

PILLAR 3:
CAPABILITY & CAPACITY TO MEET DOD
STRATEGIC REQUIREMENTS



SECTION 1: AMPHIBIOUS AND PRE-POSITIONING SHIPS



NAVAL EXPEDITIONARY CAPABILITY IN THE 21ST CENTURY

The United States is a Global Maritime Nation. It remains the world's largest economy, critically dependant on the global commons for our livelihood. Over 90% of the world's commerce travels by sea. Global populations continue to shift to the littoral regions along the oceans' coastlines; 21 of the world's 28 mega-cities lie within 62 miles of a coastline. Protecting our citizens, allies and interests in this global system is necessary for both our prosperity and security.

The sea provides the primary global common through which American power is projected. Marines (an inherently naval force) and the amphibious warships which carry them, use the oceans as maneuver space in order to influence potential crises from the sea without forcing escalation or aggravating sovereignty. Amphibious forces are designed to provide a wide range of capabilities from the sea. They can loiter unseen over the horizon or provide a visible deterrent. Our presence equals access, which creates options and decision space for our Nation's leaders. With modern aviation and surface connectors, Marine forces can provide kinetic strike or responsive maneuver from hundreds of miles out to sea.

MARITIME SUPPORT TO EXPEDITIONARY OPERATIONS

During the 1920s and 1930s, the Navy and Marine Corps began experimenting with new concepts and techniques that would change the way they conducted expeditionary operations. The Navy experimented with aircraft carrier operations using a converted coal ship and two partially completed battle cruisers. The Marine Corps experimented with amphibious tractors, close-air support, and combined arms to develop doctrine, concepts of operations, and training for amphibious operations. The inter-war years of experimentation and concept development resulted in a Navy and Marine Corps team that won the war in the Pacific during World War II.

Today, we are at a similar point in the evolution of new expeditionary capabilities, and a similar commitment to experimentation and concept development is shaping the Marine Corps and Navy for the 21st Century. The concept of sea basing is maturing and becoming a reality as new platforms and technologies that allow us to operate more effectively from a sea base are delivered. Until recently, Marines have been able to conduct sea-based operations only from amphibious shipping, because today's prepositioned materiel and equipment can be employed only once forces are assembled ashore. Additionally, our prepositioned equipment has been perceived as a "break glass in time of war" capability. It is no longer primarily reserved for major combat operations.

Meeting the demands of today's security environment means that our amphibious and prepositioning assets must be more integrated to better support steady-state operational requirements. We also must eliminate the false perception that amphibious and pre-positioning capabilities are separate and distinct. Amphibious and prepositioning capabilities are complementary and in the future will become more interoperable and mutually supportive across the range of military operations. Both capabilities must evolve to provide greater utility, particularly in irregular war-

fare and other low to mid-intensity operations, while retaining the capability to fully support major combat operations. In particular, our Maritime Prepositioning Force (MPF) must develop a full at-sea arrival and assembly capability to better support maneuver operations ashore.

EXPEDITIONARY NAVAL FORCES IN SUPPORT OF NATIONAL STRATEGY

The tri-Service *A Cooperative Strategy for 21st Century Seapower* states that forward-deployed and globally engaged Marine Corps expeditionary forces, with the Navy and Coast Guard, "...act across the full range of military operations to secure the United States from direct attack; secure strategic access and retain global freedom of action; strengthen existing and emerging alliances and partnerships; and establish favorable security conditions." Most significantly, these "persistently present and combat-ready" maritime forces also "provide the Nation's primary forcible-entry option in an era of declining access."

The Marine Corps amphibious and prepositioning capabilities contribute to the Joint Force's expeditionary capability and fulfill the Nation's maritime strategic imperatives as follows:

- Limiting regional conflict with forward-deployed, decisive maritime power
- Deterring major-power war
- Winning our Nation's wars
- Contributing to homeland defense in depth
- Fostering and sustaining cooperative relationships with more international powers, and
- Preventing or containing local disruptions before they impact the global system

Operating in concert with the Navy and the Coast Guard, Marine Corps expeditionary forces can be employed from a sea base to complement other joint means of projecting influence and power. These forces leverage the advantages afforded by our command of the seas and ability to dominate the maritime domain to conduct operations in the littorals. The Marine

Corps core competencies are the foundation for our expeditionary forces' significant contributions to the Nation's security.

