

CLEARED
For Open Publication

May 08, 2023

Department of Defense
OFFICE OF PREPUBLICATION AND SECURITY REVIEW

Selected Acquisition Report (SAR)



LHA 6 America Class Amphibious Assault Ship (LHA 6)

FY 2024 President's Budget

**Defense Acquisition Visibility Environment
(DAVE)**

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Common Acronyms and Abbreviations

\$B - Billions of Dollars
\$K - Thousands of Dollars
\$M - Millions of Dollars
ACAT - Acquisition Category
Acq O&M - Acquisition-Related Operations and Maintenance
ADM - Acquisition Decision Memorandum
APB - Acquisition Program Baseline
APPN - Appropriation
APUC - Average Procurement Unit Cost
BA - Budget Authority/Budget Activity
Blk - Block
BY - Base Year
CAPE - Cost Assessment and Program Evaluation
CARD - Cost Analysis Requirements Description
CDD - Capability Development Document
CLIN - Contract Line Item Number
CPD - Capability Production Document
CY - Calendar Year
DAB - Defense Acquisition Board
DAE - Defense Acquisition Executive
DAMIR - Defense Acquisition Management Information Retrieval
DoD - Department of Defense
DSN - Defense Switched Network
EMD - Engineering and Manufacturing Development
EVM - Earned Value Management
FMS - Foreign Military Sales
FOC - Full Operational Capability
FRP - Full Rate Production
FY - Fiscal Year
FYDP - Future Years Defense Program
ICE - Independent Cost Estimate
Inc - Increment
IOC - Initial Operational Capability
JROC - Joint Requirements Oversight Council
KPP - Key Performance Parameter
LRIP - Low Rate Initial Production
MDA - Milestone Decision Authority
MDAP - Major Defense Acquisition Program
MILCON - Military Construction
N/A - Not Applicable
O&M - Operations and Maintenance
O&S - Operating and Support
ORD - Operational Requirements Document
OSD - Office of the Secretary of Defense
PAUC - Program Acquisition Unit Cost
PB - President's Budget

PE - Program Element
PEO - Program Executive Officer
PM - Program Manager
POE - Program Office Estimate
RDT&E - Research, Development, Test, and Evaluation
SAR - Selected Acquisition Report
SCP - Service Cost Position
TBD - To Be Determined
TY - Then Year
U.S. - United States
UCR - Unit Cost Reporting
USD(A&S) - Under Secretary of Defense (Acquisition and Sustainment)
USD(AT&L) - Under Secretary of Defense (Acquisition, Technology and Logistics)

Program Information

Program Name

LHA 6 America Class Amphibious Assault Ship

DoD Component

Navy

Responsible Office

Program Manager

Name: CAPT Cedric McNeal

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Mission and Description

The LHA Replacement program is planned to replace existing LHA 1 class Amphibious Assault Ships which reach the end of their extended service lives between 2011 and 2015. The LHA Replacement/LHA 6 will be the key platform in the Amphibious Ready Group (ARG) of the future and will provide the Joint Force Commander options to project power. It will embark and support all of the Short Take-off Vertical Landing (STOVL) and Vertical Take-off Landing (VTOL) Marine aviation assets in the ARG, including the MV-22 and the F-35B, the STOVL model of the Joint Strike Fighter (JSF). The ship will embark over 1,600 Marines and transport them and their equipment ashore by rotary-wing aircraft. The LHA Replacement class is an LHD variant with enhanced aviation capability.

Executive Summary

LHA 6

Program Highlights Since Last Report

The LHA(R) program had a successful year since the last SAR (December 2021), with three ships of the LHA(R) Program achieving significant milestones.

LHA 9 will be formally added to the SAR when APB Change 3, which is in routing, is approved (Q3 FY 2023).

LHA 10 will be added in a follow on APB update. Funding reflected in this report is based on PB 2024 Controls based upon a quantity of five ships (LHAs 6-10).

LHA Flight 0 is composed of two ships: LHA 6 (USS AMERICA) and LHA 7 (USS TRIPOLI).

LHA Flight 1 is currently composed of three ships LHA 8 (BOUGAINVILLE), LHA 9 (FALLUJAH) and LHA 10.

LHA 6 transitioned to the fleet and is currently forward deployed.

