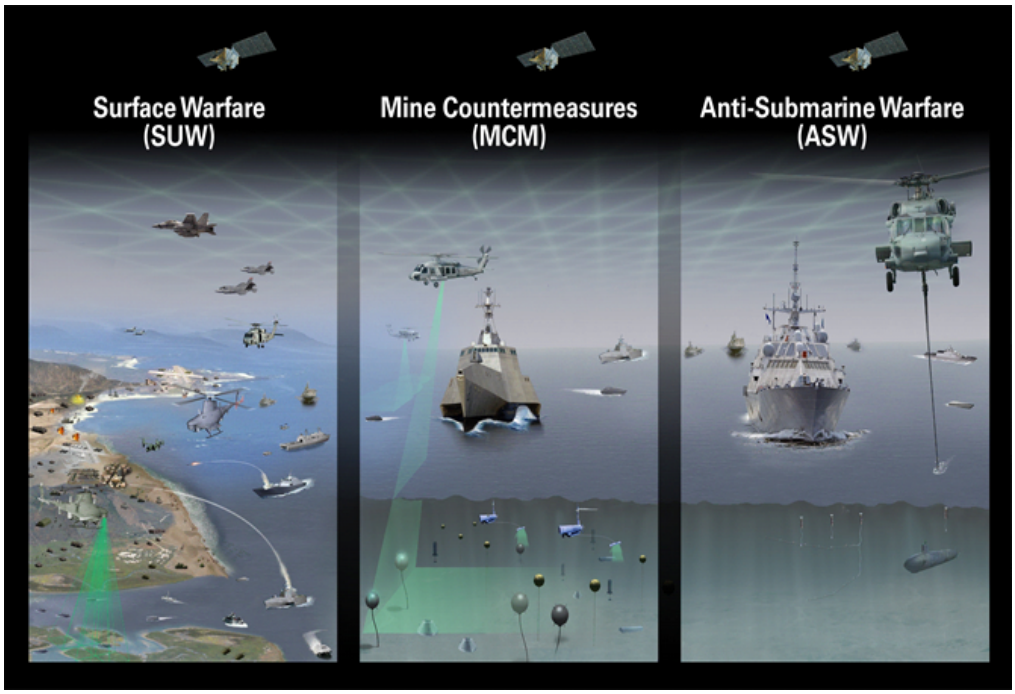
Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-443



Littoral Combat Ship Mission Modules (LCS MM)

As of FY 2015 President's Budget

Defense Acquisition Management
Information Retrieval
(DAMIR)

Table of Contents

Common Acronyms and Abbreviations

Acq O&M - Acquisition-Related Operations and Maintenance
APB - Acquisition Program Baseline
APPN - Appropriation
APUC - Average Procurement Unit Cost
BA - Budget Authority/Budget Activity
BY - Base Year
DAMIR - Defense Acquisition Management Information Retrieval
Dev Est - Development Estimate
DoD - Department of Defense
DSN - Defense Switched Network
Econ - Economic
Eng - Engineering
Est - Estimating
FMS - Foreign Military Sales
FY - Fiscal Year
IOC - Initial Operational Capability
$K - Thousands of Dollars
LRIP - Low Rate Initial Production
$M - Millions of Dollars
MILCON - Military Construction
N/A - Not Applicable
O&S - Operating and Support
Oth - Other
PAUC - Program Acquisition Unit Cost
PB - President's Budget
PE - Program Element
Proc - Procurement
Prod Est - Production Estimate
QR - Quantity Related
Qty - Quantity
RDT&E - Research, Development, Test, and Evaluation
SAR - Selected Acquisition Report
Sch - Schedule
Spt - Support
TBD - To Be Determined
TY - Then Year
UCR - Unit Cost Reporting

Program Information

Program Name

Littoral Combat Ship Mission Modules (LCS MM)

DoD Component

Navy

Responsible Office

Responsible Office

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Date Assigned May 14, 2010

References

SAR Baseline (Development Estimate)

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated November 27, 2013

Approved APB

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated November 27, 2013

Mission and Description

The Littoral Combat Ship (LCS) is a fast, agile, and networked surface combatant optimized for operations close to shore, otherwise known as the littorals. The LCS Mission Modules (MM) provide a modular, focused mission capability to the Combatant Commanders to provide assured access against littoral threats. The primary missions for the LCS include countering littoral mine, submarine, and surface threats to assure maritime access for Joint Forces. The underlying strength of the LCS lies in its innovative design approach and the application of modularity for operational flexibility. Fundamental to this approach is the capability to rapidly install interchangeable mission packages onto the ship.

A mission package consists of mission modules with mission crew and support aircraft. Mission modules combine mission systems (vehicles, sensors, weapons) and support equipment that install into the ship via standard interfaces.

Mission systems are added to the mission module baseline incrementally as they reach a level of maturity necessary for fielding. This approach provides for continuous improvement of warfighting capability through an evolutionary acquisition process. Misson modules' modular capability provides an open architecture environment that enables future rapid insertion of new technologies.

Executive Summary

This is the initial SAR submission for the LCS MM program.

The Under Secretary of Defense for Acquisition, Technology and Logistics approved the initial Acquisition Program Baseline on November 27, 2013.

The Assistant Secretary of the Navy for Research, Development and Acquisition (ASN(RDA)) approved Milestone B for the LCS MM program on January 7, 2014. The ASN(RDA), acting as the Milestone Decision Authority (MDA), waived the following provisions of section 2366b of title 10, United States Code:

1. **2366b(a)(1)(D):** That funding is available to execute the product development and production plan under the program, through the period covered by the Future Years Defense Program (FYDP) submitted during the fiscal year in which the certification is made, consistent with the estimates described in subparagraph (1)(C) for the program, having determined that, but for such a waiver, the Department would be unable to meet critical national security objectives. The Navy will be able to make this certification once the FY 2015 FYDP has been finalized.
2. **2366b(2):** That the MDA has received Preliminary Design Review (PDR) and conducted a formal post-PDR assessment, and certifies on the basis of such assessment that the program demonstrates a high likelihood of accomplishing its intended mission, having determined that, but for such a waiver, the Department would be unable to meet critical national security objectives. The Navy will be able to make this certification once the program has completed the PDR for the Anti-Submarine Warfare (ASW) Mission Package (MP) and the delta-PDRs and associated post-PDR assessments for Mine Countermeasures (MCM) MP Phases 2-4 and Surface Warfare (SUW) MP Phases 3 and 4.

The Department will continue to review the LCS MM program at least annually until the certification components are satisfied.

