needed to effectively manage joint seabasing initiatives across the department and evaluate competing options for force projection and sustainment. Without a comprehensive management approach to guide and assess joint seabasing, DOD may be unable to ensure that ongoing or planned joint seabasing initiatives are properly focused and complement each other and the capability is being developed

[30]According to the Naval Research Advisory Committee report *Sea Basing*, Maersk Line, Ltd., in a proposal to the Military Sealift Command, estimated the cost of converting an S-class container ship at $300 million.

[31]The Logistics Support Vessel carries cargo and equipment throughout a theater of operations. This vessel can carry up to 2,000 tons of cargo. The Improved Navy Lighterage System enables the transfer of cargo from strategic sealift ships to barges and ferries so cargo can be moved to shore in cases where ships are unable to offload at ports. The system is portable and can be stored on the decks of many strategic prepositioning ships.

in an efficient and cost-effective manner. One consequence of this lack of effective management is the absence of a joint experimentation campaign plan. Without a campaign plan to direct experimentation for joint seabasing, DOD and the services' ability to evaluate and validate their solutions, coordinate efforts, perform analysis, and disseminate results could be compromised. As a result, the services risk duplicating experimentation efforts and developing and fielding seabasing capabilities that are not compatible or interoperable, and they will be unable to leverage the results of individual experiments across the joint seabasing experimentation community to maximize synergies. Furthermore, establishing a joint seabasing capability could be the source of significant investment by DOD. Given the challenging fiscal environment facing DOD and the rest of the federal government, decision makers must make investment decisions that maximize return on investment at the best value for the taxpayer. By understanding the estimated total ownership costs of options for establishing a seabasing capability, decision makers would be in a better position to make informed decisions about what options are most cost-effective, and evaluate the costs and benefits of establishing a seabasing capability against other competing priorities. However, while it is unclear when DOD will complete its analysis of joint seabasing approaches and costs, the services are pursuing initiatives and systems to develop a seabasing capability, some of which are approaching milestones for investment decisions. If individual systems that support seabasing are allowed to move forward through the acquisition process before total ownership cost of seabasing options are developed and made transparent to DOD and Congress, there is a risk that DOD could make significant investments to develop a capability that may not be the most cost-effective means of projecting and sustaining forces in an antiaccess environment.

Recommendations for Executive Action

To assist decision makers in developing a comprehensive management approach to guide and assess joint seabasing as an option for force projection and sustainment in an antiaccess environment and integrate service initiatives, we recommend that the Secretary of Defense take the following actions to incorporate sound management principles into DOD's management of joint seabasing:

- assign clear leadership and accountability for developing a joint seabasing capability and coordinating supporting initiatives;
- establish an overarching, dedicated implementation team to provide day-to-day management oversight over the services, combatant commands, the Joint Chiefs of Staff, and others involved in joint seabasing; and

- develop and implement a communications strategy to ensure communication between and among the services, combatant commands, Office of the Secretary of Defense, and the Joint Chiefs of Staff, and to provide information on all joint seabasing activities across DOD.

To better guide joint seabasing experimentation and inform decisions on joint seabasing as an option for force projection and sustainment in an antiaccess environment, we recommend that the Secretary of Defense do the following:

- Direct the U.S. Joint Forces Command to lead and coordinate joint seabasing experimentation efforts, under the purview of the joint seabasing implementation team. U.S. Joint Forces Command should be responsible for developing and implementing a joint seabasing experimentation campaign plan to guide the evaluation of joint seabasing as a capability for force projection and sustainment. Such an experimentation plan should include the following elements:

  - a clear focus and objectives for joint seabasing that encompass near-, mid-, and long-term experimentation plans;
  - a near-term plan for joint seabasing experimentation that includes events for the next fiscal year, participants, timelines, and resources that will be used to support the events;
  - a spectrum of joint experimentation activities that include wargaming, comprehensive modeling and simulation, live demonstrations, workshops, symposiums, and analysis;
  - a data collection and analysis plan to capture and evaluate results; and
  - a method for communicating observations, results, upcoming activities, and feedback across the joint seabasing experimentation community.

- Direct that the services collaborate with the U.S. Joint Forces Command in developing, implementing, and using the joint seabasing experimentation campaign plan.

- Direct that the services utilize and contribute to the U.S. Joint Forces Command's knowledge management portal by providing their observations, insights, results, and planned activities to the portal for use by the joint seabasing experimentation community.