LHA 7 transitioned to the fleet and completed its maiden deployment in 2022.

LHA 8 production continues at Huntington Ingalls Incorporated (HII). Fabrication has started on all 218 production units, 153 units have been erected, and overall physical progress is 62.57 % as of January 19, 2023. The projected delivery date for LHA 8 is October 31, 2025.

The Detail Design and Construction (DD&C) contract for LHA 9, the second Flight 1 ship, was successfully awarded on October 27, 2022, and fabrication started on December 19, 2022. The projected delivery date for LHA 9 is September 22, 2029.

There are no significant software related issues with this program at this time.

History of Significant Developments Since Program Initiation

History of Significant Developments Since Program Initiation	
Date	Significant Development Description
Dec 2022	LHA 9 Start of Fabrication began on December 19, 2022.
Oct 2022	On October 27, 2022, Hunting Ingalls Industries (HII) was awarded the Detail Design and Construction (DD&C) contract for LHA 9.
May 2022	Joint Strike Fighter (JSF) operational event conducted on LHA 7 to validate JSF capability for LHA(R).
Feb 2022	LHA 7 was formally transferred to Life Cycle Manager and placed in active fleet service on February 28, 2022.
Dec 2021	LHA 7 completed Post Shakedown Availability (PSA) December 18, 2021.
Aug 2021	LHA 7 completed Combat System Ship Qualification Trials and Final Contract Trials, August 27, 2021.
Apr 2021	LHA 7 Fitting Out Availability (FOA) completed on April 7, 2021.
Jul 2020	Upon completion of LHA 7 (USS TRIPOLI)'s Post-Delivery Availability (PDA), the ship was administratively commissioned on July 15, 2020. LHA 7 commenced sail away to her homeport of San Diego on July 24, 2020.
Apr 2020	On April 30, 2020, HII was awarded the contract for Planning, Advanced Engineering and Procurement of Long Lead Time Material (LLTM) for LHA 9.

Feb 2020	LHA 7 completed production and testing at HII and the ship was delivered on February 28, 2020.
Jul 2017	LHA 6 (USS AMERICA) is the first new construction ship with full F-35B capability, Cornerstone and Environmental Effect alterations. She completed her Initial Operational Test and Evaluation in Q4 FY 2017 and deployed as the centerpiece of the AMERICA Amphibious Ready Group/Marine Expeditionary Unit.
Jun 2016	On June 30, 2016, HII was awarded the contract for Planning, Advanced Engineering and Procurement of Long Lead Time Material (LLTM) with option for Detail Design and Construction (DD&C). The second increment of Advanced Procurement of LLTM was added to the contract on October 3, 2016. The contract option for the execution of DD&C of LHA 8 was awarded on June 16, 2017.
May 2016	The LHA(R) program's delegation was changed from ACAT ID to ACAT IC.
Apr 2014	On April 10, 2014, HII successfully delivered the LHA 6 to the Navy, marking the completion of the first ship in the LHA(R) program. The ship completed its PDA efforts on July 10, 2014 and commenced transit to her homeport of San Diego on July 11, 2014. During the transit, the LHA 6 traveled 15,300 miles on their journey around South America. Port visits included Colombia, Guantanamo Bay, Cuba, Brazil, and Peru. Various exercises and operations with foreign navies helped to bolster cooperative maritime security and partnerships. Additional training evolutions throughout the transit strengthened the crew's readiness and understanding of the ship's systems and capabilities. LHA 6 arrived in San Diego on September 15, 2014, and was commissioned on October 11, 2014, in San Francisco, CA. After completing Fitting Out Availability (FOA), Final Contract Trials (FCT) and PSA the ship was transferred to the Fleet in March 2016 and achieved IOC.
Feb 2014	The LHA(R) CDD was updated to include LHA(R) Flight 1 capabilities. These include the reincorporation of the well deck, increased vehicle stowage square footage, provide for a surface connector lift capability, and to increase overall operational flexibility.
May 2012	The LHA 7, a repeat of the LHA 6 design configuration with fact of life updates for equipment obsolescence, DD&C contract was awarded to HII Ingalls Shipbuilding in May 2012. LHA 7 began sustained production on July 15, 2013, and the Keel Laying Ceremony was held on June 20, 2014. A contract modification was awarded in October 2014 to incorporate flight deck strengthening and other design changes necessary for the F-35B as part of the initial production rather than after delivery as discussed on LHA 6 above. This contract modification included a six-month schedule extension, with a revised delivery date of December 4, 2018.
Jan 2006	Milestone B was completed. The ADM was signed, and the LHA 6 contract was awarded on June 2007.
Feb 2005	CDD was validated by JROC. Subsequent validations/revalidations occurred which added Survivability and Force Protection KPP in December 19, 2005.
Sep 2002	Analysis of Alternatives was completed.
Mar 2001	Mission Need Statement for the LHA(R) program was approved by JROC.

