



Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-374



Littoral Combat Ship (LCS)

As of FY 2020 President's Budget

Defense Acquisition Management
Information Retrieval
(DAMIR)

This document contains information that may be exempt from mandatory disclosure under the FOIA.

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(U//FOUO) Sensitivity Originator**Organization:** PEO USC/PMS 501**Organization Email:****Organization Phone:** 202-782-4296

The Aggregate Report Sensitivity has been defined as (U//FOUO) with the following explanation: In the contract section, Current Contract Price (\$M), Estimated Price at Completion (\$M) and Cost and Schedule Variance for the contracts included in this report are ~~For Official Use Only~~ - Exempt from FOIA release under 5 U.S.C. 552(b)(4).

Common Acronyms and Abbreviations for MDAP Programs

Acq O&M - Acquisition-Related Operations and Maintenance
ACAT - Acquisition Category
ADM - Acquisition Decision Memorandum
APB - Acquisition Program Baseline
APPN - Appropriation
APUC - Average Procurement Unit Cost
\$B - Billions of Dollars
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
FOC - Full Operational Capability
FMS - Foreign Military Sales
FRP - Full Rate Production
FY - Fiscal Year
FYDP - Future Years Defense Program
ICE - Independent Cost Estimate
IOC - Initial Operational Capability
Inc - Increment
JROC - Joint Requirements Oversight Council
\$K - Thousands of Dollars
KPP - Key Performance Parameter
LRIP - Low Rate Initial Production
\$M - Millions of Dollars
MDA - Milestone Decision Authority
MDAP - Major Defense Acquisition Program
MILCON - Military Construction
N/A - Not Applicable
O&M - Operations and Maintenance
ORD - Operational Requirements Document
OSD - Office of the Secretary of Defense
O&S - Operating and Support
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
UCR - Unit Cost Reporting
U.S. - United States
USD(AT&L) - Under Secretary of Defense (Acquisition, Technology and Logistics)
USD(A&S) - Under Secretary of Defense (Acquisition and Sustainment)

Program Information

Program Name

Littoral Combat Ship (LCS)

DoD Component

Navy

Responsible Office

CAPT Mike Taylor
Naval Sea Systems Command
1333 Isaac Hull Ave SE
Washington Navy Yard, DC 20376-7003

michael.e.taylor@navy.mil

Phone: 202-781-1918

Fax: 202-781-4573

DSN Phone: 326-1918

DSN Fax:

Date Assigned: July 31, 2017

References

SAR Baseline (Development Estimate)

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated April 7, 2011

Approved APB

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated April 7, 2011

Mission and Description

The role of the Littoral Combat Ship (LCS) is to provide joint forces access in the littoral. LCS is designed to be a fast, agile, and networked surface combatant. It will focus on three primary anti-access mission areas within Littoral Surface Warfare operations: prosecution of small boats, mine warfare, and littoral anti-submarine warfare. Its high speed and ability to operate at economical loiter speeds will enable fast and calculated responses to small boat threats, mine laying and quiet diesel submarines. LCS employment of networked sensors for Intelligence, Surveillance, and Reconnaissance in support of Special Operations Forces will directly enhance littoral mobility. Its shallow draft will allow easier excursion into shallower areas for both mine countermeasures and small boat prosecution. Using LCS against these asymmetric threats will enable Joint Commanders to concentrate multi-mission combatants on primary missions such as precision strike, battle group escort and theater air defense.

Executive Summary

Program Highlights Since Last Report

In 2018, the LCS Program continued to validate and deliver capability for combat-ready ships to the Fleet. Each LCS variant has achieved IOC and 35 LCS Seaframes have been awarded to date: 17 have delivered to the Navy, 11 are in various stages of production, and seven are in pre-production status. The LCS program constantly reviews lessons learned from construction, testing, and fleet operation for incorporation into ships in construction, ships in post delivery, and ships already in the fleet.

In 2018, LCS 11, LCS 13, LCS 14, LCS 16 and LCS 18 delivered to the Navy. LCS 15 delivered to the Navy on February 1, 2019.

LCS 5 through LCS 8 and LCS 10 transitioned to sustainment in 2018. LCS 9, LCS 12 and LCS 14 are planned to transition to sustainment in 2019.

LCS 15, LCS 17, LCS 19 through LCS 28 are in various stages of production.

LCS 29 - 32, LCS 34, LCS 36, LCS 38 are in pre-production status.

On March 28, 2018, USD(A&S) approved revision Five of the LCS Acquisition Strategy. Revision Five authorized the Navy to procure LCS in FY 2018 and FY 2019 as authorized by Congress.

On September 18, 2018, the Navy executed the USD(A&S) approved FY 2017 LCS Acquisition Strategy by awarding three LCS, two (LCS 32, LCS 34) to Austal USA and one (LCS 29) to Lockheed Martin.

On December 14, 2018, the Navy awarded two of the FY 2019 ships, (LCS 36, LCS 38) to Austal USA. On January 15, 2019 the Navy awarded the remaining FY 2019 LCS (LCS 31) to Lockheed Martin.

On December 19, 2018 USD(A&S) delegated MDA for LCS to the Navy.

In 2018, the Naval Strike Missile (NSM) was selected to provide LCS an enhanced over-the-horizon cruise missile capability. NSM is a long-range, precision missile that strikes heavily defended land and sea targets. The missile, which can reach enemy defenses over 100 nautical miles away, uses advanced seeker and target-identification technology to find and eliminate enemy combatants. The Navy plans to add the NSM capability during the modernization and sustainment phase of the program therefore the cost is captured in the O&S.

The total program estimate reflected in this SAR represents the costs of 35 budgeted LCS. FY 2020 PB supports the Navy's strategy to transition small surface combatant requirements to guided-missile frigate Guided Missile Frigate (FFG(X)) in FY 2020.

The PB 2020 submission requests \$14.0M of cost to complete for FY 2016 (LCS 23, 25, 26) and is consistent with the approved Milestone B cost estimate.

In April 2011, in conjunction with the LCS Seaframe Milestone B decision, USD(AT&L) certified the LCS Seaframe program pursuant to section 2366b of title 10, United States Code (U.S.C.), with waivers. Specifically, USD(AT&L) was unable to certify three provisions, and without these waivers the Department would be unable to meet critical national security objectives. Provisions (a)1(B) (affordability) and 1(D) (funding available) were waived due to a total resource and funding shortfall in the period covered by the FYDP submitted in FY 2011 when the certification was made. The required remaining resources are outside the FYDP as submitted in PB 2020. For the waiver to provision (a)1(C) (reasonable cost estimates with concurrence of Director, Cost Assessment & Program Evaluation ((D),CAPE)), the D,CAPE continues to monitor the cost estimates as the program progresses through the budget cycles.

In the contract section, Current Contract Price (\$M), Estimated Price at Completion (\$M) and Cost and Schedule Variance

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No specific LCS Seaframe operational testing was accomplished in 2018, however the LCS program conducted Combat System Ship Qualification Test events (CSSQT) on LCS 9, LCS 11, LCS 13, LCS 14, LCS 16 and LCS 18. FREEDOM variant (LCS 1) and INDEPENDENCE variant (LCS 2) have each attained IOC. Future mission package test and evaluation will be conducted on in-service LCS.