OPERATIONAL ROLE OF MARINE CORPS EXPEDITIONARY FORCES

Our strategies and concepts address the following requirements: the ability to maintain open and secure sea lines of communication for our maritime nation; the ability to maneuver across and project power from the sea; the ability to work with partner nations and allies to conduct humanitarian relief or noncombatant evacuation operations; and the ability to conduct persistent and sustained littoral operations along any coastline in the world.

Marine Corps expeditionary forces provide a balanced and scalable set of capabilities to counter irregular threats, respond to emerging crises, and conduct major combat operations. In this era of strategic uncertainty, a forward deployed expeditionary force, consistently engaged and postured for rapid response, is critical for national security in the future as it is today. The Marine Corps expeditionary capability is enabled by the complementary employment of amphibious shipping and prepositioned equipment. Together they provide responsive and scalable options to project influence and power and provide support across the full spectrum of operations to include engagement operations and crisis response.

The deployment of the 22d and 24th Marine Expeditionary Units (MEUs) on board amphibious shipping and the prepositioning ship USNS *1st Lt. Jack Lummus* to support humanitarian and disaster-relief operations in Haiti in 2010 is an example of the Marine Corps capability to rapidly respond to crisis. These forces provide a similar capability to respond at the high end of the military operations spectrum to create littoral maneuver space for the Joint Force. The expeditionary character, versatility, and agility of Marine Corps expeditionary forces provide the Nation with the asymmetric advantage of seamlessly adjusting

the size of its military footprint to match the changing situation ashore.

TODAY'S AMPHIBIOUS CAPABILITY

Among the many capabilities provided by integration of combat-ready Marine Air Ground Task Forces (MAGTFs) with multi-mission amphibious ships, three are of critical importance:

- Forward presence to support engagement and theater security cooperation
- A ready force to immediately respond to emergent crises
- A credible and sustainable forcible-entry capability

Forward-deployed amphibious forces are unique in that they are postured to immediately respond to crises while conducting persistent forward engagement to prevent and deter threats, particularly in the areas of instability in the littorals. Often the mere presence of an amphibious force capable of delivering a powerful amphibious blow at a point and time of its own choosing is enough to stabilize an escalating crisis. The inherent versatility and flexibility of amphibious forces — exemplified by their ability to conduct missions across the range of military operations — achieves advantages disproportionate to the resources employed.

An amphibious capability creates four strategic benefits for a nation that depends on its ability to exploit its command of the seas to project influence and power, as follows:

- **Increased Freedom of Action:** Amphibious forces can use the maritime domain as a base from which to conduct operations. They can loiter indefinitely in international waters and maneuver ashore at the time and place of their choosing.
- **Deterrence:** While a standoff strike is sometimes an adequate response, other situations require the rapid insertion of sustainable combat forces — “boots on the ground” — to underscore the Nation's commitment to an ally or friend.
- **Assured Access:** Amphibious forces contribute

unique and essential capabilities toward the Nation's ability to take advantage of the freedom of the high seas to enter a region without regard to access constraints and impediments and to sustain sea-based operations almost indefinitely without need for in-theater host-government support.

- **Uncertainty for Adversaries:** A credible forcible-entry capability compels potential adversaries to invest in a broad range of systems and spread their defenses over larger areas of concern.

The lengthy experience of the Marine Corps in conducting forward engagement and security cooperation operations in the littorals has dispelled the misperception that forcible entry is the only yardstick by which the requirement for amphibious capability and capacity is measured. More relevant metrics in today's security environment, as underscored in the *2010 Quadrennial Defense Review*, are the capability to conduct persistent forward engagement activities and provide a crisis-response force while retaining the capability to respond to major contingencies.