Schedule**LHA 6**

Events	Milestone Baseline Objective	Current Baseline Objective/Threshold		Current Estimate/Actual	Deviation
LHA (R) Milestone A	Jul 2001	Jul 2001	Jul 2001	Jul 2001	
LHA 6 Start Contract Design	May 2005	May 2005	May 2005	May 2005	
Advance Procurement Contract	Jul 2005	Jul 2005	Jul 2005	Jul 2005	
LHA 6 Milestone B	Jan 2006	Jan 2006	Jan 2006	Jan 2006	
Contract Award	Dec 2006	Jun 2007	Jun 2007	Jun 2007	
Start Fabrication	Nov 2007	Jan 2008	Jan 2008	Jan 2008	
LHA 7 Advance Procurement Contract Award		Jun 2010	Jun 2010	Jun 2010	
LHA 7 DD&C Contract Award		May 2012	May 2012	May 2012	
Float Off	Aug 2010	Jun 2012	Jun 2012	Jun 2012	
LHA 7 Start Fabrication		Jul 2013	Jul 2013	Jul 2013	
Ship Delivery	Dec 2011	Apr 2014	Apr 2014	Apr 2014	
Flt 1 Contract Design		Sep 2014	Sep 2014	Sep 2014	
Operational Evaluation (OPEVAL) Start	Aug 2012	Apr 2015	Apr 2015	Apr 2015	
Initial Operational Capability (IOC)	Sep 2013	Mar 2016	Mar 2016	Mar 2016	
LHA 7 Launch		Jul 2017	Jan 2018	May 2017	
OPEVAL	Sep 2013	Jun 2017	Dec 2017	Dec 2017	
LHA 7 Ship Delivery		Dec 2018	Jun 2019	Feb 2020	Yes
LHA 8 Ship Delivery		Jan 2024	Jul 2024	Oct 2025	Yes

Notes

The LHA 8 Ship Delivery current estimate has changed from February 2025 to October 2025 to accommodate the implementation of topside design changes (EASR, SPN-50, and NGSSR) and critical JSF capability changes prior to ship delivery. APB update for the LHA program is currently in signature routing process, to update the LHA 8 ship delivery date and add in the LHA 9 hull.

SHIP DELIVERY OBLIGATION WORK LIMITING DATE (OWLD)

LHA 7 2020-02 OWLD 2022-02

LHA 8 2025-10 OWLD 2027-05

Deviation Explanation

(DEV-1) The Schedule Breach of the LHA 7 Ship Delivery event was previously reported in December 2019 SAR and the current estimate is the actual delivery date.

(DEV-2) The Schedule Breach is due to the LHA 8 Ship Delivery event. A Program Deviation Report was routed and approved

on October 25, 2021. The deviation in LHA 8's ship delivery delay is attributed to a topside design change to incorporate next generation sensors into the ship's warfare systems baseline and pre-delivery installation of critical required Joint capability changes.