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
May 2004	Milestone A/Program Initiation for LCS Seaframes and Mission Modules.
December 2004	Detail Design and Construction contract option for LCS 1 awarded, funded with RDT&E to Lockheed Martin. The contract also included an option for LCS 3, funded with Ship Construction, Navy (SCN).
October 2005	Detail Design and Construction contract option for LCS 2 awarded, funded with RDT&E to Bath Iron Works. The contract also included an option for LCS 4, funded with SCN.
1st Quarter FY 2007	Contract options for the construction of LCS 3 and LCS 4 terminated in part for convenience, in April and November 2007 respectively.
1st Quarter FY 2009	Contract award for the construction of LCS 3 and LCS 4.
January 2010	Acquisition Strategy for the down select, block buy of 10 LCS of one design with a second source for the construction of five more LCS was approved by USD (AT&L) on January 25, 2010.
December 2010	Acquisition Strategy modified by the Navy and approved by USD(AT&L) to continue procurement of both designs in a Block Buy. Block Buy contracts for up to 10 ships each awarded to Lockheed Martin and Austal USA.
February 2011	Milestone B DAB conducted for the Seaframe portion of the LCS program.
April 2011	Milestone B DAB ADM approved the 55 LCS Seaframe program's entry into EMD and the split of Seaframes and Mission Modules management into two separate MDAPs.
January 2013	Chief of Naval Operations (CNO) Navy Combatant Vessel Force Structure Requirement reduced LCS total program procurement quantity from 55 to 52, consistent with the 2012 Defense Strategic Guidance.
February 2014	Secretary of Defense (SECDEF) Memo of February 24, 2014 directed no contract negotiations beyond 32 LCS will go forward. Directed Navy to complete a study to support future procurement of a capable and lethal small surface combatant. Navy submitted a 32 ship SAR.
April 2014	USS FORT WORTH (LCS 3) completed Initial Operational Test and Evaluation (IOT&E) events and achieved IOC of the FREEDOM variant.
October 2014	As a result of the fiscal constraints under the Bipartisan Budget Act, which shifted funding for one LCS from FY 2015 to FY 2016, the Navy had to modify its Acquisition Strategy. USD(AT&L) approved revision 2 of the LCS Acquisition Strategy on October 17, 2014 for the procurement of three ships in FY 2015 and three ships in FY 2016. The 2016 National Defense Authorization Act authorized the extension of the Block Buy contract to support the award of the two FY 2016 LCS (LCS 25 and LCS 26).
December 2014	SECDEF Memo of December 24, 2014 approved the Navy plan to procure a small surface combatant (SSC) based on an upgraded Flight 0+ LCS for a total of 52 Flight 0+ LCS and SSC. Navy submitted a 32 LCS SAR.
March 2015	On March 31, 2015, the Block Buy contracts were modified to add FY 2016 LCS as options.
4th Quarter FY 2015	USS CORONADO (LCS 4) completed IOT&E events and achieved IOC of the INDEPENDENCE variant.
December 2015	SECDEF Memo of December 14, 2015 directed the Navy to build no more than 40 LCS and Frigate and to down select to one variant not later than FY 2019. Navy submitted a 40 ship SAR (29 LCS/11 Frigate), consistent with PB 2017 and SECDEF guidance.
February 2016	CNO directed the establishment of the LCS Review Team.

March 2016	USD(AT&L) approved a revised LCS and Frigate Acquisition Strategy on March 29, 2016 reflecting SECDEF direction to procure a total LCS/Frigate inventory of 40 ships.
4th Quarter FY 2016	In 2016, the LCS Program completed Full Ship Shock Trials on LCS 6 (USS JACKSON, INDEPENDENCE variant) and LCS 5 (USS MILWAUKEE, FREEDOM variant), as part of the Director, Operational Test and Evaluation approved Live Fire Test and Evaluation Plan.
May 2017	PB 2018 submission supports Navy's strategy to transition to a new Frigate by FY 2020 and procure additional LCS in FY 2018 and FY 2019. Navy submitted a 32 LCS SAR, an increase of three LCS from the December 2015 SAR, consistent with PB 2018 and supporting transition to a Frigate in FY 2020.
June 2017	USD(AT&L) approved a revised LCS Acquisition Strategy on June 9, 2017 authorizing the Navy to procure a third LCS in FY 2017 as authorized by Congress.
February 2018	CNO memo of February 8, 2018 stated the LCS Seaframe program of record is 32 ships.
March 2018	USD(A&S) approved a revised LCS Acquisition Strategy on March 28, 2018 authorizing the Navy to procure three ships in FY 2018 and FY 2019 as authorized by Congress.
December 2018	USD(A&S) memo of December 19, 2018 delegated MDA for LCS from USD(A&S) to ASN(RD&A)

Threshold Breaches

APB Breaches

Schedule		<input checked="" type="checkbox"/>
Performance		<input type="checkbox"/>
Cost	RDT&E	<input type="checkbox"/>
	Procurement	<input type="checkbox"/>
	MILCON	<input type="checkbox"/>
	Acq O&M	<input type="checkbox"/>
O&S Cost		<input type="checkbox"/>
Unit Cost	PAUC	<input type="checkbox"/>
	APUC	<input type="checkbox"/>

Explanation of Breach

The LCS 2 Initial Operational Test & Evaluation (IOT&E)/IOC schedule breach was previously reported in the December 2013 SAR. These requirements were subsequently resolved though the USS CORONADO (LCS 4) conduct of IOT&E events in August-October 2015, leading to attainment of IOC for the INDEPENDENCE variant.

Both variants of LCS have achieved IOC.