The LCS MM program continues to incrementally field additional capabilities to the Fleet, as approved in the budget and in phase with ship deliveries.

Mine Countermeasures Mission Package (MCM MP) Highlights:

The most recent phase of MCM MP Developmental Testing (DT) was completed on August 25, 2013. The final phase is planned for the fourth quarter of FY 2014. Technical Evaluation (TECHEVAL) and Initial Operational Test & Evaluation (IOT&E) will be delayed to the third quarter of FY 2015 due to FY 2012 congressional rescission.

Surface Warfare Mission Package (SUW MP) Highlights:

The final phase of SUW MP DT was successfully completed on November 8, 2013. A demonstration of the Army's Hellfire Longbow missile against Fast Inshore Attack Craft was successfully conducted on November 23, 2013. The FY 2013 congressional marks stopped development of the Irregular Warfare Module. SUW MP TECHEVAL and IOT&E are planned for the second and third quarters of FY 2014, respectively.

Anti-Submarine Warfare Mission Package (ASW MP) Highlights:

LCS 1 ASW MP Temporary Alteration (TEMPALT) installation Technical Data Package (TDP) ship check was conducted during the week of January 6, 2014. LCS 1 TDP development is scheduled to be completed in the second quarter of FY 2014. This TEMPALT is planned for installation on LCS 1 in the fourth quarter of FY 2014 to

enable at-sea integration testing. Completion of the TDPs for LCS 3 (currently at 50% maturity level) and LCS 4 (feasibility study complete) are both awaiting funding and both have an estimated completion date in the third quarter of FY 2014. ASW MP Preliminary Design Review is scheduled for the third quarter of FY 2014.

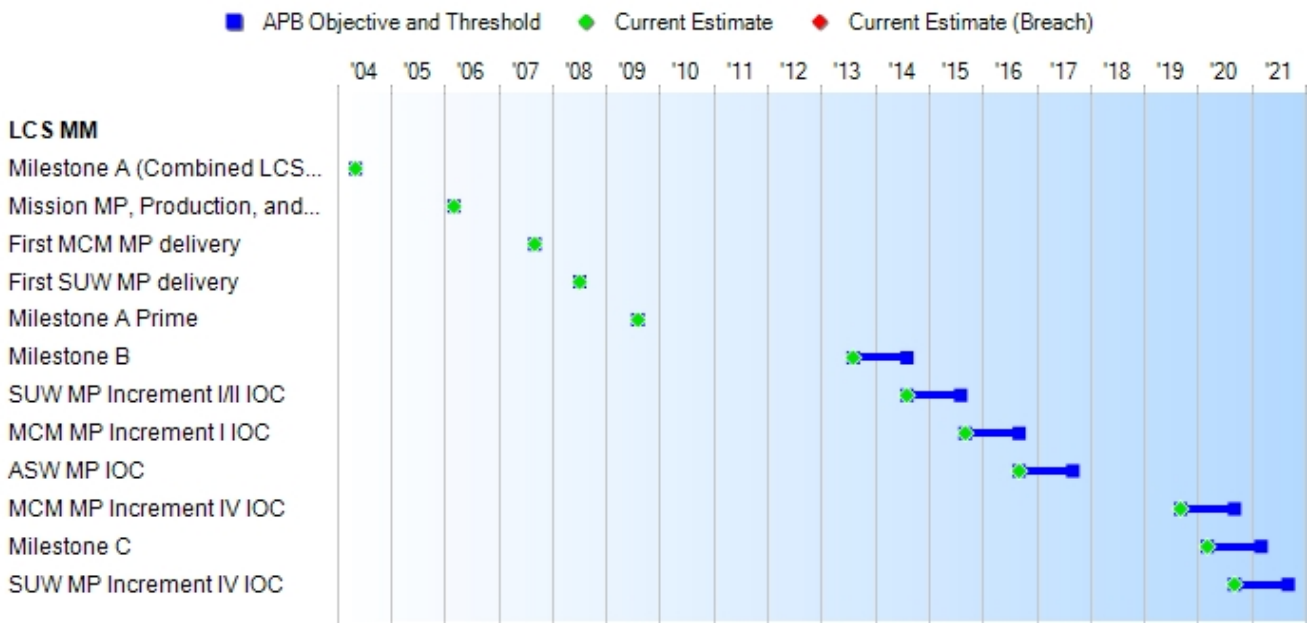
There are no significant software-related issues with this program at this time.

Threshold Breaches

APB Breaches		
Schedule		☐
Performance		☐
Cost	RDT&E	☐
	Procurement	☐
	MILCON	☐
	Acq O&M	☐
O&S Cost		☐
Unit Cost	PAUC	☐
	APUC	☐

Nunn-McCurdy Breaches		
Current UCR Baseline		
	PAUC	None
	APUC	None
Original UCR Baseline		
	PAUC	None
	APUC	None

Schedule



Milestones	SAR Baseline Dev Est	Current APB Development Objective/Threshold		Current Estimate
Milestone A (Combined LCS program)	MAY 2004	MAY 2004	MAY 2004	MAY 2004
Mission MP, Production, and Assembly contract award	MAR 2006	MAR 2006	MAR 2006	MAR 2006
First MCM MP delivery	SEP 2007	SEP 2007	SEP 2007	SEP 2007
First SUW MP delivery	JUL 2008	JUL 2008	JUL 2008	JUL 2008
Milestone A Prime	AUG 2009	AUG 2009	AUG 2009	AUG 2009
Milestone B	AUG 2013	AUG 2013	AUG 2014	AUG 2013
SUW MP Increment I/II IOC	AUG 2014	AUG 2014	AUG 2015	AUG 2014
MCM MP Increment I IOC	SEP 2015	SEP 2015	SEP 2016	SEP 2015
ASW MP IOC	SEP 2016	SEP 2016	SEP 2017	SEP 2016
MCM MP Increment IV IOC	SEP 2019	SEP 2019	SEP 2020	SEP 2019
Milestone C	MAR 2020	MAR 2020	MAR 2021	MAR 2020
SUW MP Increment IV IOC	SEP 2020	SEP 2020	SEP 2021	SEP 2020

Change Explanations

None

Memo

The Assistant Secretary of the Navy, Reserach, Development and Acquisition (ASN RD&A), acting as the Milestone

Decision Authority, held the Milestone B review on July 23, 2013. However, to resolve several questions related to program funding in light of the outcome of Program Objective Memorandum 2015 and the FY 2015 PB, final approval of the Milestone had to be delayed.