To assist decision makers in evaluating the costs of joint seabasing options against the capabilities that joint seabasing could provide the joint

warfighter as a means for force projection and sustainment in an antiaccess environment, we recommend that the Secretary of Defense direct the implementation team or other appropriate entity to synchronize development of total ownership cost estimates for the range of joint seabasing options so decision makers have sufficient information to use in making investment decisions on service seabasing initiatives.

Agency Comments and Our Evaluation

In comments on a draft of this report, DOD partially agreed with our recommendations, except for the need for a dedicated implementation team. In its comments, DOD stated that it is premature to establish additional oversight at this time and that in the interim the Force Management Joint Capabilities Board is providing an appropriate level of management oversight. As discussed below, in view of the magnitude of potential DOD investments in seabasing and DOD's need to efficiently manage future resources and distinguish between needs and wants, we continue to believe that an implementation team is needed to coordinate disparate service and defense organization initiatives related to seabasing and urge the department to further consider the need for action now rather than waiting until after it establishes joint requirements. In addition, although DOD partially agreed with our other recommendations, its comments did not indicate that it would take specific actions beyond those it has already begun and which we evaluated as part of our review. In light of DOD's stated agreement with the intent of our recommendations, we urge the department to develop specific actions and plans to implement our recommendations.

DOD partially agreed with our recommendation regarding leadership and accountability for developing a joint seabasing capability and coordinating supporting initiatives. DOD stated that the Joint Staff is assigned responsibility to develop the Joint Seabasing Concept and the resulting capability and that there is clear and accountable leadership established within the Joint Requirements Oversight Council and the Joint Capabilities Board to accomplish this development. While the Joint Staff, Joint Requirements Oversight Council, and the Joint Capabilities Board have oversight and responsibilities within JCIDS, we found that none of these organizations have the overall authority, responsibility, and accountability to coordinate joint seabasing initiatives and the service acquisitions that may support joint seabasing. As discussed in the report, the services have their own seabasing concepts and some service initiatives are outpacing joint seabasing in development. DOD has not provided sufficient leadership to ensure these initiatives are fully leveraged, properly focused, and complement each other. Because of the potential for billions of dollars to be spent to procure these systems, we continue to believe our

recommendation has merit and that assignment of clear leadership and accountability for developing a joint seabasing capability and coordinating supporting initiatives is needed.

DOD did not agree with our recommendation that an overarching, dedicated implementation team be established to provide day-to-day management oversight over the services, combatant commands, the Joint Chiefs of Staff, and others involved in joint seabasing. DOD commented that the joint seabasing concept is still being developed within the JCIDS and the Force Management Functional Capabilities Board is providing the appropriate level of management oversight. DOD stated that it is premature to establish additional oversight at this time and that after the needed joint seabasing capabilities have been defined, the department will determine if additional oversight is necessary. We believe that the Force Management Functional Capabilities Board's oversight does not go far enough in providing comprehensive management oversight for joint seabasing. While the Board is responsible for leading the joint seabasing capabilities-based assessment and oversees the sponsor (the Navy) in developing documents, the Board's responsibilities do not constitute the type of oversight needed to ensure ongoing or planned service initiatives that may support joint seabasing are coordinated and complement each other. We continue to believe that our recommendation has merit and that creation of an implementation team to provide day-to-day management oversight of joint seabasing is needed. Therefore, we urge the department to create such a team now rather than waiting until needed joint seabasing capabilities are defined.

DOD also partially agreed with our recommendation regarding implementing a communications strategy for all joint seabasing activities in DOD. DOD stated that the JCIDS process, Joint Capabilities Boards, and the Joint Requirements Oversight Council provide for communication between the Joint Staff, all four services, the combatant commands, and the Office of the Secretary of Defense (OSD). However, as discussed in our report, we found that while the Joint Staff, all four services, the combatant commands, OSD, and others participate in the JCIDS process, the information shared is not all inclusive and it is not always clear who is involved in joint seabasing and what they are doing. A DOD-wide communication strategy that provides a framework to effectively manage activities can support the overall development of joint seabasing by (1) providing better information for the participants in organizing and planning initiatives and (2) enabling the participants to minimize redundancy by leveraging activities being conducted by others. We continue to believe, as we have recommended, that a communications strategy should be developed and implemented.