The importance of amphibious forces is highlighted by the increased employment of Marine Corps expeditionary forces since the end of the Cold War. From 1946 through 1989, amphibious forces were employed on average 2.5 times per year; since 1990, the rate has increased to about 5.5 times per year. The demand for amphibious forces to support steady-state operations is projected to increase even more in the coming years as combatant commanders place greater emphasis on conducting sea-based persistent forward-engagement activities throughout their areas of responsibility. Viewed another way, combatant commanders' global demand for amphibious ready groups and MEUs has increased 86 percent and 53 percent for independent amphibious ships during the FY 2007 to FY 2011 period.

The ability to meet the demand for amphibious ships with the programmed amphibious fleet is a critical concern. When forward-presence requirements are factored in with the 2.0 Marine Expeditionary Brigade (MEB) assault-echelon lift needs, the requirement calls for 38 amphibious ships, 11 of which must be

aviation-capable large-deck warships. Because of fiscal constraints, however, the FY 2012 programmed force level calls for 32 ships. The increased demand for amphibious forces thus has placed a strain on amphibious shipping as the employment of amphibious forces has increased while the inventory of amphibious ships has declined. Newly delivered amphibious ships, such as the *San Antonio* (LPD 17)-class landing platform dock ships, are more capable than the ships they replace. However, a ship can be in only one place at a time. Although the fleet retains a responsive surge capability, the constrained number of in-service ships precludes fully supporting the growing demand for rotational MEU and Global Fleet Station deployments and other requirements. The Marine Corps amphibious ship and associated ship-to-shore connector requirements are highlighted in the following pages.

AMPHIBIOUS WARSHIPS

Amphibious warfare ships are the centerpieces of the Navy-Marine Corps presence, forcible-entry, and sea-basing capabilities continue to play essential roles in global operations. These ships are equipped with aviation- and surface-assault capabilities that, when coupled with their inherent survivability and self-defense systems, support a broad range of mission requirements. They provide the most formidable expeditionary forcible-entry capability in the world, the development and maintenance of which is the responsibility of the Marine Corps under U.S. Code Title 10.

The Marine Corps operational requirement is for two Marine Expeditionary Brigade Assault Echelons (MEB AE) of forcible-entry capability reinforced with two additional MEBs from the Maritime Prepositioning Force. The two-MEB AE forcible-entry capability requires 34 amphibious warfare ships (17 ships per MEB). When forward-presence requirements are considered with the 2.0 MEB lift requirement, the AE requirements total 38 ships. Of these 38 ships, 11 must be aviation-capable large-deck ships — Landing

Helicopter Assault (LHA), Landing Helicopter Dock (LHD), or Landing Helicopter Assault (Replacement) LHA(R) — to accommodate the MEB's Aviation Combat Element.

Nine large-deck ships (eight *Wasp*-class LHDs and one *Tarawa*-class LHA) are in service in 2013. The eighth *Wasp*-class multi-purpose amphibious assault ship, the USS *Makin Island* (LHD 8), was delivered in 2009. LHD 8 is similar to LHD 1 through LHD 7, but is powered by gas turbine engines and has all-electric auxiliaries.

AMPHIBIOUS ASSAULT SHIP REPLACEMENT (LHA(R))



The amphibious fleet is organized for persistent forward presence as the foundation for other critical roles, missions, and tasks. It includes nine amphibious ready groups (ARGs), each consisting of three amphibious ships. The centerpiece of the ARG is a *Wasp* (LHD 1)-class or *Tarawa* (LHA 1)-class amphibious assault ship. The sole *Tarawa*-class amphibious assault ship will be decommissioned in FY 2014. The first of two transitional LHA Replacement (LHA(R)) ships, the USS *America* (LHA 6), began construction in 2008. LHA 6 design modifications enhance aviation support for MV-22B Osprey and F-35B Joint Strike Fighter operations. Removal of the well deck provides for an extended hangar deck with two wider high-bay areas, each fitted with an overhead crane for aircraft maintenance. Other enhancements include a reconfigurable

command and control complex, a hospital facility, and extensive support activities. Efforts are underway to incorporate a well deck into the FY 2016 LHA(R) platform and to incorporate changes in the basic ship design to ensure optimized aviation and surface operations and service life.