Initial Operational Test & Evaluation (IOT&E) for the LCS ships with one Mission Package will be scheduled by the LCS seaframe program.

The combined LCS program was realigned into two separate acquisition programs in April 2011: LCS Ships and LCS Mission Modules.

IOC for an LCS Mission Package is defined as:

- IOT&E is complete
- Infrastructure, logistics, and a trained crew are available
- First ship with an embarked MP is a deployable asset

Acronyms and Abbreviations

ASW - Anti-Submarine Warfare
LCS - Littoral Combat Ship
MCM - Mine Countermeasures
MP - Mission Package
SUW - Surface Warfare

Performance

Characteristics	SAR Baseline Dev Est	Current APB Development Objective/Threshold		Demonstrated Performance	Current Estimate
MCM MP					
Materiel Availability	.712	.712	.64	TBD	.712
Train to Certify: A trained crew is required for MP Billets / Watch Stations	Trained-to-Certify at all Team (Watch Section) levels	Trained-to-Certify at all Team (Watch Section) levels	Trained-to-Certify at all Team (Watch Section) levels	TBD	Trained-to-Certify at all Team (Watch Section) levels
SUW MP					
Materiel Availability	.712	.712	.64	TBD	.712
Train-to-Certify: A trained crew is required for MP Billets / Watch Stations	Trained-to-Certify at all Team (Watch Section) levels	Trained-to-Certify at all Team (Watch Section) levels	Trained-to-Certify at all Team (Watch Section) levels	TBD	Trained-to-Certify at all Team (Watch Section) levels
ASW MP					
Materiel Availability	.712	.712	.64	TBD	.712
Train-to-Certify: A trained crew is required for MP Billets / Watch Stations	Trained-to-Certify at all Team (Watch Section) levels	Trained-to-Certify at all Team (Watch Section) levels	Trained-to-Certify at all Team (Watch Section) levels	TBD	Trained-to-Certify at all Team (Watch Section) levels

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

Requirements Source

LCS Flight 0 Capability Development Document (CDD) dated May 25, 2004 and LCS Flight 0+ CDD dated June 17, 2008

Change Explanations

None

Memo

Interoperability Information Exchange Requirement KPP replaced by Net Ready KPP.

Acronyms and Abbreviations

ASW - Anti-Submarine Warfare
CDD - Capability Description Document
KPP - Key Performance Parameter
LCS - Littoral Combat Ship
MCM - Mine Countermeasures
MP - Mission Package
SUW - Surface Warfare

Track to Budget

General Memo

In earlier years, the LCS MM program shared an RDT&E, Navy program element with the LCS ship program. In FY 2014, Congress directed DoD to move the LCS MM program's RDT&E, Navy funds into a standalone program element.

RDT&E

Appn		BA	PE	
Navy	1319	04	0603581N	
	Project		**Name**	
	3129		LCS Mission Package Development	(Shared)
Navy	1319	04	0603596N	
	Project		**Name**	
	3129		LCS Mission Package Development	

PE 0603581N was shared with the LCS ship program. The LCS MM program will not use this PE starting in FY 2015. Instead, the program will use PE 0603596N only. However, both PEs will have funding in them in FY 2014.

Procurement

Appn		BA	PE
Navy	1507	04	0204230N
	Line Item		**Name**
	4221		LCS Mission Modules
	Notes:		For procurement of surface-to-surface missiles for the SUW MP.
Navy	1810	01	0204230N
	Line Item		**Name**
	1600		LCS Common Mission Modules Equipment
	1601		LCS MCM Mission Modules
	1602		LCS ASW Mission Modules
	1603		LCS SUW Mission Modules
	1605		Remote Multi-Mission Vehicle

In FY 2015 PB, Line Item 1605 was broken out from Line Item 1601 for greater reporting visibility.

The life cycle cost estimate of the LCS MM program included a small MILCON expenditure in FY 2021. The program office does not yet have a PE for the MILCON funds because they will not be spent until FY 2021. The program office should be assigned a MILCON PE once the FYDP includes FY 2021 (FY 2017 PB). The annual SAR at that time will report the MILCON PE.

Cost and Funding

Cost Summary

Total Acquisition Cost and Quantity

	BY2010 $M			BY2010 $M	TY $M		
Appropriation	SAR Baseline Dev Est	Current APB Development Objective/Threshold		Current Estimate	SAR Baseline Dev Est	Current APB Development Objective	Current Estimate
RDT&E	2233.7	2233.7	2457.1	2202.5	2415.6	2415.6	2371.4
Procurement	4116.7	4116.7	4528.4	3933.2	4995.0	4995.0	4891.1
Flyaway	--	--	--	3933.2	--	--	4891.1
Recurring	--	--	--	3933.2	--	--	4891.1
Non Recurring	--	--	--	0.0	--	--	0.0
Support	--	--	--	0.0	--	--	0.0
Other Support	--	--	--	0.0	--	--	0.0
Initial Spares	--	--	--	0.0	--	--	0.0
MILCON	29.1	29.1	32.0	29.0	37.7	37.7	37.4
Acq O&M	0.0	0.0	--	0.0	0.0	0.0	0.0
Total	6379.5	6379.5	N/A	6164.7	7448.3	7448.3	7299.9

Confidence Level for Current APB Cost 50% -

Point estimates scaled to the 50/50 confidence level per the Program Life Cycle Cost Estimate (PLCCE) and Service Cost position (SCP).

Quantity	SAR Baseline Dev Est	Current APB Development	Current Estimate
RDT&E	5	5	5
Procurement	59	59	59
Total	64	64	64

The LCS MM program uses Mission Packages (MP) as its quantity unit of measure. A mission package consists of mission modules, plus a mission crew detachment and supporting aircraft. The program plans to procure 64 MP. However, the program provides funding to other programs for the purpose of procuring Mission Systems (MS). These MS (offboard vehicles, sensors, and weapons) are then combined with common mission modules equipment. For the purposes of Congressional visibility into program execution, the annual President's Budget submission breaks out these MS procurements in detail. The result is that the quantities do not necessarily match. For example, in FY 2016, the program plans to procure two SUW MP using the 1603 line (LCS SUW Mission Packages). However, the 1603 line in the FY 2015 PB shows the procurement of four gun modules and two Maritime Security Modules. Each SUW MP contains two gun modules and one Maritime Security Module.