DOD partially agreed with our recommendations regarding coordination of joint seabasing experimentation efforts and development of a joint experimentation campaign plan. DOD stated that the Joint Staff, with service, combatant command, and OSD support, is developing a draft Joint Capabilities Document that recommends a joint seabasing experimentation plan. However, DOD's comments did not address which organization would be responsible for developing the experimentation campaign plan. As we recommended, we continue to believe that the U.S. Joint Forces Command should be charged with developing and implementing the joint seabasing experimentation campaign plan. As noted in our report, the U.S. Joint Forces Command is the DOD executive agent for joint warfighting experimentation. In this role the command is responsible for conducting joint experimentation on new warfighting concepts, disseminating the results of these activities, and coordinating joint experimentation efforts.

DOD also partially agreed with our recommendation regarding the U.S. Joint Forces Command's knowledge management portal. DOD concurs that a common portal should be established and used by the services. DOD stated that the U.S. Joint Forces Command's knowledge management portal is one option that will be considered in order to share joint seabasing experimentation observations, insights, results, and planned activities. While we support DOD's plans to establish a knowledge management portal for joint force projection and sustainment experimentation, we continue to believe our recommendations merit action and that DOD should direct the services to use the U.S. Joint Forces Command's knowledge management portal to share information on joint seabasing rather than consider it an option.

Finally, DOD partially agreed with our recommendation regarding development of total ownership costs for joint seabasing options. DOD stated that once the Joint Requirements Oversight Council defines the required joint seabasing capabilities, total ownership costs for the options to satisfy the needed capability gaps will be developed as part of the DOD's Planning, Programming, Budgeting and Execution and acquisition processes. We support DOD's plans to develop total ownership costs; however, as our report points out, we do not believe that these actions alone will sufficiently ensure that total ownership costs for all joint seabasing options are synchronized. While total ownership costs will be estimated and synchronized for those options being developed in DOD's JCIDS process for joint seabasing, the services are either considering or actively pursuing systems to develop their own seabasing capabilities. Some of these systems are approaching major milestone reviews for investment consideration. Requiring that total ownership cost estimates be

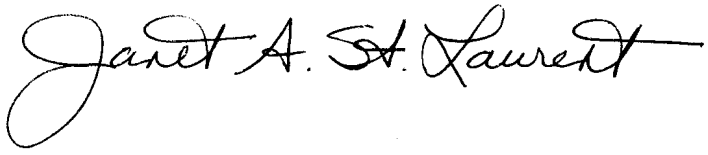
developed for only those options developed in DOD's joint seabasing JCIDS will provide decision makers with an incomplete picture of all joint seabasing options. Without ensuring that total ownership cost estimates are developed as we recommended for both joint seabasing options being developed in JCIDS and those options being developed by the services, DOD will risk making investment decisions that may not be the most cost-effective means of establishing a joint seabasing capability.

DOD also provided technical and editorial comments, which we have incorporated as appropriate. DOD's comments are reprinted in appendix II of this report.

We are sending copies of this report to other interested congressional committees; the Secretary of Defense; the Secretary of the Navy; the Chairman, Joint Chiefs of Staff; the Commander, U.S. Joint Forces Command; and the Director, Office of Management and Budget. We will make copies available to others upon request. In addition, the report will be available at no charge on the GAO Web site at http://www.gao.gov.

If you or your staff have any questions about this report, please contact me at (202) 512-4402 or stlaurentj@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made major contributions to this report are listed in appendix III.

