

LHA 6 Flight 0/Flight 1 Amphibious Assault Ship



In February 2023, DOT&E published an FOT&E report on the LHA 6 Flight 0 Amphibious Assault Ship. The report details LHA 6 Flight 0 capability to support Marine Corps aviation operations with 20 F-35Bs embarked in the F-35B-heavy configuration. LHA 6 Flight 0 remains operationally suitable for amphibious warfare and standard Aviation Combat Element (ACE) operations. As stated in the last two Annual Reports, the LHA 6 program still needs to provide an updated LFT&E strategy for LHA 6 Flight 1.

SYSTEM DESCRIPTION

The LHA 6 class are large-deck amphibious assault ships intended to provide transportation and operational support for deployed

Marine Corps forces, aircraft squadrons (including F-35B, AV-8B, MV-22, CH-53, AH-1, UH-1, and H-60 squadrons), and the Marine Air Ground Task Force. The class has two variants, referred to as Flights. The LHA 6 Flight 0, commencing with USS *America* (LHA 6), maximizes

aviation capability (i.e., flight deck and hangar deck) and includes no well deck. The LHA 6 Flight 1, commencing with USS *Bougainville* (LHA 8), reduces aviation capability to support a well deck capable of deploying two Landing Craft Air Cushion hovercraft. The LHA 6 class (both

Flights) are equipped with the Ship Self-Defense System, the primary control and decision system that integrates air search radars, trackers, an electronic warfare system, and hard-kill and soft-kill weapons to provide self-defense against anti-ship cruise missiles.

MISSION

Joint force commanders will employ LHA 6-class ships as the primary command ship and aviation platform for an Amphibious Ready Group or Expeditionary Strike Group and associated Marine Expeditionary Unit/Marine Air-Ground Task Force.

PROGRAM

The LHA 6 program (formerly the LHA (R) program) is an Acquisition Category IC program. The Navy completed the LHA 6 Flight 0 IOT&E in 2017 and FOT&E in FY22, and DOT&E submitted the reports in April 2019 and February 2023, respectively. The Navy completed an operational assessment of the LHA 6 Flight 1 design, and DOT&E submitted a report in September 2021. The Navy continues to revise the Test and Evaluation Master Plan (TEMP) to include the test strategy and resources for OT&E and LFT&E of LHA 6 Flight 1 and now expects to deliver it to DOT&E for approval in FY24. The LHA 6 program expects to deliver USS *Bougainville* (LHA 8) in FY26 and subsequently conduct FOT&E and LFT&E.

» MAJOR CONTRACTOR

- Ingalls Shipbuilding, a division of HII (formerly Huntington Ingalls Industries)
 - Pascagoula, Mississippi

TEST ADEQUACY

In February 2023, DOT&E published an LHA 6 Flight 0 FOT&E report based on evaluation conducted between March and April 2022 on USS *Tripoli* (LHA 7), as detailed in the FY22 Annual Report. Testing was adequate to demonstrate LHA 6 Flight 0 capability to support Marine Corps aviation operations in the F-35B-heavy configuration consisting of 20 F-35B aircraft, 3 SH-60S Seahawk helicopters, a Marine Aviation Combat Element, and a Marine Command Element. Testing evaluated the ability to embark, operate, support, and maintain the fixed- and rotary-wing aircraft in this configuration. The LHA 6 program conducted this FOT&E period of the LHA 6 Flight 0 in accordance with a DOT&E-approved test plan, and tests were observed by DOT&E. The LHA 6 program plans to use test observations to inform future F-35B-heavy operational concepts and tactics, techniques, and procedures.

As first reported in the FY21 Annual Report, DOT&E and the LHA 6 program have yet to agree on an LHA Flight 1 LFT&E strategy to evaluate the survivability of the LHA 6 Flight 1 against air-delivered or underwater kinetic threats. Specific DOT&E concerns

are the lack of fire testing for embarked vehicle spaces and the lack of a Full Ship Shock Trial.

PERFORMANCE

» EFFECTIVENESS

LHA 6 Flight 0 ships are operationally effective in supporting Marine Corps aviation operations in the F-35B-heavy configuration. USS *Tripoli* demonstrated the capability to conduct representative flight operations with 20 embarked F-35Bs throughout two days of mission exercises. USS *Tripoli* supported reliable launch and recovery of the F-35B. The Navy also demonstrated sufficient capability to conduct casualty control in the F-35B-heavy configuration during the simulated events of an aircraft fire on the flight deck and in the hangar of an LHA Flight 0 ship.

LHA 6 Flight 0 ships have limited special access program facility (SAPF) capacity, degrading the planning and execution of real-world missions with sustained operations in the F-35B-heavy configuration. Full details are in the LHA 6 Flight 0 FOT&E report.

» SUITABILITY

LHA 6 Flight 0 is operationally suitable for amphibious warfare and standard ACE operations. USS *Tripoli* experienced no material issues and demonstrated sufficient reliability to support strike and defensive counter air missions in the F-35B-heavy configuration.

Additionally, the ship's command, control, and communications systems were sufficient to support the demonstrated missions. Full details are in the LHA 6 Flight 0 FOT&E report.

The embarkation of an F-35B-heavy ACE created crewing requirements that exceeded the 12-hour routine operations. The Navy will likely need to develop a crewing plan for supplementing the ship's crew when operations exceed 12 hours with the embarkation of an F-35B-heavy ACE.

» **SURVIVABILITY**

No data are available to change the survivability assessment of LHA

6 Flight 0 from IOT&E or assess survivability of LHA 6 Flight 1.

RECOMMENDATIONS

The Navy should:

1. Investigate SAPF space options that support sustained operations with an F-35B-heavy ACE embarked. If SAPF space cannot be increased to support mission requirements, the Navy and Marine Corps should investigate the feasibility of relaxing the requirement for the SAPF as necessary to support F-35B operations.
2. Investigate supplemental crewing options for sustained

LHA 6 Flight 0 operations with an F-35B-heavy ACE embarked.

3. As recommended in the last two Annual Reports, deliver the LHA 6 Flight 1 LFT&E strategy for DOT&E approval in FY24. Identify funding in the updated TEMP for embarked vehicle fire testing and a Full Ship Shock Trial.



USS America (LHA 6) in the Coral Sea during Exercise TALISMAN SABRE, July 2023