Cost and Funding

Funding Summary

Appropriation and Quantity Summary
FY2015 President's Budget / December 2013 SAR (TY$ M)

Appropriation	Prior	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	To Complete	Total
RDT&E	1347.5	204.1	196.9	139.2	84.0	56.1	45.7	297.9	2371.4
Procurement	439.8	162.4	141.9	376.6	339.9	379.7	377.9	2672.9	4891.1
MILCON	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.4	37.4
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2015 Total	1787.3	366.5	338.8	515.8	423.9	435.8	423.6	3008.2	7299.9
	--	--	--	--	--	--	--	--	--

Quantity	Undistributed	Prior	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	To Complete	Total
Development	5	0	0	0	0	0	0	0	0	5
Production	0	9	3	3	5	6	6	6	21	59
PB 2015 Total	5	9	3	3	5	6	6	6	21	64
	--	--	--	--	--	--	--	--	--	--

Cost and Funding

Annual Funding By Appropriation

Annual Funding TY$
1319 | RDT&E | Research, Development, Test, and Evaluation, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway TY $M	Non End Item Recurring Flyaway TY $M	Non Recurring Flyaway TY $M	Total Flyaway TY $M	Total Support TY $M	Total Program TY $M
2004	--	--	--	--	--	--	42.6
2005	--	--	--	--	--	--	81.3
2006	--	--	--	--	--	--	193.5
2007	--	--	--	--	--	--	168.4
2008	--	--	--	--	--	--	105.9
2009	--	--	--	--	--	--	168.1
2010	--	--	--	--	--	--	157.9
2011	--	--	--	--	--	--	80.6
2012	--	--	--	--	--	--	151.0
2013	--	--	--	--	--	--	198.2
2014	--	--	--	--	--	--	204.1
2015	--	--	--	--	--	--	196.9
2016	--	--	--	--	--	--	139.2
2017	--	--	--	--	--	--	84.0
2018	--	--	--	--	--	--	56.1
2019	--	--	--	--	--	--	45.7
2020	--	--	--	--	--	--	35.2
2021	--	--	--	--	--	--	34.6
2022	--	--	--	--	--	--	28.3
2023	--	--	--	--	--	--	24.0
2024	--	--	--	--	--	--	24.6
2025	--	--	--	--	--	--	32.0
2026	--	--	--	--	--	--	37.7
2027	--	--	--	--	--	--	2.1
2028	--	--	--	--	--	--	2.2
2029	--	--	--	--	--	--	2.2

2030	--	--	--	--	--	--	2.3
2031	--	--	--	--	--	--	2.5
2032	--	--	--	--	--	--	2.3
2033	--	--	--	--	--	--	2.3
2034	--	--	--	--	--	--	2.5
2035	--	--	--	--	--	--	2.4
2036	--	--	--	--	--	--	2.8
2037	--	--	--	--	--	--	2.5
2038	--	--	--	--	--	--	2.7
2039	--	--	--	--	--	--	2.6
2040	--	--	--	--	--	--	2.7
2041	--	--	--	--	--	--	3.0
2042	--	--	--	--	--	--	2.8
2043	--	--	--	--	--	--	2.8
2044	--	--	--	--	--	--	3.0
2045	--	--	--	--	--	--	2.9
2046	--	--	--	--	--	--	3.3
2047	--	--	--	--	--	--	3.0
2048	--	--	--	--	--	--	3.2
2049	--	--	--	--	--	--	3.2
2050	--	--	--	--	--	--	3.3
2051	--	--	--	--	--	--	3.2
2052	--	--	--	--	--	--	3.3
2053	--	--	--	--	--	--	3.4
2054	--	--	--	--	--	--	3.5
2055	--	--	--	--	--	--	3.5
Subtotal	**5**	**--**	**--**	**--**	**--**	**--**	**2371.4**

Annual Funding BY$
1319 | RDT&E | Research, Development, Test, and Evaluation, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2010 $M	Non End Item Recurring Flyaway BY 2010 $M	Non Recurring Flyaway BY 2010 $M	Total Flyaway BY 2010 $M	Total Support BY 2010 $M	Total Program BY 2010 $M
2004	--	--	--	--	--	--	47.6
2005	--	--	--	--	--	--	88.5
2006	--	--	--	--	--	--	204.4
2007	--	--	--	--	--	--	173.6
2008	--	--	--	--	--	--	107.2
2009	--	--	--	--	--	--	168.0
2010	--	--	--	--	--	--	155.5
2011	--	--	--	--	--	--	77.5
2012	--	--	--	--	--	--	142.7
2013	--	--	--	--	--	--	184.4
2014	--	--	--	--	--	--	186.7
2015	--	--	--	--	--	--	176.8
2016	--	--	--	--	--	--	122.5
2017	--	--	--	--	--	--	72.5
2018	--	--	--	--	--	--	47.5
2019	--	--	--	--	--	--	37.9
2020	--	--	--	--	--	--	28.6
2021	--	--	--	--	--	--	27.6
2022	--	--	--	--	--	--	22.1
2023	--	--	--	--	--	--	18.4
2024	--	--	--	--	--	--	18.5
2025	--	--	--	--	--	--	23.6
2026	--	--	--	--	--	--	27.2
2027	--	--	--	--	--	--	1.5
2028	--	--	--	--	--	--	1.5
2029	--	--	--	--	--	--	1.5
2030	--	--	--	--	--	--	1.5
2031	--	--	--	--	--	--	1.6
2032	--	--	--	--	--	--	1.5

2033	--	--	--	--	--	--	1.4
2034	--	--	--	--	--	--	1.5
2035	--	--	--	--	--	--	1.5
2036	--	--	--	--	--	--	1.7
2037	--	--	--	--	--	--	1.5
2038	--	--	--	--	--	--	1.5
2039	--	--	--	--	--	--	1.5
2040	--	--	--	--	--	--	1.5
2041	--	--	--	--	--	--	1.6
2042	--	--	--	--	--	--	1.5
2043	--	--	--	--	--	--	1.4
2044	--	--	--	--	--	--	1.5
2045	--	--	--	--	--	--	1.4
2046	--	--	--	--	--	--	1.6
2047	--	--	--	--	--	--	1.4
2048	--	--	--	--	--	--	1.5
2049	--	--	--	--	--	--	1.5
2050	--	--	--	--	--	--	1.5
2051	--	--	--	--	--	--	1.4
2052	--	--	--	--	--	--	1.4
2053	--	--	--	--	--	--	1.4
2054	--	--	--	--	--	--	1.5
2055	--	--	--	--	--	--	1.4
Subtotal	**5**	**--**	**--**	**--**	**--**	**--**	**2202.5**

Only includes RDT&E,Navy costs associated with initial procurement. The LCS Mission Modules program procured 5 Mission Packages with RDT&E,Navy as training and test assets. RDT&E,Navy costs associated with replacement, attrition, and technology refresh costs are accounted for in O&S per the Service Cost Position.