Performance

LHA 6

Performance Characteristics					
Milestone Baseline	Current Baseline Objective/Threshold	Demonstrated Performance	Current Estimate/Actual	Deviation	
(KPP) - Aviation operations (2)					
	6 Spots 10 hrs/day 12 hrs/day of flight quarters to support 10 hrs/day of flight operations	(T=O) 6 Spots 10 hrs/day 12 hrs/day of flight quarters to support 10 hrs/day of flight operations	6 spots 10 hrs/day 12 hrs/day of flight quarters to support 10 hrs/days of flight operations	6 spots 10 hrs/day 12 hrs/day of flight quarters to support 10 hrs /day of flight operations	
(KPP) - Cargo Space (2)					
	160,000 cu. ft.	130,000 cu. ft.	155,153 cu. ft.	155,153 cu. ft.	
(KPP) - F-35B capacity (2)					
	23 Aircraft	20 Aircraft		23 Aircraft	
(KPP) - Force Protection: CPS (2)					
	Expanded CBR protection that provides a toxic-free environment (where it is not necessary to wear protective clothing or masks) for 40% of crew in berthing, messing, sanitary, and battle dressing facilities as well as key operational spaces that can be affordably integrated into ship design	CBR protection that provides a toxic-free environment (where it is not necessary to wear protective clothing or masks) for 40% of crew in berthing, messing, sanitary, and battle dressing facilities	CBR protection that provides a toxic free environment (where it is not necessary to wear protective clothing or masks) for 40% of crew in berthing, messing, sanitary, and battle dressing facilities	CBR protection that provides a toxic free environment (where it is not necessary to wear protective clothing or masks) for 40% of crew in berthing, messing, sanitary, and battle dressing facilities	
(KPP) - Force Protection: Decontamination Stations (2)					

	Four decontamination stations (two CPS, one casualty, and one conventional) providing a capability of decontamination an avg of ten people per hr per station	(T=O) Four decontamination stations (two CPS, one casualty, and one conventional) providing a capability of decontamination an avg of ten people per hr per station	Four decontamination stations (two CPS, one casualty, and one conventional) providing a capability of decontamination an avg of ten people per hr. per station	Four decontamination stations (two CPS, one casualty, and one conventional) providing a capability of decontamination an avg of ten people per hr. per station	
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(KPP) - Net Ready (2)

	100% of interfaces; services; policy-enforcement controls; and data correctness, availability and processing requirements in the joint integrated architecture	100% of interfaces; services; policy-enforcement controls; and data correctness, availability and processing requirements designated as enterprise level or critical in the joint integrated architecture	LHA 6 has partially met the Net Ready KPP per Joint Interoperability Test Command Certification letter of January 23, 2018.	LHA 6 has partially met the Net Ready KPP per Joint Interoperability Test Command Certification letter of January 23, 2018.	
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(KPP) - Survivability: Navy Survivability Policy for Surface Ships

	In addition to threshold, implement recommendations of the NAVSEA COLE Survivability Review Group Phase II Analysis Report of Amphibious Ships, April 2003	Level II per OPNAV-INST 9070.1 of September 23, 1988 (LHA(R)) cargo magazine protection as stated in para. 6.b.17 of the CDD	T-plus some Cole Survivability Review Group mods	T-plus some Cole Survivability Review Group mods	
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(KPP) - Total Manpower Flt 0 (Includes Ship's Force and all embarked elements: troops, staffs, detachments, etc.)

	2,891 Persons	2,831 Persons	2,891 Persons	2,891 Persons	
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(KPP) - Total Manpower Flt 1 (Includes Ship's Force and all embarked elements: troops, staffs, detachments, etc.)

	2,666 (1,204 Navy + 1,462 Troop)	(T=O) 2,666 (1,204 Navy + 1,462 Troop)		2,666 (1,204 Navy + 1,462 Troop)	
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(KPP) - Troop Accommodations Flt 0

	1,686 Persons	1,626 Persons	1,686 Persons	1,686 Persons	
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(KPP) - Troop Accommodations Flt 1

	1,462 Persons	(T=O) 1,462 Persons		1,462 Persons	
(KPP) - Vehicles Flt 0 (sq. ft.)					
	12,000 sq. ft.	10,000 sq. ft.	12,055 sq. ft	12,055 sq. ft	
(KPP) - Vehicles Flt 1 (sq. ft.)					
	16,000 sq. ft.	(T=O) 16,000 sq. ft.		16,000 sq. ft.	
(KPP) - Vertical Take Off and Landing land/launch spots (2)					
	9 CH-53E/MV-22	(T=O) 9 CH- 53E/MV-22	9 CH-53E/MV-22	9 CH-53E/MV- 22	

