

LHA 6 (formerly LHA(R)) - New Amphibious Assault Ship

Executive Summary

- Both the Test and Evaluation Master Plan (TEMP) and TEMP update were approved by OSD.
- The Milestone B decision was made in January 2006.
- No analyses have been provided that explain how LHA 6 will execute traditional and future Expeditionary Strike Group or Marine Expeditionary Unit missions.

System

- The LHA 6 is a large-deck amphibious ship designed to support up to 28 MV-22 tilt rotor aircraft or 23 F-35 Joint Strike Fighter aircraft (Short Take-Off, Vertical Landing variant). It can also facilitate operations of all U.S. Marine Corps and Navy helicopters, as well as several types of Army and Air Force helicopters.
- It does not have a well deck, which traditionally is used for amphibious operations.
- The combat system is the Ship Self Defense System. It uses the Rolling Airframe Missile weapon system, the NATO Sea Sparrow Missile System with the Evolved Sea Sparrow Missile, and the Close-In Weapon System for self defense against anti-ship cruise missiles.
- Propulsion is by two marine gas turbine engines and two controllable pitch propellers. Diesel generators provide electric power.

Mission

- The Joint Maritime Component Commander employs the LHA 6 as:
 - The centerpiece ship of the Expeditionary Strike Group



- An afloat headquarters for Marine Expeditionary Unit, Amphibious Squadron, or other Joint Force commands using its command, control, communications, computers, and intelligence facilities and equipment
- The primary Expeditionary Strike Group aviation platform, with space and accommodations for U.S. Marine Corps vehicles, cargo, ammunition, and more than 1,600 troops
- LHA 6 class ships will be part of the Maritime Prepositioning Force (Future), serving as an aviation support platform.

Activity

- DOT&E conditionally approved the Milestone B LHA 6 TEMP in January 2006, subject to the Navy submitting a TEMP revision that provided details for testing Key Performance Parameters approved by the Joint Requirements Oversight Council. The TEMP revision was subsequently approved in June 2006.
- An Integrated Test Team (ITT), comprised of representatives from the Navy's Commander, Operational Test and Evaluation Force (COMOPTEVFOR), the LHA 6 Program Office, and the Marine Corps Operational Test and Evaluation Activity, worked to conduct a detailed mission analysis for the ship, focusing primarily on the ship's amphibious warfare mission.
- DOT&E approved the LFT&E Management Plan in January 2006. The Deputy Undersecretary of Defense (AT&L) certified the waiver from full-up systems-level LFT&E to

support the Defense Acquisition Board Milestone B decision made in January 2006.

- The Navy and OSD reached an agreement to conduct an underwater explosive test on LHA 2 after the ship is decommissioned in January 2007. Two underwater explosive test shots will be conducted; one at two-thirds and one at the full explosive level the ship is built to withstand. A full ship shock trial is not deemed necessary on LHA 6.

Assessment

- As design details of LHA 6 have matured, both the program office and COMOPTEVFOR are gaining a better understanding of the ship's expected capabilities and potential limitations. However, the principal concern remains that no analyses have been provided that explain how Expeditionary

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Strike Group operating concepts will be revised to compensate for loss of the well deck in LHA 6. Capabilities and requirements documentation still list execution of contemporary and future Marine Expeditionary Unit missions as its primary purpose. It is unclear that the ship can perform such missions.

- LHA 6 is the first ship program to fully engage in a mission-based integrated test approach using an ITT. This testing concept is showing promise to better harmonize developmental and operational testing efforts.
- The Navy declared LHA 6 class ships would be included as part of the Maritime Prepositioning Force (Future) program. This variant will likely be manned by civilian mariners of the Military Sealift Command or a mix of Navy, Marine, and civilian mariner personnel. It will be tested based on capabilities documents associated with that program.
- The LFT&E test program will continue into 2013 and will provide data to support a comprehensive evaluation of the survivability of the LHA 6 class of ships based on:
 - Surrogate testing
 - Damage-Based Scenario Engineering Analysis
 - Modeling and Simulation
 - Total Ship Survivability Trials
- Testing of the ship's combat systems will be done mostly under the auspices of the Navy's Enterprise Anti-Air Warfare Ship Self Defense Test and Evaluation Strategy. This will leverage testing of similar combat direction and weapons systems and will save the Navy time and money.

- A major concern is that the Navy has not funded development of a Threat D-representative target. This target would act as a surrogate for a foreign weapon known to be a threat to this ship. Without it, adequate testing of the vessel's self-defense capability against anti-ship cruise missiles cannot be conducted.

Recommendations:

- Status of Previous Recommendations. The Navy addressed three of the four prior recommendations. The following from FY05 remains valid:
 - FY05 #1: Conduct detailed analyses of studies that include modeling and simulation efforts to better understand what design adjustments or doctrinal changes should be made to LHA 6 to appropriately accommodate Marine Expeditionary Unit-level amphibious operations. These analyses should also be applied to more clearly define cargo, vehicle, and passenger flow routes throughout the ship to support troop embarkation, debarkation, backload, and weapons safety.
- FY06 Recommendations. The Navy should:
 1. Determine what design changes or modifications will be necessary to adapt LHA 6 for support of the Maritime Prepositioning Force (Future) mission.
 2. Fund the development and production of a Threat D-representative target.