Annual Funding TY$
1507 | Procurement | Weapons Procurement, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway TY $M	Non End Item Recurring Flyaway TY $M	Non Recurring Flyaway TY $M	Total Flyaway TY $M	Total Support TY $M	Total Program TY $M
2018	--	25.6	--	--	25.6	--	25.6
2019	--	19.2	--	--	19.2	--	19.2
2020	--	19.6	--	--	19.6	--	19.6
2021	--	28.5	--	--	28.5	--	28.5
2022	--	29.0	--	--	29.0	--	29.0
Subtotal	**--**	**121.9**	**--**	**--**	**121.9**	**--**	**121.9**

Annual Funding BY$
1507 | Procurement | Weapons Procurement, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2010 $M	Non End Item Recurring Flyaway BY 2010 $M	Non Recurring Flyaway BY 2010 $M	Total Flyaway BY 2010 $M	Total Support BY 2010 $M	Total Program BY 2010 $M
2018	--	21.4	--	--	21.4	--	21.4
2019	--	15.8	--	--	15.8	--	15.8
2020	--	15.8	--	--	15.8	--	15.8
2021	--	22.5	--	--	22.5	--	22.5
2022	--	22.4	--	--	22.4	--	22.4
Subtotal	**--**	**97.9**	**--**	**--**	**97.9**	**--**	**97.9**

Weapons Procurement, Navy is being used for procurement of Surface-to-Surface Missile Module (SSMM) shipfill missiles only. Procurement Quantity listed as zero because these are procured as part of Surface Warfare Mission Packages. The only procurement quantity relevant to the APB is the number of mission packages being procured.

Annual Funding TY$
1810 | Procurement | Other Procurement, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway TY $M	Non End Item Recurring Flyaway TY $M	Non Recurring Flyaway TY $M	Total Flyaway TY $M	Total Support TY $M	Total Program TY $M
2010	2	220.3	--	--	220.3	--	220.3
2011	2	42.6	--	--	42.6	--	42.6
2012	2	67.7	--	--	67.7	--	67.7
2013	3	109.2	--	--	109.2	--	109.2
2014	3	162.4	--	--	162.4	--	162.4
2015	3	141.9	--	--	141.9	--	141.9
2016	5	376.6	--	--	376.6	--	376.6
2017	6	339.9	--	--	339.9	--	339.9
2018	6	354.1	--	--	354.1	--	354.1
2019	6	358.7	--	--	358.7	--	358.7
2020	6	503.9	--	--	503.9	--	503.9
2021	6	512.4	--	--	512.4	--	512.4
2022	5	481.8	--	--	481.8	--	481.8
2023	4	464.6	--	--	464.6	--	464.6
2024	--	105.6	--	--	105.6	--	105.6
2025	--	19.7	--	--	19.7	--	19.7
2026	--	18.7	--	--	18.7	--	18.7
2027	--	19.2	--	--	19.2	--	19.2
2028	--	20.6	--	--	20.6	--	20.6
2029	--	22.0	--	--	22.0	--	22.0
2030	--	21.7	--	--	21.7	--	21.7
2031	--	22.1	--	--	22.1	--	22.1
2032	--	22.9	--	--	22.9	--	22.9
2033	--	22.6	--	--	22.6	--	22.6
2034	--	20.7	--	--	20.7	--	20.7
2035	--	20.3	--	--	20.3	--	20.3
2036	--	20.9	--	--	20.9	--	20.9
2037	--	20.8	--	--	20.8	--	20.8
2038	--	20.1	--	--	20.1	--	20.1

2039	--	20.9	--	--	20.9	--	20.9
2040	--	20.9	--	--	20.9	--	20.9
2041	--	21.0	--	--	21.0	--	21.0
2042	--	20.6	--	--	20.6	--	20.6
2043	--	19.1	--	--	19.1	--	19.1
2044	--	18.9	--	--	18.9	--	18.9
2045	--	18.9	--	--	18.9	--	18.9
2046	--	17.6	--	--	17.6	--	17.6
2047	--	15.8	--	--	15.8	--	15.8
2048	--	14.2	--	--	14.2	--	14.2
2049	--	13.2	--	--	13.2	--	13.2
2050	--	11.2	--	--	11.2	--	11.2
2051	--	9.6	--	--	9.6	--	9.6
2052	--	6.3	--	--	6.3	--	6.3
2053	--	5.5	--	--	5.5	--	5.5
2054	--	1.5	--	--	1.5	--	1.5
Subtotal	**59**	**4769.2**	**--**	**--**	**4769.2**	**--**	**4769.2**

Annual Funding BY$
1810 | Procurement | Other Procurement, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2010 $M	Non End Item Recurring Flyaway BY 2010 $M	Non Recurring Flyaway BY 2010 $M	Total Flyaway BY 2010 $M	Total Support BY 2010 $M	Total Program BY 2010 $M
2010	2	213.8	--	--	213.8	--	213.8
2011	2	40.7	--	--	40.7	--	40.7
2012	2	63.7	--	--	63.7	--	63.7
2013	3	101.1	--	--	101.1	--	101.1
2014	3	147.7	--	--	147.7	--	147.7
2015	3	126.7	--	--	126.7	--	126.7
2016	5	329.6	--	--	329.6	--	329.6
2017	6	291.7	--	--	291.7	--	291.7
2018	6	297.9	--	--	297.9	--	297.9
2019	6	295.8	--	--	295.8	--	295.8
2020	6	407.5	--	--	407.5	--	407.5
2021	6	406.2	--	--	406.2	--	406.2
2022	5	374.5	--	--	374.5	--	374.5
2023	4	354.0	--	--	354.0	--	354.0
2024	--	78.9	--	--	78.9	--	78.9
2025	--	14.4	--	--	14.4	--	14.4
2026	--	13.4	--	--	13.4	--	13.4
2027	--	13.5	--	--	13.5	--	13.5
2028	--	14.2	--	--	14.2	--	14.2
2029	--	14.9	--	--	14.9	--	14.9
2030	--	14.4	--	--	14.4	--	14.4
2031	--	14.4	--	--	14.4	--	14.4
2032	--	14.6	--	--	14.6	--	14.6
2033	--	14.1	--	--	14.1	--	14.1
2034	--	12.7	--	--	12.7	--	12.7
2035	--	12.2	--	--	12.2	--	12.2
2036	--	12.3	--	--	12.3	--	12.3
2037	--	12.0	--	--	12.0	--	12.0
2038	--	11.4	--	--	11.4	--	11.4

