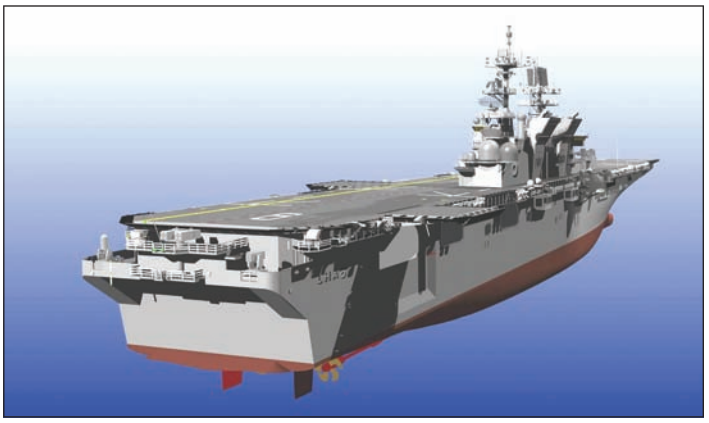
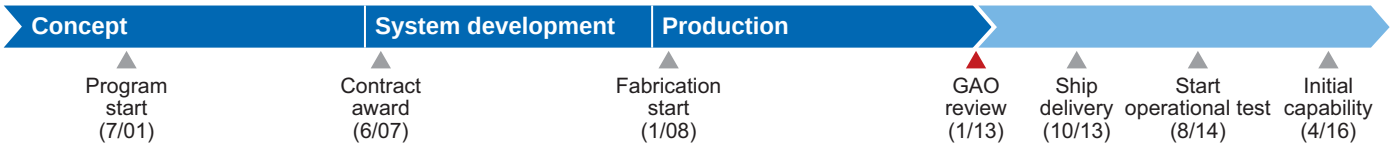
LHA 6 *America* Class Amphibious Assault Ship

The Navy's LHA 6 class will replace the LHA 1 *Tarawa* class amphibious assault ships. LHA 6 is a modified variant of the fielded LHD 8. It will feature enhanced aviation capabilities and is designed to support all afloat Marine Corps aviation assets in an expeditionary strike group. LHA 6 construction began in December 2008 and ship delivery is expected in October 2013. The LHA 6 class includes three ships. The Navy awarded a construction contract for LHA 7 in May 2012, with construction start planned for April 2013.



Source: U.S. Navy.



Program Essentials

Prime contractor: Huntington Ingalls Industries
Program office: Washington, DC
Funding needed to complete:
R&D: $92.9 million
Procurement: $3,830.1 million
Total funding: $3,924.1 million
Procurement quantity: 1

Program Performance (fiscal year 2013 dollars in millions)

	As of 01/2006	Latest 12/2011	Percent change
Research and development cost	$227.4	$380.3	67.3
Procurement cost	$3,045.4	$9,787.8	221.4
Total program cost	$3,272.7	$10,169.9	210.7
Program unit cost	$3,272.748	$3,389.976	3.6
Total quantities	1	3	200.0
Acquisition cycle time (months)	146	177	21.2

LHA 6 began construction in December 2008 with mature critical technologies, but a design that was only 65 percent complete. As of September 2012, the LHA 6 design was at least 98 percent complete and construction was 71 percent complete. The Navy expects delivery will be delayed to October 2013. Further schedule slippage could occur if the shipyard cannot maintain adequate labor resources. The LHA 6 will incur an estimated $42.4 million in cost growth due to postdelivery rework of the ship's deck to cope with Joint Strike Fighter exhaust and downwash. A construction contract for LHA 7 was awarded in May 2012 and included incentives to improve shipyard performance. The Navy currently plans to competitively award a construction contract for the third ship, LHA 8, to include a well deck which would accommodate landing and attack craft.

Attainment of Product Knowledge

As of January 2013

Resources and requirements match

- Demonstrate all critical technologies in a relevant environment ●
- Demonstrate all critical technologies in a realistic environment ●
- Complete preliminary design review ●

Product design is stable

- Complete 100 percent of design ○
- *Test a system-level integrated prototype*

Manufacturing processes are mature

- *Demonstrate critical processes are in control*
- *Demonstrate critical processes on a pilot production line*
- *Test a production-representative prototype*

● Knowledge attained
○ Knowledge not attained
▪▪▪▪ Information not available
Not applicable

LHA 6 *America* Class Program

Technology, Design, and Production Maturity

All LHA critical technologies were mature when the program awarded its construction contract in June 2007. Although not considered critical technologies, the program has identified an additional six key subsystems necessary to achieve capabilities. Five of these subsystems are mature. The sixth, the Joint Precision Approach and Landing System, is still in development, but LHA 6 can use backup aviation control systems to meet requirements. Officials reported no new critical technologies for LHA 8, but requirements are still in development.

As of September 2012, LHA 6 design was at least 98 percent complete and its construction was 71 percent complete. LHA 6 began construction in December 2008 with only 65 percent of its design complete, and subsequent design quality issues have caused a greater number of design changes than anticipated and high levels of rework during construction. The high rate of rework is due to physical interference issues, which the program office attributes to insufficient quality checks of drawings prior to construction start. While the Navy is largely reusing the LHA 6 design to construct LHA 7, officials reported that they will review selected design drawings to address known interferences. Design changes to LHA 7 include a new firefighting system and updates to the radar and the command, control, communications, computers, and intelligence systems. Design changes to LHA 8 will be more significant as the Navy will incorporate a well deck on the ship that can accommodate two landing craft, compared to three on LHD 8. Program officials report that this reduced well deck allows for better maintenance of aviation capabilities. The Navy has already involved industry in the design for LHA 8 and plans to competitively award a construction contract.

Other Program Issues

The LHA 6 will incur an estimated $42.4 million in cost growth due to post-delivery rework of the ship's deck to cope with exhaust and downwash from the Joint Strike Fighter. In October 2011, the Navy began at-sea testing on USS Wasp to determine how LHA 6 may need to modify its flight deck and found that approximately 43 items require relocation, shielding, protection, or other modifications. According to officials, modifications include adding below deck stiffeners, moving antennae, weapon systems and other equipment, and adding a cover to fueling stations. Officials report these modifications will occur post-delivery on LHA 6 and during construction for LHA 7.

Shortfalls in skilled-trade labor, problems implementing new business systems, and material delays contributed to a 14-month delay in LHA 6's contractual delivery date. While program officials believe issues are largely resolved, there is a risk that the schedule may slip beyond the current delivery date if the shipyard cannot provide adequate resources to maintain the construction schedule. In order to improve performance on LHA 7, the Navy included contract incentives of up to $41 million for good shipyard performance and successful delivery by June 2018.

As requested, we reviewed whether individual subcontracting reports from the prime contractor for the program were accepted on eSRS. The government uses subcontracting reports on eSRS as one method of monitoring small business participation. As of December 2012, eSRS indicated that two of the subcontracting reports for LHA 6's two contracts have been accepted.

Program Office Comments

The program office stated that the shipyard has made significant progress in reducing the amount of rework being experienced in recent months. They also stated that the October 2011 at-sea testing of the USS Wasp validated Joint Strike Fighter environmental effect design solutions. Those solutions will be common with other amphibious assault ships. The program office also provided technical comments, which were incorporated where deemed appropriate.