Sincerely yours,



Janet St. Laurent
Director, Defense Capabilities
and Management

Appendix I: Scope and Methodology

To assess the extent to which the Department of Defense (DOD) has employed a sound management approach for developing a joint seabasing capability, we interviewed officials from the Office of the Secretary of Defense, the joint staff, two combatant commands, the four military services, and the private sector; received briefings from relevant officials; and reviewed key documents. We compared DOD's approach with best practices for managing and implementing major efforts. To identify these best practices, we reviewed our prior work including GAO, *Results-Oriented Cultures: Implementation Steps to Assist Mergers and Organizational Transformations*. In the absence of a comprehensive planning document, we used relevant questions derived from the identified best practices in interviews with officials and in analyzing pertinent documents such as the August 2005 *Seabasing Joint Integrating Concept*, and instructions and manuals on DOD's Joint Capability Integration and Development System (JCIDS), including (1) the Chairman of the Joint Chiefs of Staff Instruction 3170.01E, *Joint Capabilities Integration and Development System* (May 11, 2005); (2) the Chairman of the Joint Chiefs of Staff Manual 3170.01B, *Operation of the Joint Capabilities Integration and Development System* (May 11, 2005); and (3) the Joint Chiefs of Staff *White Paper on Conducting a Capabilities-Based Assessment (CBA) Under the Joint Capabilities Integration and Development System (JCIDS)* (January 2006). We also interviewed officials involved in the development of the joint seabasing to obtain information on how involved the services, combatant commands, Office of the Secretary of Defense, and the Joint Chiefs of Staff were in developing joint seabasing, what their respective roles and responsibilities were, the level of authority available to direct the services and combatant commands to participate in the JCIDS analyses, how information on joint seabasing development efforts and initiatives was shared, how initiatives that may support joint seabasing were coordinated, and other issues. In addition, we examined the Seabasing Working Group Web site to identify what information was being communicated through the Web site.

To assess the extent to which a joint experimentation campaign plan has been developed, implemented, and used to inform decisions on joint seabasing options, we obtained briefings and interviewed officials from the Office of the Secretary of Defense, the Joint Chiefs of Staff, the U.S. Joint Forces Command, the U.S. Transportation Command, and the Army, Navy, Air Force, and Marine Corps. We also discussed the status of joint seabasing experimentation efforts and the extent to which they coordinated with each other in conducting joint seabasing experimentation. We examined DOD guidance to identify and clarify roles and responsibilities for leading joint warfighting experimentation. To identify key aspects for conducting experimentation campaigns, we

reviewed books and publications on experimentation campaigns, including *Code of Best Practice: Campaigns of Experimentation*; *Code of Best Practice: Experimentation*; *Guide for Understanding and Implementing Defense Experimentation*; and *The Role of Experimentation in Building Future Naval Forces*. We obtained and reviewed DOD and service reports and briefings containing the analyses and findings of experimentation activities. We also attended an Army Joint-Logistics-Over-the-Shore exercise demonstrating the unloading and loading of equipment to the shore when port facilities are inadequate, unavailable, or nonexistent.

To assess the extent to which DOD and the services identified the cost of joint seabasing options so that decision makers can make informed, cost-effective decisions, we reviewed official statements, obtained briefings from, and interviewed officials from, the Office of the Secretary of Defense, Joint Chiefs of Staff, Army, Navy, Air Force, Marine Corps, Defense Science Board, and Center for Strategic and Budgetary Assessments. We examined DOD documents and data including, but not limited to, the President's Fiscal Year 2007 Defense Budget, the *Department of the Navy Ships and Aircraft Supplemental Data Tables*, and the *Report to Congress on Annual Long-Range Plan for Construction of Naval Vessels for FY 2007*. We assessed the reliability of the data used through discussions with knowledgeable officials. We determined that the data used were sufficiently reliable for our objectives. We reviewed statements by the Congressional Budget Office and Center for Strategic and Budgetary Assessments. We also reviewed reports on seabasing including, but not limited to, *Thinking About Seabasing: All Ahead, Slow* by the Center for Strategic and Budgetary Assessments, *Sea Basing* by the Defense Science Board, *Sea Basing* by the Naval Research Advisory Committee, and *Seabasing: Ensuring Joint Force Access From the Sea* by the National Research Council. To identify guidance on cost estimating and total ownership costs, we reviewed DOD documentation, including DOD Directive 5000.1, *The Defense Acquisition System* (May 12, 2003), DOD Instruction 5000.2, *Operation of the Defense Acquisition System* (April 5, 2002), Chairman of the Joint Chiefs of Staff Instruction 3170.01E, *Joint Capabilities Integration and Development System* (May 11, 2005), and Chairman of the Joint Chiefs of Staff Manual 3170.01B, *Operation of the Joint Capabilities Integration and Development System* (May 11, 2005). We also reviewed our prior work on cost estimating and total ownership cost.