2039	--	11.6	--	--	11.6	--	11.6
2040	--	11.4	--	--	11.4	--	11.4
2041	--	11.2	--	--	11.2	--	11.2
2042	--	10.8	--	--	10.8	--	10.8
2043	--	9.8	--	--	9.8	--	9.8
2044	--	9.5	--	--	9.5	--	9.5
2045	--	9.3	--	--	9.3	--	9.3
2046	--	8.5	--	--	8.5	--	8.5
2047	--	7.5	--	--	7.5	--	7.5
2048	--	6.6	--	--	6.6	--	6.6
2049	--	6.0	--	--	6.0	--	6.0
2050	--	5.0	--	--	5.0	--	5.0
2051	--	4.2	--	--	4.2	--	4.2
2052	--	2.7	--	--	2.7	--	2.7
2053	--	2.3	--	--	2.3	--	2.3
2054	--	0.6	--	--	0.6	--	0.6
Subtotal	**59**	**3835.3**	**--**	**--**	**3835.3**	**--**	**3835.3**

The FY 2015 PB defers procurement of one Mine Countermeasures Mission Package from 2015 to a year outside the FYDP. This SAR assumes procurement of that Mine Countermeasures Mission Package in 2023, which will be the final year of initial Mission Package procurement.

OPN is split into separate Program Elements/Budget Line Items for Common Equipment, Mine Countermeasures Mission Package equipment, Surface Warfare Mission Package equipment, Anti-Submarine Warfare Mission Package equipment, the Remote Multi-Mission Vehicle (RMMV), and spares. The RMMV is part of the Mine Countermeasures Mission Package, but was split out to its own Program Element in the FY 2015 PB. These are initial procurement costs only. OPN costs for replacement mission systems, attrition, technology refresh, and spares are accounted for in O&S. Five MP were procured with RDT&E,Navy.

Cost Quantity Information
1810 | Procurement | Other Procurement, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway (Aligned with Quantity) BY 2010 $M
2010	2	226.8
2011	2	53.7
2012	2	76.7
2013	3	120.6
2014	3	167.2
2015	3	146.2
2016	5	362.2
2017	6	330.8
2018	6	337.0
2019	6	335.0
2020	6	446.6
2021	6	445.3
2022	5	407.1
2023	4	380.1
2024	--	--
2025	--	--
2026	--	--
2027	--	--
2028	--	--
2029	--	--
2030	--	--
2031	--	--
2032	--	--
2033	--	--
2034	--	--
2035	--	--
2036	--	--

2037	--	--
2038	--	--
2039	--	--
2040	--	--
2041	--	--
2042	--	--
2043	--	--
2044	--	--
2045	--	--
2046	--	--
2047	--	--
2048	--	--
2049	--	--
2050	--	--
2051	--	--
2052	--	--
2053	--	--
2054	--	--
Subtotal	**59**	**3835.3**

Annual Funding TY$
1205 | MILCON | Military Construction, Navy and Marine Corps

Fiscal Year	Total Program TY $M
2021	37.4
Subtotal	**37.4**

Annual Funding BY$
1205 | MILCON | Military Construction, Navy and Marine Corps

Fiscal Year	Total Program BY 2010 $M
2021	29.0
Subtotal	**29.0**

Low Rate Initial Production

	Initial LRIP Decision	Current Total LRIP
Approval Date	1/7/2014	1/7/2014
Approved Quantity	27	27
Reference	Milestone B ADM	Milestone B ADM
Start Year	2006	2006
End Year	2018	2018

The Current Total LRIP Quantity is more than 10% of the total production quantity due to the requirement to have enough Mission Packages to populate the 24 LCS delivered or under contract through FY 2015 and the units required to support development, testing, and training.

The LRIP quantities authorized at Milestone B were 12 Surface Warfare, 12 Mine Countermeasures, and 3 Anti-Submarine Warfare Mission Packages. The LRIP decision did not specify a starting or ending FY for LRIP. The dates above are derived from program plans. The program procured the first production Mission Package in 2006 following written authorization by USD (AT&L), acting in his capacity as the MDA. Under the program's current procurement plan, the program will procure the 27th production mission package in FY 2018.

The Milestone Decision Authority also authorized the procurement of up to five developmental Mission Packages for use as development, test, and training assets. These will consist of up to 3 Surface Warfare, 1 Mine Countermeasures, and 1 Anti-Submarine Warfare Mission Package. The program already has procured the Surface Warfare and Mine Countermeasures Mission Packages using RDT&E,Navy. The program plans to procure the developmental Anti-Submarine Warfare Mission Package in FY 2014.

Foreign Military Sales

None

Nuclear Costs

None

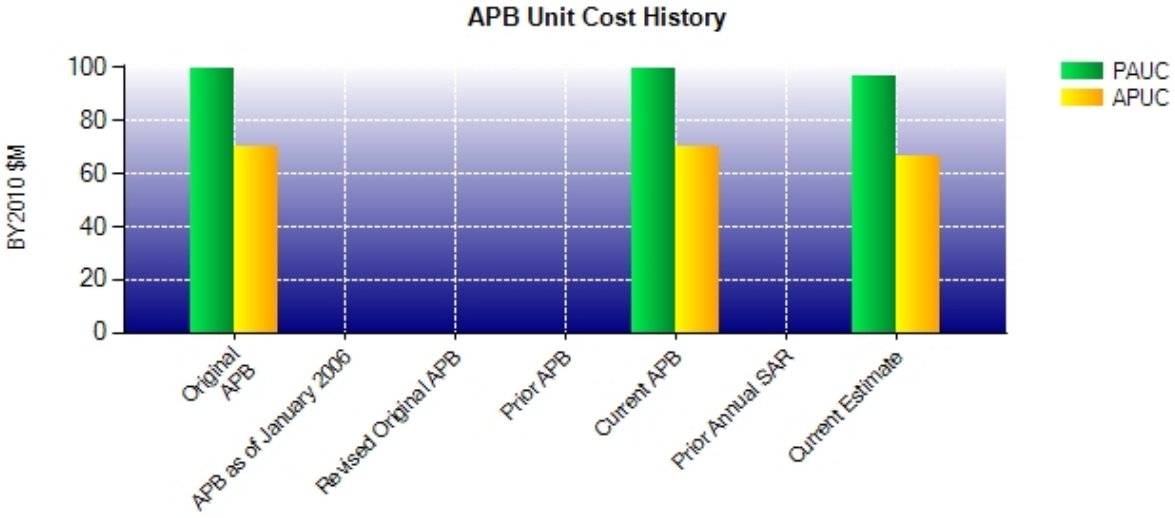
Unit Cost

Unit Cost Report

Unit Cost	BY2010 $M Current UCR Baseline (NOV 2013 APB)	BY2010 $M Current Estimate (DEC 2013 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	6379.5	6164.7	
Quantity	64	64	
Unit Cost	99.680	96.323	-3.37
Average Procurement Unit Cost (APUC)			
Cost	4116.7	3933.2	
Quantity	59	59	
Unit Cost	69.775	66.664	-4.46

