

LHA-6 New Amphibious Assault Ship

Executive Summary

- The Navy accepted delivery of LHA-6 in April 2014, seven months behind schedule.
- The Navy identified a budget shortfall that will likely prohibit the completion of IOT&E by the acquisition program threshold of October 2016 for reaching Initial Operational Capability. In addition, the late delivery of the ship reduces its availability for operational testing prior to its deployment in FY17.
- The Navy and Marine Corps Operational Test Agencies conducted the first phase of an Early Operational Assessment for LHA-8 in May 2014.

System

LHA-6 is a large-deck amphibious ship designed to support a notional mix of fixed- and rotary-wing aircraft consisting of 12 MV-22s, 6 F-35B Joint Strike Fighters (Short Take Off/Vertical Landing variant), 4 CH-53Es, 7 AH-1s/UH-1s, and 2 embarked H-60 Search and Rescue aircraft, or a load out of 20 F-35Bs and 2 embarked H-60 Search and Rescue aircraft.

Key ship features and systems include:

- Greater aviation storage capacity and an increase in the size of the hangar bay, which is necessary to accommodate the increased maintenance requirements of the F-35B and the MV-22. Additionally, two maintenance areas with high-overhead clearance are incorporated into the design of the ship to accommodate wings-open MV-22 maintenance.
- Shipboard medical spaces reduced by approximately two thirds compared to contemporary LHDs to expand the hangar bay.
- A Ship Self-Defense System Mk 2-based combat system with the following seven major components.
 - The Ship-Self Defense System Mk 2 Mod 4B control and decision system supports the integration and control of most other combat system elements
 - The ship's AN/SPS-48E and AN/SPS-49A air search radars and the AN/SPQ-9B horizon search radar
 - USG-2 Cooperative Engagement Capability radar tracking systems
 - The Rolling Airframe Missile and the Evolved SeaSparrow Missile, with the NATO SeaSparrow Mk 9 Track Illuminators
 - The AN/SLQ-32B(V)2 electronic warfare system with the Nulka electronic decoy-equipped Mk 53 Decoy Launching System
 - The Phalanx Close-in Weapon System for air and small boat defense
 - The Mk 38 Mod 2 Gun Weapon System for small boat defense



- Propulsion is provided by two marine gas turbine engines, two electric auxiliary propulsion motors, and two controllable pitch propellers. Six diesel generators provide electric power.
- Command, Control, Communications, Computers, and Intelligence facilities and equipment to support Marine Corps Landing Force operations are part of the program of record.
- LHA-6 and LHA-7 do not have well decks, which are traditionally used to move large volumes of heavy equipment needed for amphibious operations. LHA-8 and later ships will have a well deck.

Mission

The Joint Maritime Component Commander will employ LHA-6 to:

- Be the primary aviation platform within an Amphibious Ready Group with space and accommodations for Marine Corps vehicles, cargo, ammunition, and more than 1,600 troops
- Serve as an afloat headquarters for a Marine Expeditionary Unit, Amphibious Squadron, or other Joint Force commands using its Command, Control, Communications, Computers, and Intelligence facilities and equipment
- Accommodate elements of a Marine Expeditionary Brigade when part of a larger amphibious task force
- Carry and discharge combat service support elements and cargo to sustain the landing force

Major Contractor

Huntington Ingalls Industries, Ingalls Shipbuilding Division – Pascagoula, Mississippi

FY14 NAVY PROGRAMS

Activity

- The Navy accepted delivery of LHA-6 in April 2014. This was seven months late and has the potential to affect the planned IOT&E schedule.
- In September 2014, the Navy identified a budget shortfall that will prevent the completion of IOT&E prior to the acquisition program threshold of October 2016. The Navy is investigating alternate courses of action to mitigate this problem.
- The Navy and Marine Corps Operational Test Agencies conducted the first phase of an Early Operational Assessment (EOA) design review for LHA-8 in May 2014.
 - The Navy desired to conduct this test to identify design risks prior to releasing the Request for Proposal.
 - The test was not conducted in accordance with the DOT&E-approved test plan because many of the specified subject matter experts were not available and the review was not conducted in a facility that permitted classified work. Hence, the ship's self-defense capability was not reviewed.
- A second phase of the EOA that was originally planned to examine the ship's amphibious attack and air assault mission capability in late 1QFY15 is currently under review due to the withdrawal of funding.

Assessment

- Because of a seven-month delay in the ship's delivery and resultant delays in the scheduling of the ship's self-defense weapon systems test, the LHA-6 program is unlikely to complete IOT&E by the acquisition program threshold of October 2016.
- If the \$4.5 Million allocated in the Test and Evaluation Master Plan for the amphibious warfare IOT&E event in FY16 is not restored to permit the event to occur as planned, the operational testing that can be conducted prior to acquisition program threshold for reaching Initial Operating Capability will be inadequate to determine the ship's effectiveness and suitability. The Navy is investigating how to conduct the amphibious warfare portion of IOT&E prior to the ship's deployment in 2017.
- The Total Ship Survivability Trial, which contributes to the survivability assessment of the ship, was planned to occur during the amphibious warfare event to minimize the cost of the test program. If this now has to be scheduled to occur by itself, it may require a larger test budget.
- The first phase of the LHA-8 EOA was too limited to identify shortfalls, if any, in the ship's design.
- The LHA-6 Ship Self-Defense System (SSDS) has demonstrated capability against some classes of anti-ship cruise missile (ASCM) threats. However, based on combat systems testing on other platforms, it is unlikely that LHA-6's SSDS Mk 2-based combat system will meet the ship's Probability of Raid Annihilation requirement against all classes of ASCMs.
- The Fire Control Loop Improvement Program (FCLIP) was initiated to correct some combat system deficiencies related to self-defense against ASCMs discovered using the Self-Defense Test Ship and has the potential to mitigate some of the likely shortfalls in the ship's self-defense capability. However, FCLIP has been only partially implemented.
- Phase One of the FCLIP has been completed, but not operationally tested. Phases Two and Three of the proposed program have not been funded.

Recommendations

- Status of Previous Recommendations. The Navy has either addressed or established a process through which to address most of the previous recommendations. The Navy has not fully resolved the following four recommendations to:
 1. Correct systems engineering deficiencies related to SSDS Mk 2-based combat systems and other combat system deficiencies so that LHA-6 can satisfy its Probability of Raid Annihilation requirement.
 2. Evaluate the survivability improvement recommendations resulting from the analysis of the LHA-6 design for incorporation into the LHA-7 design.
 3. Implement improvements to the SSDS Mk 2-based combat system and test those changes during FOT&E.
 4. Make the Multi-Stage Supersonic Target available to support an assessment of the LHA-6 Probability of Raid Annihilation requirement.
- FY14 Recommendations. The Navy should:
 1. Allocate sufficient resources to permit the IOT&E and Total Ship Survivability Trial to be conducted as currently planned, or seek approval of a modified course of action that allows all operational testing objectives to be satisfied.
 2. Review and revise the ship's post-delivery schedule to assure that sufficient time is available for the completion of IOT&E prior to its first deployment.