We conducted our review from February 2006 to October 2006 in accordance with generally accepted government auditing standards at the following locations:

- Offices of the Secretary of Defense, Washington, D.C.
  - Office of Force Transformation
  - Office of Program Analysis and Evaluation
  - Office of the Under Secretary of Defense, Acquisition, Technology, and Logistics
- The Joint Staff, Washington, D.C.
  - Office of Force Structure Resources and Assessment—Studies, Analysis, and Gaming Division
- U.S. Joint Forces Command, Suffolk, Virginia
  - Joint Experimentation Directorate
  - Joint Futures Lab
- U.S. Transportation Command, Scott Air Force Base, Illinois
- Offices of the Chief of Naval Operations, Washington, D.C.
  - Office of Expeditionary Warfare
  - Office of Assessments, Seabasing Pillar
- Naval Sea Systems Command, Washington, D.C.
- U.S. Fleet Forces Command, Norfolk, Virginia
- Navy Warfare Development Command, Newport, Rhode Island
- Office of Naval Research, Arlington, Virginia
- Naval War College, Newport, Rhode Island
- Marine Corps Combatant Development Command, Quantico, Virginia
  - Capabilities Development Directorate, Seabasing Integration Division
  - Operations Analysis Division, Mission Area Analysis Branch
  - Marine Corps Warfighting Lab
- Offices of the U.S. Army Chief of Staff, Washington, D.C.
  - Office of the Deputy Chief of Staff for Operations and Plans
  - Office of the Deputy Chief of Staff for Logistics
- Army Training and Doctrine Command, Fort Monroe, Virginia
  - Army Capabilities Integration Center
- Army Transportation Center, Fort Eustis, Virginia
  - Deployment Process Modernization Office
- Headquarters United States Air Force, Office of the Deputy Chief of Staff for Air, Space, and Information Operations Plans, and Requirements, Washington, D.C.
  - Concepts, Strategy, and Wargaming Division
- Center for Naval Analyses, Alexandria, Virginia
- Center for Strategic and Budgetary Assessments, Washington, D.C.
- LMI Government Consulting, McLean, Virginia

Appendix II: Comments from the Department of Defense

OFFICE OF THE UNDER SECRETARY OF DEFENSE
3000 DEFENSE PENTAGON
WASHINGTON, DC 20301-3000

ACQUISITION,
TECHNOLOGY
AND LOGISTICS

DEC 21 2006

Ms. Janet St. Laurent
Director, Defense Capabilities and Management
U.S. Government Accountability Office
441 G Street, N.W.
Washington, DC 20548

Dear Ms. St. Laurent:

This is the Department of Defense (DoD) response to the GAO Draft Report, "FORCE STRUCTURE: Joint Seabasing Would Benefit From a Comprehensive Management Approach and Rigorous Experimentation Before Services Spend Billions on New Capabilities," dated November 21, 2006 (GAO Code 350793/GAO-07-211). The Department's comments on the recommendations are attached.

The Department partially concurs with recommendations 1, 3, 4, 5, 6, and 7. Recommendation 1 relates to the assignment of leadership and accountability for joint seabasing development. Recommendation 3 relates to the development and implementation of a communications strategy to support information sharing for all joint seabasing activities. Recommendations 4, 5, and 6 relate to U.S. Joint Forces Command developing, leading and managing a joint seabasing experimentation plan and associated information sharing plan to further the development of the joint seabasing concept. Recommendation 7 relates to the development of joint seabasing total ownership cost estimates for investment decision making activities.

The Department does not concur with recommendation 2, which relates to the establishment of an overarching implementation team to provide day-to-day joint seabasing management oversight over the Services, Combatant Commands, the Joint Chiefs of Staff and others involved in joint seabasing.

The Department appreciates the opportunity to comment on the draft report. Technical comments were provided separately. For further questions concerning this report, please contact Darlene Costello, Deputy Director, Naval Warfare, at (703) 697-2205.

Sincerely,

David G. Ahern
Director
Portfolio Systems Acquisition

GAO DRAFT REPORT - DATED NOVEMBER 21, 2006
GAO CODE 350793/GAO-07-211

"FORCE STRUCTURE: Joint Seabasing Would Benefit From a Comprehensive Management Approach and Rigorous Experimentation Before Services Spend Billions on New Capabilities"

DEPARTMENT OF DEFENSE COMMENTS TO THE RECOMMENDATIONS

RECOMMENDATION 1: The GAO recommends that the Secretary of Defense assign clear leadership and accountability for developing a joint seabasing capability and coordinating supporting initiatives.