Unit Cost	BY2010 $M Original UCR Baseline (NOV 2013 APB)	BY2010 $M Current Estimate (DEC 2013 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	6379.5	6164.7	
Quantity	64	64	
Unit Cost	99.680	96.323	-3.37
Average Procurement Unit Cost (APUC)			
Cost	4116.7	3933.2	
Quantity	59	59	
Unit Cost	69.775	66.664	-4.46

Unit Cost History



		BY2010 $M		TY $M	
	Date	PAUC	APUC	PAUC	APUC
Original APB	NOV 2013	99.680	69.775	116.380	84.661
APB as of January 2006	N/A	N/A	N/A	N/A	N/A
Revised Original APB	N/A	N/A	N/A	N/A	N/A
Prior APB	N/A	N/A	N/A	N/A	N/A
Current APB	NOV 2013	99.680	69.775	116.380	84.661
Prior Annual SAR	N/A	N/A	N/A	N/A	N/A
Current Estimate	DEC 2013	96.323	66.664	114.061	82.900

SAR Unit Cost History

Current SAR Baseline to Current Estimate (TY $M)

Initial PAUC Dev Est	Changes								PAUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
116.380	-0.566	0.000	0.212	-0.344	-1.621	0.000	0.000	-2.319	114.061

Current SAR Baseline to Current Estimate (TY $M)

Initial APUC Dev Est	Changes								APUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
84.661	-0.497	0.000	0.231	-0.373	-1.122	0.000	0.000	-1.761	82.900

SAR Baseline History

Item/Event	SAR Planning Estimate (PE)	SAR Development Estimate (DE)	SAR Production Estimate (PdE)	Current Estimate
Milestone A	N/A	MAY 2004	N/A	MAY 2004
Milestone B	N/A	AUG 2013	N/A	AUG 2013
Milestone C	N/A	MAR 2020	N/A	MAR 2020
IOC	N/A	AUG 2014	N/A	AUG 2014
Total Cost (TY $M)	N/A	7448.3	N/A	7299.9
Total Quantity	N/A	64	N/A	64
Prog. Acq. Unit Cost (PAUC)	N/A	116.380	N/A	114.061

Cost Variance

Summary Then Year $M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Dev Est)	2415.6	4995.0	37.7	7448.3
Previous Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	--	--	--	--
Other	--	--	--	--
Support	--	--	--	--
Subtotal	--	--	--	--
Current Changes				
Economic	-6.6	-29.3	-0.3	-36.2
Quantity	--	--	--	--
Schedule	--	+13.6	--	+13.6
Engineering	--	-22.0	--	-22.0
Estimating	-37.6	-66.2	--	-103.8
Other	--	--	--	--
Support	--	--	--	--
Subtotal	-44.2	-103.9	-0.3	-148.4
Total Changes	-44.2	-103.9	-0.3	-148.4
CE - Cost Variance	2371.4	4891.1	37.4	7299.9
CE - Cost & Funding	2371.4	4891.1	37.4	7299.9

Summary Base Year 2010 $M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Dev Est)	2233.7	4116.7	29.1	6379.5
Previous Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	--	--	--	--
Other	--	--	--	--
Support	--	--	--	--
Subtotal	--	--	--	--
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	-18.7	--	-18.7
Estimating	-31.2	-164.8	-0.1	-196.1
Other	--	--	--	--
Support	--	--	--	--
Subtotal	-31.2	-183.5	-0.1	-214.8
Total Changes	-31.2	-183.5	-0.1	-214.8
CE - Cost Variance	2202.5	3933.2	29.0	6164.7
CE - Cost & Funding	2202.5	3933.2	29.0	6164.7

Initial SAR - Above variances (if any) reflect changes since the SAR Baseline/APB.

SAR Baseline Reference: Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated November 27, 2013

RDT&E	$M	
Current Change Explanations	**Base Year**	**Then Year**
Revised escalation indices. (Economic)	N/A	-6.6
Adjustment for current and prior escalation. (Estimating)	+3.6	+3.9
DoD budget reductions (Contractor services reduction; FY reprogramming of FY 2015 Unmanned Influence Sweep System Other Procurement, Navy to RDT&E,Navy; etc.). (Estimating)	-21.8	-25.7
Miscellaneous reductions (Navy Working Capital Fund rate adjustments, travel efficiency reductions, etc.). (Estimating)	-12.2	-14.1
Revised estimate to reflect the application of new outyear escalation indices. (Estimating)	-0.8	-1.7
RDT&E Subtotal	-31.2	-44.2

Procurement	$M	
Current Change Explanations	**Base Year**	**Then Year**
Revised escalation indices. (Economic)	N/A	-29.3
Stretch-out of procurement buy profile. FY 2015 PB deferred the procurement of one Mine Countermeasures mission package from FY 2015 to a future year beyond the FYDP. This SAR adds that mission package to 2023, which will be the final year of initial procurement. (Schedule)	0.0	+13.6
Cancellation of Irregular Warfare Module (part of the Surface Warfare Mission Package). (Engineering)	-18.7	-22.0
Adjustment for current and prior escalation. (Estimating)	+3.4	+3.6
Miscellaneous reductions (Estimating)	-0.4	-0.4
DoD budget reductions (Changes to Mine Countermeasures Mission Package mission systems procurement, Contractor services reductions, etc.). (Estimating)	-166.4	-196.5
Reallocation of OPN to reflect projected cost profile in FY 2023-2054. (Estimating)	0.0	+128.6
Cancellation of FY 2014 surface-to-surface missile procurement. (Estimating)	-1.4	-1.5
Procurement Subtotal	-183.5	-103.9

MILCON	$M	
Current Change Explanations	**Base Year**	**Then Year**
Revised escalation indices. (Economic)	N/A	-0.3
Refined estimate. (Estimating)	-0.1	0.0
MILCON Subtotal	-0.1	-0.3

Contracts

Appropriation: RDT&E

Contract Name	**Mission Package Integrator - Core Contract**
Contractor	Northrop Grumman Systems Corporation
Contractor Location	600 Grumman Road West Bethpage, NY 11714
Contract Number, Type	N00024-06-C-6311/1, CPAF
Award Date	January 04, 2006
Definitization Date	January 04, 2006

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price at Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
159.2	N/A	0	169.1	N/A	0	169.1	169.1

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to unplanned costs resulting from two early deployments of LCS ships and mission packages.