Nunn-McCurdy Breaches

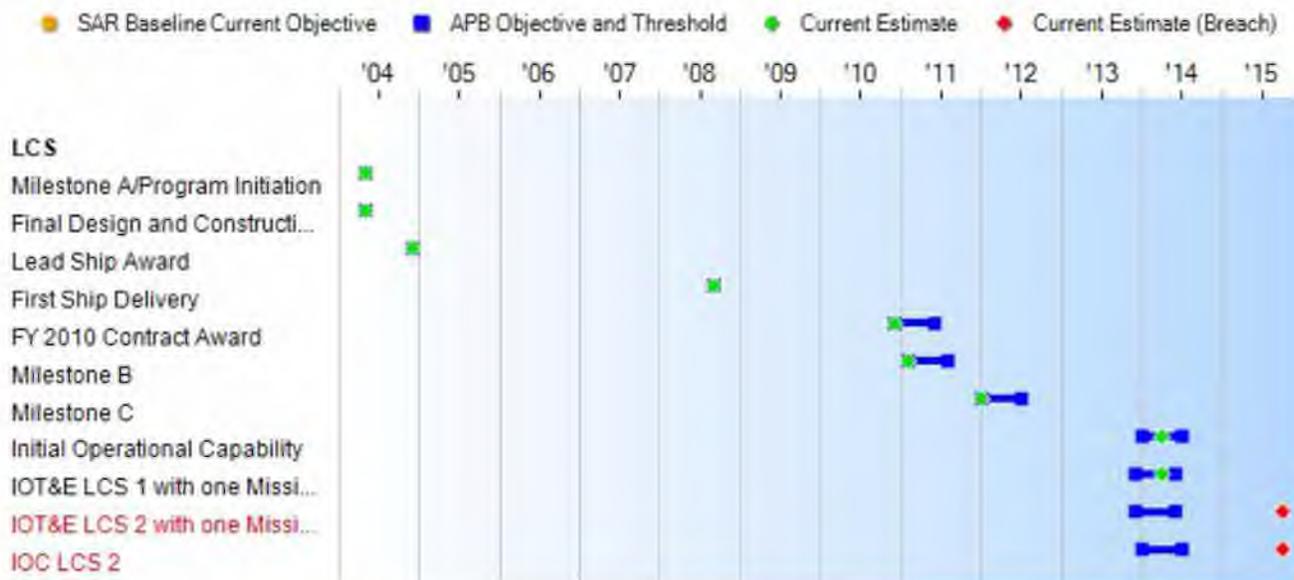
Current UCR Baseline

PAUC	None
APUC	None

Original UCR Baseline

PAUC	None
APUC	None

Schedule



Schedule Events				
Events	SAR Baseline Development Estimate	Current APB Development Objective/Threshold	Current Estimate	
Milestone A/Program Initiation	May 2004	May 2004	May 2004	May 2004
Final Design and Construction Contract Award	May 2004	May 2004	May 2004	May 2004
Lead Ship Award	Dec 2004	Dec 2004	Dec 2004	Dec 2004
First Ship Delivery	Sep 2008	Sep 2008	Sep 2008	Sep 2008
FY 2010 Contract Award	Dec 2010	Dec 2010	Jun 2011	Dec 2010
Milestone B	Feb 2011	Feb 2011	Aug 2011	Feb 2011
Milestone C	Jan 2012	Jan 2012	Jul 2012	Jan 2012
Initial Operational Capability	Jan 2014	Jan 2014	Jul 2014	Apr 2014
IOT&E LCS 1 with one Mission Package	Dec 2013	Dec 2013	Jun 2014	Apr 2014
IOT&E LCS 2 with one Mission Package	Dec 2013	Dec 2013	Jun 2014	Oct 2015 ¹
IOC LCS 2	Jan 2014	Jan 2014	Jul 2014	Oct 2015 ¹

¹ APB Breach

Change Explanations

None

Notes

Both variants of LCS have achieved IOC.

Delivery and Obligation Work Limiting Dates of Ships Currently Authorized or Under Construction:

LCS 15 - Feb 2019 / Jan 2021

LCS 17 - Jul 2019 / Mar 2021

LCS 19 - Feb 2020 / Sep 2021

LCS 20 - Jul 2019 / Nov 2020

LCS 21 - Oct 2020 / Jul 2022

LCS 22 - Aug 2019 / May 2021

LCS 23 - Jun 2021 / Jan 2023

LCS 24 - Apr 2020 / Dec 2021

LCS 25 - Feb 2022 / Sep 2023

LCS 26 - Nov 2020 / Jul 2022

LCS 27 - Oct 2022 / May 2024

LCS 28 - Jan 2022 / Sep 2023

LCS 29 - Sep 2023 / May 2025

LCS 30 - Oct 2022 / Jun 2024

LCS 31 - Jan 2024 / Sep 2025

LCS 32 - Sep 2023 / May 2025

LCS 34 - Sep 2023 / May 2025

LCS 36 - Dec 2023 / Aug 2025

LCS 38 - Jun 2024 / Feb 2026

The above delivery dates are consistent with the PB20 submission.

Acronyms and Abbreviations

IOT&E - Initial Operational, Test and Evaluation

Performance

Performance Characteristics				
SAR Baseline Development Estimate	Current APB Development Objective/Threshold		Demonstrated Performance	Current Estimate
Navigational Draft (ft)				
10	10	20	15.7 / 15.4 ft	15.7 / 15.4 ft
Sprint Speed (kts)				
50	50	40	38.7 / 40.2 kts	40 / 40.2 kts (Ch-1)
Range at Transit Speed (includes payload)				
4,300 nm @ 16 kts	4,300 nm @ 16 kts	3,500 nm @ 14 kts	3405nm / 6040nm @ 14 kts	3500nm / 6040nm @ 14 kts
Mission Package Payload (Weight)				
210 MT (130 MT) mission package/80 MT mission package fuel)	210 MT (130 MT) mission package/80 MT mission package fuel)	180 MT (105 MT mission package/75 MT mission package fuel)	180 MT / 180 MT	180 MT / 180 MT - (105 MT) mission package/75 MT mission package fuel)
Net- Ready: The system must support Net-Centric military operations. The system must be able to enter and be managed in the network, and exchange data in a secure manner to enhance mission effectiveness. The system must continuously provide survivable, interoperable, secure, and operationally effective information exchanges to enable a Net-Centric military capability.				
The system must fully support execution of all operational activities identified in the applicable joint and system integrated architectures and the system must satisfy the technical requirements for Net-Centric military operations to include 1) DISR mandated GIG IT standards and profiles identified in the TV-1, 2) DISR mandated GIG KIPs identified in the KIP declaration table, 3) NCOW RM Enterprise Services 4) IA requirements including availability, integrity, authentication, confidentiality, and	The system must fully support execution of all operational activities identified in the applicable joint and system integrated architectures and the system must satisfy the technical requirements for Net-Centric military operations to include 1) DISR mandated GIG IT standards and profiles identified in the TV-1, 2) DISR mandated GIG KIPs identified in the KIP declaration table, 3) NCOW RM Enterprise Services 4) IA requirements including availability, integrity, authenticat-	The system must fully support execution of joint critical operational activities identified in the applicable joint and system integrated architectures and the system must satisfy the technical requirements for transition to Net-Centric military operations to include 1) DISR mandated GIG IT standards and profiles identified in the TV-1, 2) DISR mandated GIG KIPs identified in the KIP declaration table, 3) NCOW RM Enterprise Services 4) IA requirements	TBD / TBD	The system for both LCS variants will fully support execution of all operational activities identified in the applicable joint and system integrated architectures and the system must satisfy the technical requirements for Net-Centric military operations to include 1) DISR mandated GIG IT standards and profiles identified in the TV-1, 2) DISR mandated GIG KIPs identified in the KIP declaration table, 3) NCOW RM Enterprise Services 4) IA requirements including availability,

nonrepudiation, and issuance of an ATO by the DAA, And 5) Operationally effective information exchanges; and mission critical performance and IA attributes, data correctness, data availability, and consistent data processing specified in the applicable joint and system integrated architecture views.	ion, confidentiality, and nonrepudiation, and issuance of an ATO by the DAA, And 5) Operationally effective information exchanges; and mission critical performance and IA attributes, data correctness, data availability, and consistent data processing specified in the applicable joint and system integrated architecture views.	including availability, integrity, authentication, confidentiality, and nonrepudiation, and issuance of an IATO by the DAA, and 5) Operationally effective information exchanges; and mission critical performance and IA attributes, data correctness, data availability, and consistent data processing specified in the applicable joint and system integrated architecture views.		integrity, authentication, confidentiality, and nonrepudiation, and issuance of an ATO by the DAA, And 5) Operationally effective information exchanges; and mission critical performance and IA attributes, data correctness, data availability, and consistent data processing specified in the applicable joint and system integrated architecture views.
Core Crew Manning (# Core Crew Members)				
15	15	50	50 Core Crew / 50 Core Crew	50 Core Crew / 50 Core Crew
Materiel Availability				
0.712	0.712	0.64	TBD / TBD	0.64 / 0.64
Systems Training (Core Crew)				
Trained-to-Certify at all Team (Watch Section) levels	Trained-to-Certify at all Team (Watch Section) levels	Trained-to-Qualify at individual level (billet/watch station)	TBD / TBD	Trained-to-Qualify at Individual level (billet/watch station) / Trained-to-Qualify at Individual level (billet/watch station)

Classified Performance information is provided in the classified annex to this submission.