DOD RESPONSE: The DoD partially concurs with this recommendation. The Joint Staff is assigned responsibility to develop the Joint Seabasing Concept and the resulting capability. There is clear and accountable leadership established within the Joint Requirements Oversight Council (JROC) and Joint Capabilities Board (FCB) to accomplish this development. The Force Management Functional Capabilities Board under authority of the JROC is providing the leadership for the Joint Seabasing Capabilities Based Assessment (CBA) and formulation of the Seabasing Joint Capabilities Document (JCD). The Joint Staff works with all the Services as part of the on-going CBA and development of the JCD. The Services are exploring seabasing initiatives to enhance their current seabasing capability. As these are refined, the Service will work with the Joint Staff to implement them in updated joint tactics, training, and procedures. The Joint Staff is using the information and lessons learned from ongoing efforts to further the Joint Seabasing Concept.

RECOMMENDATION 2: The GAO recommends that the Secretary of Defense establish an overarching, dedicated implementation team to provide day-to-day management oversight over the Services, Combatant Commands, the Joint Chiefs of Staff, and others involved in joint seabasing.

DOD RESPONSE: The DoD does not concur with this recommendation. As the GAO noted, the Joint Seabasing Concept is still being developed within the Joint Capabilities Integration and Development System (JCIDS). The Department considers it premature to establish additional oversight at this time. After the Joint Requirements Oversight Council defines the joint seabasing capabilities needed, then the Department will determine if additional oversight is necessary to satisfy the requirement. Until then, the Force Management Joint Capabilities Board (which includes the Joint Staff, all four Services, the Combatant Commands, and OSD) is providing the appropriate level of management oversight for development of the Joint Seabasing Concept.

RECOMMENDATION 3: The GAO recommends that the Secretary of Defense develop and implement a communications strategy to ensure communication between and among the Services, Combatant Commands, Office of the Secretary of Defense, the Joint Chiefs of Staff, and to provide information on all joint seabasing activities across DoD.

DOD RESPONSE: The DoD partially concurs with this recommendation. The Joint Capabilities Integration and Development System process, Joint Capabilities Boards, and the Joint Requirements Oversight Council provide for communication between the Joint Staff, all four Services, the Combatant Commands, and OSD. All of these organizations are participating in the current Joint Seabasing Capabilities Based Assessment. Information is exchanged through the Joint Staff Knowledge Management and Decision Support Tool and the Joint Staff Decision Support Environment. These systems will enhance strategic communications for joint seabasing and other capabilities based analyses.

RECOMMENDATION 4: The GAO recommends that the Secretary of Defense direct the U.S. Joint Forces Command to lead and coordinate joint seabasing experimentation efforts, under the purview of the joint seabasing implementation team. U.S. Joint Forces Command should be responsible for developing and implementing a joint seabasing experimentation campaign plan to guide the evaluation of joint seabasing as a capability for force protection and sustainment. Such an experimentation plan should include the following elements:

- Clear focus and objectives for joint seabasing that encompass near-, mid-, and long-term experimentation plans;
- A near-term plan for joint seabasing experimentation that includes events for the next fiscal year, participants, timelines, and resources that will be used to support the events;
- A spectrum of joint experimentation activities that include wargaming, comprehensive modeling and simulation, live demonstrations, workshops, symposiums, and analysis;
- A data collection and analysis plan to capture and evaluate results; and
- A method for communicating observations, results, upcoming activities, and feedback across the joint seabasing experimentation community.

DOD RESPONSE: The DoD partially concurs with the recommendation. The Joint Staff, with Service, Combatant Command, and OSD support, is developing a draft Joint Capabilities Document (JCD) that recommends a joint seabasing experimentation plan to complement and inform the Capabilities Based Assessment. While the JCD is in draft, the Combatant Commanders have been working with the Joint Staff to identify clear, appropriate objectives and timelines for experimentation in this area. The experimentation will encompass a wide range of joint activities including wargaming, modeling and simulation, live demonstrations, and other

forums. The Joint Staff is working with the Services, OSD, and the Combatant Commanders to identify appropriate sponsorship, participation, data collection, analysis efforts, and feedback mechanisms as part of the joint experimentation plan.

RECOMMENDATION 5: The GAO recommends that the Secretary of Defense direct that the Services collaborate with the U.S. Joint Forces Command in developing, implementing, and using the joint seabasing experimentation campaign plan.