Requirement Reference

Note: CDD dated February 26, 2014

Deviation Explanation

No deviations for this program/subprogram

Notes

avg - average
 CBR - Chemical, Biological, and Radiological
 CPS- Collective Protection System
 cu - cubic
 etc. - etcetera
 Flt -Flight
 ft. - feet
 hr. - hour
 hrs - hours
 INST - Instruction
 JITC - Joint Interoperability Test Command
 NAVSEA - Naval Sea Systems Command
 NGSSR - Next Generation Surface Search Radar
 O - Objective
 OPNAV - Office of the Chief of Naval Operations
 SPN-50 - Radar system
 sq. - square
 T - Threshold

Acquisition Budget Estimate

LHA 6

Total Acquisition Cost

		Milestone APB	Current Baseline		Budget Estimate PB 2024		
Category	Base Year	Objective (BY\$M)	Objective (BY\$M)	Threshold (BY\$M)	BY\$M	TY\$M	Deviation
RDT&E	2006	199.9	408.1	448.9	427.5	479.7	
Procurement	2006	2,677.5	8,025.6	8,828.2	12,332.2	18,816	Yes
MILCON	2006	0	0	0	0	0	
Acq. O&M	2006	0	1.9	2.1	2.2	2.9	Yes
Total		2,877.4	8,435.6		12,761.9	19,298.6	
PAUC	2006	2,877.400	2,811.867	3,093.054	2,552.372	3,859.714	
APUC	2006	2,677.500	2,675.200	2942.720	2,466.432	3,763.196	

Appropriation Category Deviation Explanations

Procurement (Dev-1) Cost Breach of Procurement was previously reported in December 2018 SAR.

O&M (Dev-2) Cost Breach of Acq O&M was previously reported in December 2017 SAR.

PAUC Deviation Explanation

APUC Deviation Explanation

Budget Notes

The APB Change 3 to include the LHA 9 ship (costs and schedule) is currently in signature routing.

Total End Item Quantity

Quantity Category	Current APB Quantity	Current Estimate Quantity
Development	0	
Procurement	3	5

Quantity Notes

Current Estimate Quantity was increased to five ships due to the additions of LHA 9 (APB change 3) and LHA 10 in PB 2024.

Unit Cost**LHA 6****Current UCR Baseline and Current Estimate (Base-Year Dollars)**

Category (\$M) Base Year:2006	Current UCR Baseline	Current Estimate	% Change
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Program Acquisition Unit Cost

Cost	8,435.6	12,761.9	
Quantity	3	5	
Unit Cost	2811.867	2552.372	-9.23%

Average Procurement Unit Cost

Cost	8,025.6	12,332.2	
Quantity	3	5	
Unit Cost	2675.200	2466.432	-7.80%

Original UCR Baseline and Current Estimate (Base-Year Dollars)

Category (\$M) Base Year:2006	Original UCR Baseline	Current Estimate	% Change
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Program Acquisition Unit Cost

Cost	2,877.4	12,761.9	
Quantity	1	5	
Unit Cost	2877.400	2552.372	-11.30%

Average Procurement Unit Cost

Cost	2,677.5	12,332.2	
Quantity	1	5	
Unit Cost	2677.500	2466.432	-7.88%

Cost Growth Details**Current Baseline PAUC Breach Explanation****Current Baseline APUC Breach Explanation****Original Baseline PAUC Breach Explanation****Original Baseline APUC Breach Explanation****Impacts of Schedule Changes on Unit Cost****Impacts of Performance Changes on Unit Cost****Actions Taken or Proposed to Control Future Cost Growth**

Risk and Sensitivity Analysis**LHA 6**

Risk and Sensitivity Analysis	
Current Procurement Cost (December 2022)	
The Current Procurement Cost remains the Current Baseline Estimate (October 2016). Please see above for details.	
Original Baseline Estimate (January 2006)	
The Original Baseline Estimate reflects the single Flight 0 ship, LHA 6 only.	
Current Baseline Estimate (October 2016)	
The Current Baseline Estimate was updated to include the LHA 8. Costs are inclusive of both Flight 0 (LHA 6 & 7) and Flight 1 (LHA 8) ships.	