SAN ANTONIO-CLASS (LPD 17) AMPHIBIOUS TRANSPORT DOCK SHIP



The LPD 17 *San Antonio*-class amphibious warfare ship represents the Department of the Navy's commitment to a modern expeditionary fleet. The first five ships of the class — the USS *San Antonio* (LPD 17), USS *New Orleans* (LPD 18), USS *Mesa Verde* (LPD 19), USS *Green Bay* (LPD 20), and USS *New York* (LPD 21) — have been commissioned. The *San Antonio*-class LPDs are replacing the remaining ships of the *Austin* (LPD 4) class.

The LPD 17's unique design expands force coverage and decreases the reaction times of forward-deployed MEUs. In forcible-entry operations, the LPD17 helps maintain a robust surface assault and rapid off-load capability for the MAGTF well into the future. The *San Antonio* class warships incorporate advanced characteristics for amphibious ships. Each ship has 699 enhanced berths for embarked Marines, plus a surge capacity of another 101 berths. Each also has a vehicle-stowage capacity of 24,600 square feet, cargo-stowage capacity of more than 33,000 cubic feet, and a well deck sized for two landing craft air cushions (LCAC) or one

landing craft utility (LCU). Flight decks can support operations by two CH-53E/K Super Stallions, two MV-22B Osprey tilt-rotor aircraft, four CH-46E Sea Knight helicopters, or a mix of H-1 attack/utility helicopters. The ships in this class also are outfitted with two Rolling Airframe Missile launchers for self-defense and incorporate design features that significantly reduce their radar cross-sections when compared to previous amphibious ships.

Developer/Manufacturer:

Huntington Ingalls Industries (formerly Northrop Grumman Ship Systems), Pascagoula, Mississippi

LANDING CRAFT AIR CUSHION (LCAC) / SHIP-TO-SHORE CONNECTOR (SSC)



The LCAC is a high-speed, fully amphibious craft with a design payload of 60 tons at speeds in excess of 40 knots and a nominal range of 200 nautical miles. The LCAC's ability to ride on a cushion of air allows it to operate directly from the well decks of amphibious warships and to access more than 70 percent of the world's beaches, compared to 17 percent for conventional landing craft. A service life extension program (SLEP) began in late 2000 for the 72 active LCACs, which provides major refurbishment that will extend craft life to 30 years. The goal is to carry out five LCAC SLEPs per year. During SLEP, LCACs receive a system upgrade that includes

new command, control, communication, and navigation equipment; buoyancy box and rotating machinery refurbishment; enhanced engines; and upgrades of the current skirt system with an improved deep skirt, thereby increasing the performance envelope.

The Ship-to-Shore Connector (SSC) program is developing a replacement for the in-service LCACs and the LCAC service-life extension program (SLEP) as these craft reach the ends of their service lives. In 2007 the Navy Resources, Requirements Review board selected the 74 Short-Ton Air-Cushion Vehicle concept in an approved Initial Capabilities Development Document as the LCAC replacement platform.

The Joint Requirements Oversight Council approved the Capability Development Document in 2010. The contract for the detail, design, and construction of a SSC test and training craft was awarded to Textron, Inc. in 2012.

EVOLUTION OF MARITIME PREPOSITIONING



The Marine Corps prepositioning programs consist of the Maritime Prepositioning Force (MPF) Program and the Marine Corps Prepositioning Program – Norway (MCPN). The MPF Program provides equipment and supplies to enable the rapid deployment and employment of two Marine Expeditionary Brigades (MEBs) from afloat prepositioned shipping. MCPN provides equipment and supplies for a cri-

sis response Marine Air Ground Task Force (MAGTF) and three theater security engagement MAGTFs from a shore-based prepositioning site. The MPF program will continue to evolve to meet the challenges of a constrained fiscal environment as well as a strategic environment with greater anti-access challenges.