Requirements Reference

Flight 0+ Capability Development Document (CDD) dated June 17, 2008

Change Explanations

(Ch-1) The Sprint Speed (kts) KPP revised from 36.9 kts to 38.7 kts to reflect actual performance data on the FREEDOM variant.

Acronyms and Abbreviations

ATO - Authority to Operate
DAA - Designated Approval Authority
DISR - DoD IT Standards Registry
ft - Feet

GIG - Global Information Grid
IA - Information Assurance
IATO - Interim Authority to Operate
IT - Information Technology
KIP - Key Interface Profile
kts - Knots
MT - Metric Ton
NCOW RM - Net-Centric Operations Warfare Reference Model
nm - Nautical Miles
TV - Technical View

Track to Budget

General Notes

PB 2020, FY 2019 Other Procurement, Navy (OPN) PE 0204230N, Line Item (LI) 9020 funds identified as being LCS Seaframe-specific are not part of the LCS Seaframe acquisition program and are accounted for in Operations and Sustainment.

PB 2020 Weapons Procurement, Navy (WPN) LI 2292 funds identified as being LCS Seaframe-specific are not part of the LCS Seaframe acquisition program.

RDT&E

Appn	BA	PE
Navy	1319 04	0603581N
	Project	Name
	3096	Littoral Combat Ship (Shared) Notes: Littoral Combat Ship Development
	4018	Littoral Combat Ship (Sunk) Notes: Littoral Combat Ship Construction
	4506	LCS Training
	9999	Congressional Add (Sunk) Notes: Littoral Combat Ship/Revised Acquisition Strategy
	9999	Congressional Add (Sunk) Notes: LCS Training Courseware

Procurement

Appn	BA	PE
Navy	1611 02	0204230N
	Line Item	Name
	2127	Littoral Combat Ship (Shared) (Sunk) Notes: Littoral Combat Ship Construction
Navy	1611 05	0204230N
	Line Item	Name
	5110	Outfitting (Shared)
	5300	Completion of Prior Year Shipbuilding Programs (Shared)
Navy	1810 01	0204230N
	Line Item	Name
	0944	LCS Class Equipment (Shared)
	1320	Other Ship Training Equipment (Shared) (Sunk)
	1604	LCS In-Service Modernization
Navy	1810 04	0204230N
	Line Item	Name

5664 Surface Training Equipment (Shared)

MILCON

Appn	BA	PE		
Navy	1205	01	0203176N	
			Project	Name
			00245499	LCS Facility Support (Sunk)
			00245500	LCS Training Facility (Sunk)
			60201425	LCS Logistics Support Facility (Shared) (Sunk)
Navy	1205	01	0212176N	
			Project	Name
			63005970	LCS Ship Maintenance Support Facility (Sunk)
Navy	1205	01	0815976N	
			Project	Name
			60201423	LCS Operational Trainer Facility (Shared) (Sunk)
			60201427	LCS Operational Trainer Facility Addition (Sunk)
Navy	1205	03	0901211N	
			Project	Name
			64482044	MCON Design Funds (Shared) (Sunk)
Navy	1205	01	0911376N	
			Project	Name
			60201426	LCS Support Facility (Sunk)

Cost and Funding

Cost Summary

Total Acquisition Cost							
Appropriation	BY 2010 \$M			BY 2010 \$M	TY \$M		
	SAR Baseline Development Estimate	Current APB Development Objective/Threshold		Current Estimate	SAR Baseline Development Estimate	Current APB Development Objective	Current Estimate
RDT&E	3433.3	3433.3	3776.6	3067.2	3481.7	3481.7	3053.7
Procurement	28369.2	28369.2	31206.1	16224.7	33720.5	33720.5	19387.7
Flyaway	--	--	--	16224.7	--	--	19387.7
Recurring	--	--	--	16224.7	--	--	19387.7
Non Recurring	--	--	--	0.0	--	--	0.0
Support	--	--	--	0.0	--	--	0.0
Other Support	--	--	--	0.0	--	--	0.0
Initial Spares	--	--	--	0.0	--	--	0.0
MILCON	208.5	208.5	229.4	228.6	236.6	236.6	267.1
Acq O&M	0.0	0.0	--	0.0	0.0	0.0	0.0
Total	32011.0	32011.0	N/A	19520.5	37438.8	37438.8	22708.5

Cost Notes

The Total Program Cost Estimate detailed above represents the cost for the 35 LCS program.

A Program Office Estimate was completed for the LCS program in 2018. PB 2020 presents risk related to the potential contraction of the Small Surface Combatant industrial base with the last LCS procured in FY 2019.

Total Quantity				
Quantity	SAR Baseline Development Estimate	Current APB Development	Current Estimate	
RDT&E		2	2	2
Procurement		53	53	33
Total		55	55	35

Quantity Notes

The estimate reflected in this SAR represents the costs for the 35 LCS program only. There is an increase in quantity of 3 from the December 2017 SAR reflecting the congressional increase of 1 LCS in FY 2018 and 2 LCS in FY 2019.

Cost and Funding

Funding Summary

Appropriation Summary									
FY 2020 President's Budget / December 2018 SAR (TY\$ M)									
Appropriation	Prior	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
RDT&E	2993.1	38.0	9.9	10.0	0.9	0.9	0.9	0.0	3053.7
Procurement	16148.0	1973.6	228.8	221.0	209.4	230.4	211.0	165.5	19387.7
MILCON	155.6	111.5	0.0	0.0	0.0	0.0	0.0	0.0	267.1
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2020 Total	19296.7	2123.1	238.7	231.0	210.3	231.3	211.9	165.5	22708.5
PB 2019 Total	18918.9	1202.8	298.6	206.5	240.5	194.1	138.7	25.4	21225.5
Delta	377.8	920.3	-59.9	24.5	-30.2	37.2	73.2	140.1	1483.0

Quantity Summary										
FY 2020 President's Budget / December 2018 SAR (TY\$ M)										
Quantity	Undistributed	Prior	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Development	2	0	0	0	0	0	0	0	0	2
Production	0	30	3	0	0	0	0	0	0	33
PB 2020 Total	2	30	3	0	0	0	0	0	0	35
PB 2019 Total	2	29	1	0	0	0	0	0	0	32
Delta	0	1	2	0	0	0	0	0	0	3

Cost and Funding

Annual Funding By Appropriation

Annual Funding							
1319 RDT&E Research, Development, Test, and Evaluation, Navy							
Fiscal Year	Quantity	TY \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2003	--	--	--	--	--	--	35.8
2004	--	--	--	--	--	--	116.8
2005	--	--	--	--	--	--	369.8
2006	--	--	--	--	--	--	384.5
2007	--	--	--	--	--	--	573.1
2008	--	--	--	--	--	--	200.9
2009	--	--	--	--	--	--	197.4
2010	--	--	--	--	--	--	260.1
2011	--	--	--	--	--	--	83.2
2012	--	--	--	--	--	--	147.4
2013	--	--	--	--	--	--	168.9
2014	--	--	--	--	--	--	165.5
2015	--	--	--	--	--	--	80.2
2016	--	--	--	--	--	--	109.4
2017	--	--	--	--	--	--	50.8
2018	--	--	--	--	--	--	49.3
2019	--	--	--	--	--	--	38.0
2020	--	--	--	--	--	--	9.9
2021	--	--	--	--	--	--	10.0
2022	--	--	--	--	--	--	0.9
2023	--	--	--	--	--	--	0.9
2024	--	--	--	--	--	--	0.9
Subtotal	2	--	--	--	--	--	3053.7