Schedule Risk		
Current	December 31, 2022	Enterprise Air Search Radar (EASR) (also a Technical risk): If EASR and the Combat System (CS) integration is not complete at CS Light Off, then warfare systems' performance may impact the ship's readiness to conduct trials, and thus negatively impacting the ship's path to delivery. MITIGATION: Efforts are in progress to conduct EASR and CS integration using LPD 29 which carries similar capabilities and will be tested 2 years in advance of LHA 8's sea trials. Mitigation efforts continue with the Radar Systems Integration Working Group, and land based testing at the Surface Combat Systems Center, Wallops Island - lessons learned from Aircraft Carrier (Nuclear-Powered) and Landing Platform Docks and will be incorporated to support LHA 8's delivery.

Current	December 31, 2022	LHA(R) Change (also a Technical risk): If LHA(R) is subject to a higher degree of design change than anticipated and/or planned due to design changes from and within Flight 0/1, Flight 0 lessons learned, and Fact of Life obsolescence, then cost may exceed Program Change Order budget and resultant ship incorporation could impact ship capability at sail away. There are multiple drivers of this including Arrangement Revision, Obsolescence, Flight 0 Lessons, and Emerging Requirements such as F-35B integration, cyber security, and program protection. MITIGATION: Early identification of technical changes and identifying most cost-efficient point of incorporation are mitigating this risk.
Current	December 23, 2022	LHA(R) Shipyard Resources: If the proper labor resources are not available and sequenced properly for LHA(R) platforms in accordance with the approved Performance Measurement Baseline/Integrated Master Schedule, then slips are likely to occur with negative impacts to Shipbuilder's contract cost and schedule. The driver is Shipyard workload, priorities, and resources. MITIGATION: Contract Incentives, Navy/Shipbuilder program management office weekly reviews, and an updated schedule help to mitigate this risk.
Technical Risks		
Current	December 23, 2022	Enterprise Air Search Radar (EASR) (also a Schedule risk): If EASR and the Combat System (CS) integration is not complete at CS Light Off, then warfare systems' performance may impact the ship's readiness to conduct trials, and thus negatively impacting the ship's path to delivery. MITIGATION: Efforts are in progress to conduct EASR and CS integration using LPD 29 which carries similar capabilities and will be tested 2 years in advance of LHA 8's sea trials. Mitigation efforts continue with the Radar Systems Integration Working Group, and land based testing at the Surface Combat Systems Center, Wallops Island - lessons learned from Aircraft Carrier (Nuclear-Powered) and Landing Platform Docks and will be incorporated to support LHA 8's delivery.

Current	December 23, 2022	<p>LHA(R) Change (also a Schedule risk): If LHA(R) is subject to a higher degree of design change than anticipated and/or planned due to design changes from and within Flight 0/1, Flight 0 lessons learned, and Fact of Life obsolescence, then cost may exceed Program Change Order budget and resultant ship incorporation could impact ship capability at sail away. There are multiple drivers of this including Arrangement Revision, Obsolescence, Flight 0 Lessons, and Emerging Requirements such as F-35B integration, cyber security, and program protection. MITIGATION: Early identification of technical changes and identifying most cost-efficient point of incorporation are mitigating this risk.</p>
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Low Rate Initial Production

LHA 6

Item	Initial LRIP Decision	Current Total LRIP
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Approval Date

Approved Quantity

Reference

Start Year

End Year

Rationale if quantity exceeds 10% of the total number of articles to be procured:

Notes

There is no Low Rate Initial Production data to display.

Contracts & Efforts

Contract Data	
Contract Number	N00024-16-C-2427
Effort Number	1
Modification Number	A00444
Award Date	June 30, 2016
Definitization Date	June 30, 2016
Order Number	
CAGE Code/CAGE Legal Name	34293/Huntington Ingalls Incorporated
Contract Title	LHA 8 Contract EVM
Contract Address	Pascagoula, MS
Contracting Office	
Supported Phase	Production
Contract Strategy	
Contract Type	Other
Modification Date	February 22, 2023
Work Start Date	
Technical Data Rights	
Work Completed	

Contracts/Effort Price, Quantity, and Performance (TY\$M)

Initial Target Price	Current Target Price	
\$3,000.7	\$3,011.9	
Initial Ceiling Price	Current Ceiling Price	
\$3,306.6	\$3,319	
Contractor EAC	PM EAC	
Initial Quantity	Current Quantity	Delivered Quantity
BAC	BCWP	ACWP

BCWS	Cost Variance	Schedule Variance

Contract Notes:

In accordance with Section 830(a)(2) of the FY 2020 National Defense Authorization Act, which requires a SAR to be submitted "in unclassified form without any designation relating to dissemination control" this SAR section has omitted information that is Controlled Unclassified Information (CUI).