Maritime Prepositioning Ship Squadron-One (MPSRON-1) was eliminated and its ships were either transferred to the U.S. Transportation Command's Strategic Sealift Fleet or reassigned to MPSRON-2 or -3. The Marine Corps and Navy collaborated extensively to enhance the capabilities of the two remaining MPSRONS, to include the addition of a legacy MPF ship to each MPSRON. This enhancement attained a higher lift capacity of the MEB requirement per MPSRON, retained critical sea-basing enabling capabilities within each MPSRON, and maintained the Maritime Prepositioning Force's ability to support geographic combatant commander requirements. In addition, Marine Corps afloat and ashore prepositioning programs are programmed for other significant changes through 2025 and beyond. Changes will occur in the afloat program, where the capability to conduct sustained sea-based operations with limited host-nation infrastructure in the Joint Operating Area (JOA) will provide a greatly expanded set of options for the combatant commanders. A detailed integration plan has been developed to ensure the new capabilities are seamlessly incorporated into the existing program.

The first stages of this plan have already been realized. Each MPSRON has increased organic ship-to-shore movement capability with the fielding of the Improved Navy Lighterage System (INLS). The INLS provides operability in higher sea states and greater throughput capacity than the legacy lighterage it replaces. The MPF also has been recapitalized with Military Sealift Command (MSC) either purchasing or terminating the program's leased ships.

Another major enhancement is the integration of four Large Medium-Speed Roll-On/Roll-Off (LMSR) ships which provide more stowage space to accommo-

date the larger and more numerous equipment of the MEB. Three LMSRs are already in service with the program; the fourth will be integrated in February 2013.

While the prepositioning program provides significant capability to the combatant commanders, it is limited in some areas, especially the ability to conduct sea-based operations. The closure of forces requires a secure airfield and a secure port or beach landing site in the JOA — a significant constraint to some operations. In-service MPF platforms can embark limited personnel pierside, at anchor, or while in transit. However, the platforms lack the billeting and support services to facilitate a sea-based force. Additionally, equipment and supplies are administratively stowed to maximize all available space. This administrative “dense packing” of the ships precludes the conduct of assembly operations aboard MPF ships. In-service MPF platforms can support the limited employment of forces from a sea base, but this requires significant planning prior to back-loading the ships during the preceding MPF maintenance cycle. Also, since there are no maintenance facilities aboard in-service MPF vessels, all reconstitution must be done ashore before back loading any of the equipment or supplies.

Between 2013 and 2015, additional ships will be integrated into the MPSRONS. Each new platform will incrementally transform the existing MPSRONS and provide an immediate operational benefit to combatant commanders. Dry cargo/ammunition ships enable selective access to and the offload of supplies, allowing the building of tailored sustainment packages for forces operating ashore. Mobile Landing Platforms will provide the capability to conduct at-sea, sea state-3 selective offload and vehicle/cargo transfer from an LMSR to ship-to-shore connector craft. During this transition period, training and exercises will focus on the development of new tactics, techniques, and procedures as well as doctrinal and organizational changes to fully realize the enhanced ability and operational utility of afloat prepositioning.

JOINT HIGH SPEED VESSEL (JHSV)



The JHSV will provide the critical intra-theater, surface connector capability that will enable the joint force commander to project forces and sustainment at high speeds over operational distances. The JHSV will be capable of self-deploying to the theater of operations and, once in theater, provide the high-speed

means to move forces and supplies within that theater. Specifically, the JHSV will provide the capability to deliver equipment, personnel, and supplies over the intra-theater ranges to shallow, austere, and degraded ports. It will provide support to seabasing and will bridge the gap between low-speed sealift and high-speed airlift.

The JHSV lead ship — USNS *Spearhead* (JHSV 1) — completed acceptance trials in 2012 with three additional ships in various stages of construction at Austal USA in Mobile, AL. The current contract is for 10 ships. Two high-speed commercial ferries, renamed the USNS *Guam* and USNS *Puerto Rico* have also been purchased. In the interim, high-speed vessels will continue to be leased in the Pacific Command area of responsibility to satisfy compelling requirements.