Annual Funding 1319 RDT&E Research, Development, Test, and Evaluation, Navy							
Fiscal Year	Quantity	BY 2010 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2003	--	--	--	--	--	--	41.1
2004	--	--	--	--	--	--	130.5
2005	--	--	--	--	--	--	402.7
2006	--	--	--	--	--	--	406.1
2007	--	--	--	--	--	--	590.8
2008	--	--	--	--	--	--	203.4
2009	--	--	--	--	--	--	197.3
2010	--	--	--	--	--	--	256.1
2011	--	--	--	--	--	--	80.0
2012	--	--	--	--	--	--	139.5
2013	--	--	--	--	--	--	158.1
2014	--	--	--	--	--	--	152.8
2015	--	--	--	--	--	--	73.1
2016	--	--	--	--	--	--	98.0
2017	--	--	--	--	--	--	44.7
2018	--	--	--	--	--	--	42.5
2019	--	--	--	--	--	--	32.1
2020	--	--	--	--	--	--	8.2
2021	--	--	--	--	--	--	8.1
2022	--	--	--	--	--	--	0.7
2023	--	--	--	--	--	--	0.7
2024	--	--	--	--	--	--	0.7
Subtotal	2	--	--	--	--	--	3067.2

Annual Funding								
1810 Procurement Other Procurement, Navy								
Fiscal Year	Quantity	TY \$M						
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program	
2012	--	--	20.4	--	20.4	--	20.4	--
2013	--	--	27.5	--	27.5	--	27.5	--
2014	--	--	69.1	--	69.1	--	69.1	--
2015	--	--	34.1	--	34.1	--	34.1	--
2016	--	--	83.6	--	83.6	--	83.6	--
2017	--	--	65.7	--	65.7	--	65.7	--
2018	--	--	62.1	--	62.1	--	62.1	--
2019	--	--	144.6	--	144.6	--	144.6	--
2020	--	--	55.6	--	55.6	--	55.6	--
2021	--	--	65.8	--	65.8	--	65.8	--
2022	--	--	75.0	--	75.0	--	75.0	--
2023	--	--	54.8	--	54.8	--	54.8	--
2024	--	--	74.3	--	74.3	--	74.3	--
Subtotal	--	--	832.6	--	832.6	--	832.6	--

Annual Funding								
1810 Procurement Other Procurement, Navy								
Fiscal Year	Quantity	BY 2010 \$M						
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program	
2012	--	--	19.2	--	19.2	--	19.2	--
2013	--	--	25.6	--	25.6	--	25.6	--
2014	--	--	63.4	--	63.4	--	63.4	--
2015	--	--	30.8	--	30.8	--	30.8	--
2016	--	--	74.3	--	74.3	--	74.3	--
2017	--	--	57.2	--	57.2	--	57.2	--
2018	--	--	53.0	--	53.0	--	53.0	--
2019	--	--	121.0	--	121.0	--	121.0	--
2020	--	--	45.6	--	45.6	--	45.6	--
2021	--	--	52.9	--	52.9	--	52.9	--
2022	--	--	59.2	--	59.2	--	59.2	--
2023	--	--	42.4	--	42.4	--	42.4	--
2024	--	--	56.3	--	56.3	--	56.3	--
Subtotal	--	--	700.9	--	700.9	--	700.9	--

Annual Funding 1611 Procurement Shipbuilding and Conversion, Navy							
Fiscal Year	Quantity	TY \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2009	2	1339.7	--	--	1339.7	--	1339.7
2010	2	1056.0	--	--	1056.0	--	1056.0
2011	2	1189.1	--	--	1189.1	--	1189.1
2012	4	1719.6	--	--	1719.6	--	1719.6
2013	4	1787.7	--	--	1787.7	--	1787.7
2014	4	1862.2	--	--	1862.2	--	1862.2
2015	3	1690.0	--	--	1690.0	--	1690.0
2016	3	1603.1	--	--	1603.1	--	1603.1
2017	3	1807.2	--	--	1807.2	--	1807.2
2018	3	1730.9	--	--	1730.9	--	1730.9
2019	3	1829.0	--	--	1829.0	--	1829.0
2020	--	173.2	--	--	173.2	--	173.2
2021	--	155.2	--	--	155.2	--	155.2
2022	--	134.4	--	--	134.4	--	134.4
2023	--	175.6	--	--	175.6	--	175.6
2024	--	136.7	--	--	136.7	--	136.7
2025	--	165.5	--	--	165.5	--	165.5
Subtotal	33	18555.1	--	--	18555.1	--	18555.1

Annual Funding 1611 Procurement Shipbuilding and Conversion, Navy							
Fiscal Year	Quantity	BY 2010 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2009	2	1287.8	--	--	1287.8	--	1287.8
2010	2	981.0	--	--	981.0	--	981.0
2011	2	1069.6	--	--	1069.6	--	1069.6
2012	4	1512.4	--	--	1512.4	--	1512.4
2013	4	1541.0	--	--	1541.0	--	1541.0
2014	4	1575.0	--	--	1575.0	--	1575.0
2015	3	1400.2	--	--	1400.2	--	1400.2
2016	3	1301.1	--	--	1301.1	--	1301.1
2017	3	1437.1	--	--	1437.1	--	1437.1
2018	3	1349.3	--	--	1349.3	--	1349.3
2019	3	1397.8	--	--	1397.8	--	1397.8
2020	--	129.8	--	--	129.8	--	129.8
2021	--	114.0	--	--	114.0	--	114.0
2022	--	96.8	--	--	96.8	--	96.8
2023	--	124.0	--	--	124.0	--	124.0
2024	--	94.6	--	--	94.6	--	94.6
2025	--	112.3	--	--	112.3	--	112.3
Subtotal	33	15523.8	--	--	15523.8	--	15523.8

Cost Quantity Information 1611 Procurement Shipbuilding and Conversion, Navy		
Fiscal Year	Quantity	End Item Recurring Flyaway (Aligned With Quantity) BY 2010 \$M
2009	2	1402.1
2010	2	1162.7
2011	2	1118.7
2012	4	1787.5
2013	4	1707.0
2014	4	1690.3
2015	3	1352.7
2016	3	1281.5
2017	3	1381.1
2018	3	1330.5
2019	3	1309.7
2020	--	--
2021	--	--
2022	--	--
2023	--	--
2024	--	--
2025	--	--
Subtotal	33	15523.8

Annual Funding 1205 MILCON Military Construction, Navy and Marine Corps		
Fiscal Year	TY \$M	
	Total Program	
2013	59.5	
2014	16.1	
2015	22.5	
2016	55.6	
2017	--	
2018	1.9	
2019	111.5	
Subtotal	267.1	

Annual Funding 1205 MILCON Military Construction, Navy and Marine Corps	
Fiscal Year	BY 2010 \$M
	Total Program
2013	54.4
2014	14.5
2015	19.8
2016	47.9
2017	--
2018	1.6
2019	90.4
Subtotal	228.6

Low Rate Initial Production

Item	Initial LRIP Decision	Current Total LRIP
Approval Date	2/18/2011	3/28/2018
Approved Quantity	24	35
Reference	Milestone B ADM	LCS 2018 Acquisition Strategy
Start Year	2005	2005
End Year	2015	2019

The Current Total LRIP Quantity is more than 10% of the total production quantity due to the Milestone B decision that includes the ships through FY 2015, and subsequent extension, in order to cover the LCS Seaframe program requirements.