Factors Contributing to Cost Variance and Projected Effects on Program Costs:

N/A

Factors Contributing to Schedule Variance and Projected Effects on Program Schedule:

N/A

Contract Data	
Contract Number	N00024-20-C-2437
Effort Number	1
Modification Number	P00015
Award Date	November 27, 2022
Definitization Date	November 27, 2022
Order Number	
CAGE Code/CAGE Legal Name	34293/Huntington Ingalls Incorporated
Contract Title	LHA 9 Contract EVM
Contract Address	Pascagoula, MS
Contracting Office	
Supported Phase	Production
Contract Strategy	
Contract Type	Other
Modification Date	February 09, 2023
Work Start Date	
Technical Data Rights	
Work Completed	

Contracts/Effort Price, Quantity, and Performance (TY\$M)		
Initial Target Price	Current Target Price	
\$3,055.4	\$3,055.4	
Initial Ceiling Price	Current Ceiling Price	
\$3,350.2	\$3,350.2	
Contractor EAC	PM EAC	
Initial Quantity	Current Quantity	Delivered Quantity
BAC	BCWP	ACWP
BCWS	Cost Variance	Schedule Variance

Contract Notes:

In accordance with Section 830(a)(2) of the FY 2020 National Defense Authorization Act, which requires a SAR to be submitted "in unclassified form without any designation relating to dissemination control" this SAR section has omitted information that is Controlled Unclassified Information (CUI).

Factors Contributing to Cost Variance and Projected Effects on Program Costs:

N/A

Factors Contributing to Schedule Variance and Projected Effects on Program Schedule:

N/A

External Government Activities

Activity Title		Government Entity	Supported Phase
CAGE		Work Start Date	
City		State/Province:	
Notes: None have been defined for this program.			

Deliveries and Expenditures

LHA 6

Deliveries				
Delivered to Date	Planned to Date	Actual to Date	Total Quantity	Percent Delivered
Development				
Production	5	2	5	40.00%
<hr/>				
Total Program Quantity Delivered	5	2	5	40.00%

Expended and Appropriated (TY \$M)

Years Appropriated to date: 24

Total Years Appropriated Funding (Current Baseline): 33

Percent Years Appropriated: 72.73%

Then-Year Funding Appropriated as Percentage of Total Acquisition Estimate: 72.73%

Then-Year Funding Expended as Percentage of Total Acquisition Estimate: 78.30%

Total Acquisition Cost: 19,298.57

Deliveries & Expenditures Notes:

Data is current as of March 13, 2023.

Operating and Support Costs

LHA 6

O&S Cost Breakdown:

Category (BY\$ Million)	LHA
Unit-Level Manpower	
Unit Operations	
Maintenance	
Sustaining Support	
Continued System Improvements	
Other	
Total	

Cost Estimate Source:

O&S Cost Notes:

Total Program O&S Cost Compared with Baseline					
	Current Baseline				
	Objective (BY\$M)	Threshold (BY\$M)	Current Estimate (BY\$M)	Current Estimate (TY\$M)	Deviation
Total O&S					

O&S Cost Deviation Explanation

Operating and Support Costs - Disposal and Unitized Costs**LHA 6****Annual Unitized O&S Cost Definition and Calculation Relative to Total O&S Cost:**

Total O&S Cost = # Ships X # Service Life Years X Average Annual Cost Per Ship
 \$20,542.0 BY 2006 \$M = 3 (Ships) X 40 (Service Life Years) X \$171.184 BY 2006 \$M (Average Annual Cost Per Ship) \$38,382.50 TY \$M

Sustainment Factors	System Name: LHA 6	Antecedent System Name: LHD 1
Quantity to Sustain	3	
Unit of Measure	Ship	
Unit Expected Service Life	40	

Base Year: 2006

Annual Unitized O&S Cost by Category Base Year \$ Unit:(\$M)	System Name: LHA 6	Antecedent System Name: LHD 1
Unit-Level Manpower	68.7	72.0
Unit Operations	12.1	18.9
Maintenance	31.2	34.9
Sustaining Support	9.0	9.3
Continued System Improvements	9.7	9.0
Other	40.5	45.2
Total O&S	171.2	189.3