DOD RESPONSE: The DoD partially concurs with this recommendation. The draft Seabasing Joint Capabilities Document (JCD) recommends the Joint Staff, in conjunction with the Services, the Combatant Commanders, and OSD, develop and implement a joint experimentation plan. This JCD, when approved by the Joint Requirements Oversight Council, will provide the Department with the appropriate guidance for continuing Joint Seabasing Concept development, experimentation, and implementation.

RECOMMENDATION 6: The GAO recommends that the Secretary of Defense direct that the Services utilize and contribute to the U.S. Joint Forces Command's knowledge management portal by providing their observations, insights, results, and planned activities to the portal for use by the joint seabasing experimentation community.

DOD RESPONSE: The DoD partially concurs with this recommendation. The Department concurs that a common portal should be established and used by the Services. The Joint Requirements Oversight Council will identify a lead for the seabasing experimentation plan when it approves the Joint Capabilities Document. The organization that leads the experimentation effort should identify the common knowledge management system to be used. The U.S. Joint Forces Command's knowledge management portal is one option that will be considered in order to share joint seabasing experimentation observations, insights, results, and planned activities for use by the joint seabasing community.

RECOMMENDATION 7: The GAO recommends that the Secretary of Defense direct the implementation team or other appropriate entity to synchronize development of total ownership cost estimates for the range of joint seabasing options so decision makers have sufficient information to use in making investment decisions on Service seabasing initiatives.

DOD RESPONSE: The DoD partially concurs with this recommendation. Once the Joint Requirements Oversight Council defines the required joint seabasing capabilities, total ownership costs for the options to satisfy the needed capability gaps will be developed as part of the Department's Planning, Programming, Budgeting and Execution (PPBE) and DoD 5000 Acquisition processes. Total ownership cost estimates for proposed solutions will be developed to support all Department investment decisions. These estimates would be generated for costs that are new or unique to seabasing capability gaps. The joint seabasing capability leverages many existing Department assets and programs which are needed to meet warfighting requirements separate from seabasing.

Appendix III: GAO Contact and Staff Acknowledgments

GAO Contact

Janet St. Laurent, (202) 512-4402 or stlaurentj@gao.gov

Acknowledgments

In addition to the contact named above, Patricia Lentini, Assistant Director; Sarah Baker; Renee Brown; Nicole Harms; Margaret G. Holihan; Ian Jefferies; Kevin L. O'Neill; Roderick Rodgers, Analyst-in-Charge; and Rebecca Shea made key contributions to this report.

GAO's Mission

The Government Accountability Office, the audit, evaluation and investigative arm of Congress, exists to support Congress in meeting its constitutional responsibilities and to help improve the performance and accountability of the federal government for the American people. GAO examines the use of public funds; evaluates federal programs and policies; and provides analyses, recommendations, and other assistance to help Congress make informed oversight, policy, and funding decisions. GAO's commitment to good government is reflected in its core values of accountability, integrity, and reliability.

Obtaining Copies of GAO Reports and Testimony

The fastest and easiest way to obtain copies of GAO documents at no cost is through GAO's Web site (www.gao.gov). Each weekday, GAO posts newly released reports, testimony, and correspondence on its Web site. To have GAO e-mail you a list of newly posted products every afternoon, go to www.gao.gov and select "Subscribe to Updates."

Order by Mail or Phone

The first copy of each printed report is free. Additional copies are $2 each. A check or money order should be made out to the Superintendent of Documents. GAO also accepts VISA and Mastercard. Orders for 100 or more copies mailed to a single address are discounted 25 percent. Orders should be sent to:

U.S. Government Accountability Office
441 G Street NW, Room LM
Washington, D.C. 20548

To order by Phone: Voice: (202) 512-6000
TDD: (202) 512-2537
Fax: (202) 512-6061

To Report Fraud, Waste, and Abuse in Federal Programs

Contact:

Web site: www.gao.gov/fraudnet/fraudnet.htm
E-mail: fraudnet@gao.gov
Automated answering system: (800) 424-5454 or (202) 512-7470

Congressional Relations

Gloria Jarmon, Managing Director, JarmonG@gao.gov (202) 512-4400
U.S. Government Accountability Office, 441 G Street NW, Room 7125
Washington, D.C. 20548

Public Affairs

Paul Anderson, Managing Director, AndersonP1@gao.gov (202) 512-4800
U.S. Government Accountability Office, 441 G Street NW, Room 7149
Washington, D.C. 20548