Foreign Military Sales

Country	Date of Sale	Quantity	Total Cost \$M	Description
Saudi Arabia	5/25/2017	4	6027.6	FMS Case SR-P-SBV: The sale of the Multi-Mission Surface Combatant (MMSC), ordnance, training, testing, sparing, and infrastructure.

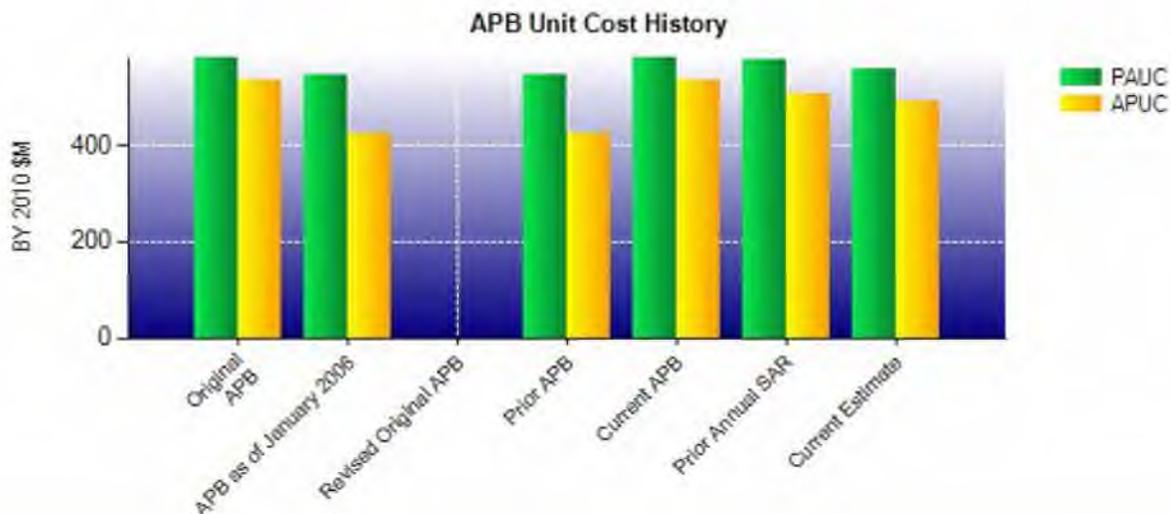
Notes

Nuclear Costs

None

Unit Cost

Current UCR Baseline and Current Estimate (Base-Year Dollars)			
Item	BY 2010 \$M	BY 2010 \$M	% Change
	Current UCR Baseline (Apr 2011 APB)	Current Estimate (Dec 2018 SAR)	
Program Acquisition Unit Cost			
Cost	32011.0	19520.5	
Quantity	55	35	
Unit Cost	582.018	557.729	-4.17
Average Procurement Unit Cost			
Cost	28369.2	16224.7	
Quantity	53	33	
Unit Cost	535.268	491.658	-8.15
Original UCR Baseline and Current Estimate (Base-Year Dollars)			
Item	BY 2010 \$M	BY 2010 \$M	% Change
	Original UCR Baseline (Apr 2011 APB)	Current Estimate (Dec 2018 SAR)	
Program Acquisition Unit Cost			
Cost	32011.0	19520.5	
Quantity	55	35	
Unit Cost	582.018	557.729	-4.17
Average Procurement Unit Cost			
Cost	28369.2	16224.7	
Quantity	53	33	
Unit Cost	535.268	491.658	-8.15



APB Unit Cost History					
Item	Date	BY 2010 \$M		TY \$M	
		PAUC	APUC	PAUC	APUC
Original APB	Apr 2011	582.018	535.268	680.705	636.236
APB as of January 2006	May 2004	547.200	424.450	502.925	400.000
Revised Original APB	N/A	N/A	N/A	N/A	N/A
Prior APB	May 2004	547.200	424.450	502.925	400.000
Current APB	Apr 2011	582.018	535.268	680.705	636.236
Prior Annual SAR	Dec 2017	578.256	507.407	663.297	597.453
Current Estimate	Dec 2018	557.729	491.658	648.814	587.506

SAR Unit Cost History

Current SAR Baseline to Current Estimate (TY \$M)									
PAUC Development Estimate	Changes								PAUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
680.705	76.923	-42.351	33.397	48.014	-147.874	0.000	0.000	-31.891	648.814

Current SAR Baseline to Current Estimate (TY \$M)									
Initial APUC Development Estimate	Changes								APUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
636.236	80.576	-71.870	39.252	52.209	-148.897	0.000	0.000	-48.730	587.506

SAR Baseline History				
Item	SAR Planning Estimate	SAR Development Estimate	SAR Production Estimate	Current Estimate
Milestone A	May 2004	May 2004	N/A	May 2004
Milestone B	Jan 2007	Feb 2011	N/A	Feb 2011
Milestone C	Dec 2010	Jan 2012	N/A	Jan 2012
IOC	Oct 2007	Jan 2014	N/A	Apr 2014
Total Cost (TY \$M)	1211.7	37438.8	N/A	22708.5
Total Quantity	2	55	N/A	35
PAUC	605.850	680.705	N/A	648.814

Cost Variance

Summary TY \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Development Estimate)	3481.7	33720.5	236.6	37438.8
Previous Changes				
Economic	+24.9	+2530.2	+6.0	+2561.1
Quantity	--	-16983.3	--	-16983.3
Schedule	-108.9	+1234.3	-17.5	+1107.9
Engineering	-42.4	+1627.4	--	+1585.0
Estimating	-320.5	-4205.5	+42.0	-4484.0
Other	--	--	--	--
Support	--	--	--	--
Subtotal	-446.9	-15796.9	+30.5	-16213.3
Current Changes				
Economic	+0.9	+128.8	+1.5	+131.2
Quantity	--	+1886.9	--	+1886.9
Schedule	--	+61.0	--	+61.0
Engineering	--	+95.5	--	+95.5
Estimating	+18.0	-708.1	-1.5	-691.6
Other	--	--	--	--
Support	--	--	--	--
Subtotal	+18.9	+1464.1	--	+1483.0
Total Changes	-428.0	-14332.8	+30.5	-14730.3
CE - Cost Variance	3053.7	19387.7	267.1	22708.5
CE - Cost & Funding	3053.7	19387.7	267.1	22708.5

Summary BY 2010 \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Development Estimate)	3433.3	28369.2	208.5	32011.0
Previous Changes				
Economic	--	--	--	--
Quantity	--	-11920.9	--	-11920.9
Schedule	-75.8	+870.5	-12.5	+782.2
Engineering	-32.5	+1196.1	--	+1163.6
Estimating	-272.9	-3292.7	+33.9	-3531.7
Other	--	--	--	--
Support	--	--	--	--
Subtotal	-381.2	-13147.0	+21.4	-13506.8
Current Changes				
Economic	--	--	--	--
Quantity	--	+1428.3	--	+1428.3
Schedule	--	+55.3	--	+55.3
Engineering	--	+73.0	--	+73.0
Estimating	+15.1	-554.1	-1.3	-540.3
Other	--	--	--	--
Support	--	--	--	--
Subtotal	+15.1	+1002.5	-1.3	+1016.3
Total Changes	-366.1	-12144.5	+20.1	-12490.5
CE - Cost Variance	3067.2	16224.7	228.6	19520.5
CE - Cost & Funding	3067.2	16224.7	228.6	19520.5