Disposal/Demilitarization Cost Estimate

(Base Year \$Millions)	System Name: LHA 6	Antecedent System Name: LHD 1
Total Disposal	28.6	

Cost Estimate Source - Disposal	
Type:	Program Office Estimate
Approval Authority and Date:	POE 05/09/2016
Note:	
<p>The LHA (R) program is currently comprised of the LHA 6, LHA 7 and LHA 8 ships. LHA 6 was delivered to the Navy in April 2014 and LHA 7 delivered in February 2020. LHA 8 is under construction. The O&S cost estimate will be updated when a new APB is approved with 4 ships as Program of Record. The intent is to estimate the normal costs of O&S for periods when the ship in typical peacetime operations. Additional costs that might be incurred under wartime operating scenarios are not included. Potential costs of currently unplanned and unknown future upgrades or configuration changes are assumed to occur in the same proportion as modernization work that has occurred on the LHD 1 ship class. Nominal OPTEMPO is assumed to be 2700 hours steaming underway and 1200 hours steaming not underway, based on the fuel burn rates and time profiles provided by the LHA 6 design team.</p>	

Disposal Cost Notes:

The CG class of ship was determined by the Naval Sea Systems Command (NAVSEA) Inactive Ships Program Office (PMS 211) as most comparable to the LHA 7 out of those vessels historically disposed of by NAVSEA. The decision to use the CG class of ships was based upon the comparison of warship compartmentalization, hazardous materials to remove and hull weight, influenced by scrap metal commodity prices.

Additional O&S Estimate Assumptions:

The average annual O&S cost was derived by SEA05C and used as the basis for the Program Office Estimate (POE). The O&S cost estimate was broken down into CAPE categories and BY2006\$. The Program Office defined funding requirements at the time LHA-8 was authorized. Total LHA O&S Cost was developed using the average annual O&S cost provided by SEA05C and multiplying that cost by 3 ships and the 40 years of expected service life. TY\$ cost was developed using inflation indices approved at the time of estimate.

Sustainment Strategy:

The LHA (R) sustainment strategy includes the use of commercial shipyards for depot maintenance in concert with Organizational (O) and Intermediate (I) level maintenance strategies. Existing shore support and infrastructure will be used to the maximum extent possible. Life cycle cost savings are anticipated from fuel savings realized from the propulsion system and Manpower savings expected from operations and maintenance of the Gas Turbine engines.

Antecedent Estimate Assumptions:

The antecedent system designated for the LHA (R) program is LHD 1. LHD 1 Unitized O&S Costs (BY 2006 \$M) reflect the Operating and Support Cost Analysis Model (OSCAM) historical average dataset for LHD 1. Visibility and Management of Operating and Support Costs (VAMOSC) data reflects average O&S return data for active ships (LHD1-7) between FY 1992 and FY 2016. Open Architecture Retrieval System (OARS) 3-M data includes the years FY 2001 through FY 2016. Like the LHA (R) program Unitized O&S Costs, antecedent costs reflect a 40 year life cycle. Projected manning includes approximately 24 fewer officer and 55 fewer enlisted personnel than the average historical manning on LHD 1-7. However, FY 2006 Military Pay Rates utilized to estimate Personnel are approximately 12 percent higher than the average LHD 1-7 historical rates, which were inflated to FY 2006. Therefore, Unit Level Personnel costs do not reflect expected savings due to reduction in crew size. If personnel rates were normalized, it would show an approximate 10 percent savings when compared to the antecedent class. The discrepancy between historical rates and the FY 2006 set could be driven in part by actual crews being manned with lower ranking personnel than that assumed in the baseline estimate. For comparative purposes, the FY 2006 cost per barrel of Diesel Fuel, Marine (DFM) was substituted for the historical average cost of DFM observed in LHD 1 class data. This methodology better aligns LHD 1 historical requirements for Unit Operations with estimated requirements. In line with LHA (R) Maintenance requirements, antecedent Maintenance costs reflect requirements laid out in the Office of the Chief of Naval Operations (OPNAV) 4700.