Previous Estimate: December 2017

RDT&E	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	+0.9
Revised estimate for training execution requirements in FY 2024. (Estimating)	+17.1	+20.0
Revised estimate due to program execution realignments. (Estimating)	-1.9	-2.1
Revised estimate for proper pricing of trainer requirements. (Estimating)	+0.7	+0.9
Adjustment for current and prior escalation. (Estimating)	-0.8	-0.8
RDT&E Subtotal	+15.1	+18.9

Procurement	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	+128.8
Total Quantity variance resulting from an increase of three LCSs from 30 to 33 (Shipbuilding and Conversion, Navy (SCN)). (Subtotal)	+1321.5	+1729.2
Quantity variance resulting from an increase of three LCSs from 30 to 33 (SCN). (Quantity)	(+1578.1)	(+2064.9)
Allocation to Schedule resulting from Quantity change. (Schedule) (QR)	(+55.3)	(+72.4)
Allocation to Engineering resulting from Quantity change. (Engineering) (QR)	(+73.0)	(+95.5)
Allocation to Estimating resulting from Quantity change. (Estimating) (QR)	(-384.9)	(-503.6)
Additional Quantity variance resulting from increased outfitting and post-delivery requirements due to an increase of three ships from 32 to 35 (SCN). (FY 2018-FY 2019) (Quantity)	+94.8	+139.7
Additional Quantity variance for proper pricing resulting from the Congressional total ship increase in FY 2018 and FY 2019 (SCN). (Quantity)	-244.6	-317.7
Acceleration of procurement buy profile (Navy) due to the Congressional addition of three LCS, one in FY 2018, two in FY 2019. (Schedule) (QR)	0.0	-11.4
Revised estimate due to Congressional reductions in FY 2018-FY 2019 (SCN). (Estimating)	-34.1	-44.2
Revised estimate for proper phasing of outfitting and post-delivery requirements (FY 2018-FY 2024) (SCN). (Estimating)	-18.4	-22.3
Revised estimate for proper pricing and phasing of shipbuilding cost to complete requirements (SCN). (Estimating)	-4.0	-4.4
Revised estimate due to Congressional reductions in FY 2018 for LCS Seaframe habitability modifications and safety changes (Other Procurement, Navy (OPN)). (Estimating)	-16.0	-18.7
Revised estimate due to reductions in LCS class support (OPN). (Estimating)	-54.5	-67.7
Revised estimate due to execution re-phasing (OPN). (Estimating)	-7.1	-8.2
Revised estimate for proper pricing of trainer and battle spare requirements (OPN). (Estimating)	+56.3	+74.3
Adjustment for current and prior escalation. (Estimating)	-91.4	-113.3
Procurement Subtotal	+1002.5	+1464.1

(QR) Quantity Related

MILCON	\$M
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Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	+1.5
Adjustment for current and prior escalation. (Estimating)	-1.3	-1.5
MILCON Subtotal	-1.3	0.0

~~(U//FOUO)~~ Contracts

~~(U//FOUO)~~ Contract Identification

Appropriation: Procurement
Contract Name: Construction - LCS 15
Contractor: Lockheed Martin
Contractor Location: 2323 Eastern Boulevard
 Middle River, MD 21220
Contract Number: N00024-11-C-2300/6
Contract Type: Fixed Price Incentive(Firm Target) (FPIF)
Award Date: March 04, 2013
Definitization Date: March 04, 2013

(U//FOUO) Contract Price							
Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
343.3	393.1	1	(b)(5)				

~~(U//FOUO)~~ Target Price Change Explanation

(b)(5)

(U//FOUO) Contract Variance		
Item	Cost Variance	Schedule Variance
(b)(5)		

~~(U//FOUO)~~ Cost and Schedule Variance Explanations

(b)(5)

~~(U//FOUO)~~ Notes

Current Contract Price (\$M), Estimated Price at Completion (\$M), and Cost and Schedule Variance for this contract is For Official Use Only - Exempt FOIA release under 5 U.S.C. 552(b)(4).

This contract is more than 90% complete; therefore, this is the final report for this contract.

(U//FOUO) Contract Identification

Appropriation: Procurement
Contract Name: Construction - LCS 17
Contractor: Lockheed Martin
Contractor Location: 2323 Eastern Boulevard
 Middle River, MD 21220
Contract Number: N00024-11-C-2300/7
Contract Type: Fixed Price Incentive(Firm Target) (FPIF)
Award Date: March 10, 2014
Definitization Date: March 10, 2014

(U//FOUO) Contract Price							
Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
353.5	404.7	1	(b)(5)				

(b)(5)

(b)(5)

(b)(5)

(U//FOUO) Notes

Current Contract Price (\$M), Estimated Price at Completion (\$M), and Cost and Schedule Variance for this contract is For Official Use Only - Exempt FOIA release under 5 U.S.C. 552(b)(4).

(U//FOUO) Contract Identification

Appropriation: Procurement
Contract Name: Construction - LCS 19
Contractor: Lockheed Martin
Contractor Location: 2323 Eastern Boulevard
 Middle River, MD 21220
Contract Number: N00024-11-C-2300/8
Contract Type: Fixed Price Incentive(Firm Target) (FPIF)
Award Date: March 10, 2014
Definitization Date: March 10, 2014

(U//FOUO) Contract Price							
Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
344.4	394.5	1	(b)(5)				

(b)(5)

(b)(5)

(b)(5)

(U//FOUO) Notes

Current Contract Price (\$M), Estimated Price at Completion (\$M), and Cost and Schedule Variance for this contract is For Official Use Only - Exempt FOIA release under 5 U.S.C. 552(b)(4).

(U//FOUO) Contract Identification

Appropriation: Procurement
Contract Name: Construction - LCS 20
Contractor: Austal USA
Contractor Location: 1 Dunlap Drive
 Mobile, AL 36602
Contract Number: N00024-11-C-2301/8
Contract Type: Fixed Price Incentive(Firm Target) (FPIF)
Award Date: March 10, 2014
Definitization Date: March 10, 2014

(U//FOUO) Contract Price							
Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
342.5	376.1	1	(b)(5)				

(b)(5)

(b)(5)

(b)(5)

(U//FOUO) Notes

This is the first time this contract is being reported.

Current Contract Price (\$M), Estimated Price at Completion (\$M), and Cost and Schedule Variance for this contract is For Official Use Only - Exempt FOIA release under 5 U.S.C. 552(b)(4).

This contract is more than 90% complete; therefore, this is the final report for this contract.

(U//FOUO) Contract Identification

Appropriation: Procurement
Contract Name: Construction - LCS 21
Contractor: Lockheed Martin
Contractor Location: 2323 Eastern Boulevard
 Middle River, MD 21220
Contract Number: N00024-11-C-2300/9
Contract Type: Fixed Price Incentive(Firm Target) (FPIF)
Award Date: March 31, 2015
Definitization Date: March 31, 2015

(U//FOUO) Contract Price

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
356.1	407.3	1	(b)(5)				

(b)(5)

(b)(5)

(b)(5)

(U//FOUO) Notes

This is the first time this contract is being reported.

Current Contract Price (\$M), Estimated Price at Completion (\$M), and Cost and Schedule Variance for this contract is For Official Use Only - Exempt FOIA release under 5 U.S.C. 552(b)(4).

(U//FOUO) Contract Identification

Appropriation: Procurement
Contract Name: Construction - LCS 22
Contractor: Austal USA
Contractor Location: 1 Dunlap Drive
 Mobile, AL 36602
Contract Number: N00024-11-C-2301/9
Contract Type: Fixed Price Incentive(Firm Target) (FPIF)
Award Date: March 31, 2015
Definitization Date: March 31, 2015

(U//FOUO) Contract Price							
Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
346.8	380.8	1	(b)(5)				

(b)(5)

(b)(5)

(b)(5)

(U//FOUO) Notes

This is the first time this contract is being reported.

Current Contract Price (\$M), Estimated Price at Completion (\$M), and Cost and Schedule Variance for this contract is For Official Use Only - Exempt FOIA release under 5 U.S.C. 552(b)(4).

This contract is more than 90% complete; therefore, this is the final report for this contract.

Deliveries and Expenditures

Deliveries				
Delivered to Date	Planned to Date	Actual to Date	Total Quantity	Percent Delivered
Development	2	2	2	100.00%
Production	15	15	33	45.45%
Total Program Quantity Delivered	17	17	35	48.57%

Expended and Appropriated (TY \$M)			
Total Acquisition Cost	22708.5	Years Appropriated	17
Expended to Date	14498.0	Percent Years Appropriated	73.91%
Percent Expended	63.84%	Appropriated to Date	21419.8
Total Funding Years	23	Percent Appropriated	94.33%

The above data is current as of March 11, 2019.

Notes

Mar 2019: The Navy program of record remains at 52 Small Surface Combatants, which is consistent with the 2016 Defense Strategic Guidance. Expenditures current as of March 2019. First ship of each design is funded in RDT&E. LCS 1 - 16, LCS 18 have been delivered to the Navy. Expenditures for Seaframe program only.

Operating and Support Cost

Cost Estimate Details

Date of Estimate:	January 10, 2019
Source of Estimate:	POE
Quantity to Sustain:	35
Unit of Measure:	Ship
Service Life per Unit:	25.00 Years
Fiscal Years in Service:	FY 2009 - FY 2049

Costs are incurred in preparation for and after the fielding of each LCS Seaframe. O&S cost estimate assumes:

- a) Crews:
66 crews: 50 personnel (8 Officers, 42 Enlisted)
- b) Steaming hours underway/not underway:
4421 hours underway / 718 hours not underway per year
- c) Defense Logistics Agency Acquisition Price of Fuel (CY 2010) \$112.56/barrel
- d) Government Furnished Equipment and Contractor Furnished Equipment systems are based on the configuration decisions made during ship design and construction
- e) Reflects 35 LCS consistent with PB 2020
- f) O&S costs for LCS Mission Modules not included in the O&S estimate shown in the LCS SAR.

Sustainment Strategy

The PEO USC Fleet Introduction and Sustainment branch is responsible for the operation, maintenance, and support of the LCS Seaframe systems.

LCS are minimally manned by rotational crews following a blue/gold crew construct. Shore support is required to manage some functions traditionally assigned to ship's force. Shore personnel are required to support LCS administrative functions, supply support, training, and ship specific preventive maintenance. Additionally, the LCS concept of operations and fleet requirements call for greater deployed time than other ship classes, allowed by rotational crewing.

Sustainment execution includes maintenance execution planning, planned and emergent maintenance; planning for scheduled availabilities, facilities maintenance; fly-away support; modernization and engineering support services of LCS ships homeported in San Diego, California, Mayport, Florida, and deploying worldwide. Full transition to In-Service sustainment under a Product Support Plan is ongoing.

Antecedent Information

No Antecedent.

LCS is a focused-mission, modular, surface combatant. LCS is smaller than a Frigate (FFG) but larger than a Patrol Coastal (PC) ship or Mine Countermeasures (MCM) ship. A LCS Seaframe with an embarked Mission Package (MP)

allows the Navy to conduct most missions currently performed by a PC, MCM, or FFG, dependent on which MP is embarked. While parts of each of these platforms are potentially analogous, none are truly comparable.

LCS are minimally manned, and shore support is required to manage some functions traditionally assigned to ship's force. Shore personnel are required to support LCS administrative functions, supply support, training, and ship specific preventive maintenance. Additionally, the LCS concept of operations and fleet requirements call for greater deployed time than other ship classes, allowed by rotational crewing. While the LCS provides the Fleet some of the capabilities currently provided by the FFG, PC and MCM classes; the LCS Seaframe cannot be compared to any one class discretely.

Today, the LCS Seaframe with one embarked MP is designed to enhance the Fleet's current anti-submarine capabilities, exceed current Fleet MCM capabilities, and fulfill current surface warfare capability gaps. The associated mission capabilities provided by the MPs are managed and reported on by the LCS Mission Module program office. As an example; the LCS Mission Module program office is responsible for developing, integrating, and testing the MCM MP for LCS. The MCM MP is comprised of various mission systems, an MH-60 Helicopter, a Vertical Take-off & Landing Unmanned Aerial Vehicle (VTUAV), support equipment, support containers, mission package computing, and a crew. As such, the LCS Mission Module program office is responsible for managing and reporting on the acquisition of the MCM MP for the Navy.

The LCS Seaframe's organic mission capability cannot be directly compared on a cost by cost basis to any other current ship program due to operational and mission capability differences as well as how costs are captured and reported.

Annual O&S Costs BY2010 \$M			
Cost Element	LCS Average Annual Cost Per Ship	No Antecedent (Antecedent)	
Unit-Level Manpower	10.852		--
Unit Operations	9.793		--
Maintenance	18.038		--
Sustaining Support	4.067		--
Continuing System Improvements	10.492		--
Indirect Support	5.265		--
Other	--		--
Total	58.507		--

Item	Total O&S Cost \$M			
	LCS			No Antecedent (Antecedent)
	Current Development APB Objective/Threshold	Current Estimate		
Base Year	50479.0	55526.9	51193.9	N/A
Then Year	87089.3	N/A	72691.6	N/A

Disposal Cost is included in the Operating and Support Cost of the current APB objective and threshold for this program.

Current Development APB is for 55 LCS. The O&S cost estimate reflects the current estimate for the 35 LCS program.

Equation to Translate Annual Cost to Total Cost

Total O&S Cost = Average Annual Cost per Ship * Number of Ships * Service Life per Ship

Total O&S Cost = \$58.507M * 35 * 25 = \$51,193.9M

O&S Cost Variance		
Category	BY 2010 \$M	Change Explanations
Prior SAR Total O&S Estimates - Dec 2017 SAR	46754.6	
Programmatic/Planning Factors	4108.9	Addition of three ships to LCS program quantity for a total of 35 vice 32
Cost Estimating Methodology	0.0	
Cost Data Update	-44.1	Updated Visibility And Management of Operating and Support Costs
Labor Rate	374.5	Increases in Military and Civilian labor rates
Energy Rate	0.0	
Technical Input	0.0	
Other	0.0	
Total Changes	4439.3	
Current Estimate	51193.9	

Disposal Estimate Details

Date of Estimate:	January 10, 2019
Source of Estimate:	POE
Disposal/Demilitarization Total Cost (BY 2010 \$M):	97.5

Revised disposal cost for the addition of 3 LCS for a total program quantity of 35 LCS vice 32.