Cost and Schedule Variance Explanations

Cost and Schedule Variance reporting is not required on this CPAF contract.

General Contract Variance Explanation

Cost and schedule variance reporting is not required on the core portion of this contract because it is for systems integration engineering services. Neither EVM performance information nor an EVM performance date are reported on the core portion of this contract because it is for system integration engineering services. EVM is not appropriate for such an effort and so there is no EVM reporting.

Contract Comments

This is the first time this contract is being reported.

This is the core integration systems engineering services (N00024-06-C-6311/1) portion of the Northrop Grumman mission package integration contract. No ceiling price is reported here because this portion of the contract is Cost Plus Award Fee (CPAF).

Appropriation: Procurement

Contract Name	**Mission Package Integrator - PIO CLINs**
Contractor	Northrop Grumman Systems Corporation
Contractor Location	600 Grumman Road West Bethpage, NY 11714
Contract Number, Type	N00024-06-C-6311/0, CPAF
Award Date	September 28, 2010
Definitization Date	September 28, 2010

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price at Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
30.3	N/A	0	105.5	N/A	0	105.5	105.5

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to several factors. The purpose of the Provisioned Item Order (PIO portion of the contract is to provide a means to procure specific parts and equipment to meet the evolving needs of the program. For example, the two early deployments of LCS 1 with a mission package were emergent requirements that incurred costs that were unforeseen at contract award. Each PIO procurement is a separately negotiated contract action that adds to the initial contract price.

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date (1/30/2014)	+0.3	-0.3
Previous Cumulative Variances	--	--
Net Change	+0.3	-0.3

Cost and Schedule Variance Explanations

The favorable cumulative cost variance is due to slight cost efficiencies achieved in the production process over time.

The unfavorable cumulative schedule variance is due to a slight delay a completing a work package that has since been rectified.

Contract Comments

This is the first time this contract is being reported.

This is the PIO (N00024-C-6311/0) portion of the Northrop Grumman mission package integration contract. No ceiling price is reported here because this is a Cost Plus Award Fee effort.

Deliveries and Expenditures

Delivered to Date	Plan to Date	Actual to Date	Total Quantity	Percent Delivered
Development	4	4	5	80.00%
Production	4	4	59	6.78%
Total Program Quantity Delivered	8	8	64	12.50%

Expended and Appropriated (TY $M)			
Total Acquisition Cost	7299.9	Years Appropriated	11
Expended to Date	1589.6	Percent Years Appropriated	21.15%
Percent Expended	21.78%	Appropriated to Date	2153.8
Total Funding Years	52	Percent Appropriated	29.50%

The above data is current as of 2/11/2014.

Operating and Support Cost

LCS MM

Assumptions and Ground Rules

Cost Estimate Reference:
The source of the O&S cost estimate in this SAR is the Navy Service Cost Position of February 6, 2013.

Sustainment Strategy:
The total quantity to be sustained is 64 mission packages. There will be 24 Mine Countermeasures (MCM), 24 Surface Warfare (SUW), and 16 Anti-Submarine Warfare (ASW) mission packages. Each mission package consists of a number of warfare area-specific mission systems, the computing environment and computer programs permanently installed aboard each LCS, any needed aviation assets, and a crew detachment. The collected sensors, weapons, and offboard vehicles for a given warfare area are “mission systems.” The LCS Mission Modules program office combines these mission systems with support containers, support equipment, the Mission Package Computing Environment (MPCE), Mission Package Application Software (MPAS), and the Multiple Vehicle Communication System (MVCS) to create “mission modules.” The MPCE, MPAS, and MVCS are permanently installed aboard each LCS during construction. At the Mission Package Support Facility (MPSF) or a Mission Module Readiness Center (MMRC), multiple mission modules are combined with any needed aviation assets and the mission package crew detachment to create a “mission package.” The mission package is what is embarked on the ship. An example follows:

A Surface Warfare Mission Package consists of:

- MPCE/MPAS/MVCS (permanently installed)
- Two Gun Mission Modules: Two 30 millimeter (mm) guns, containers, and support equipment
- One Maritime Security Module: Two Rigid Hull Inflatable Boats; Visit, Boarding, Search, and Seizure gear; containers; and support equipment
- One Surface-to-Surface Missile Module: Missiles, launcher, containers, and support equipment
- One Vertical Take-Off Unmanned Aerial Vehicle (VTUAV)/Fire Scout
- One MH-60R helicopter
- Crew detachment

Each mission package has a projected service life of 30 years. The first mission package entered the O&S phase in 2009 and the last mission package will leave the inventory in FY 2055.

The Fleet Introduction and Sustainment program office (PMS 505) is responsible for the sustainment of LCS mission modules. The sustainment strategy closely couples the development and production role of the LCS Mission Modules program office (PMS 420) with that of PMS 505, particularly in the near term. LCS will carry limited onboard resources to maintain and repair mission systems. The assignment of significant maintenance and repair work to a dedicated off-ship, shore-based workforce with significant reliance on distance support is a new approach. Thus, product support of LCS requires a departure from the support approach seen in other surface combatants.

The mission modules will be maintained, stored, and centrally managed through the MPSF. The MPSF will be responsible for providing or coordinating maintenance, technical, and spares support as mission modules, mission systems, or other equipment are delivered to and accepted by the MPSF. The MPSF was designed to receive requests from the deployed or embarked mission packages and to translate that into required actions for organic

Navy, Original Equipment Manufacturer (OEM), or other contractor effort, while maintaining a seamless process and a single interface to Fleet units.

PMS 505, through the MPSF, will coordinate all actions requiring shore-based personnel in support of maintenance and repair actions on an embarked mission package, particularly those that require travel to an Outside Continental United States (OCONUS)-deployed ship. Individual mission system maintenance plans describe specific mission system requirements and tasks to be accomplished to achieve, maintain, or restore operational capability. Maintenance is accomplished by the crew, by the MPSF, by organic Navy resources, or by a contractor, as appropriate. The MPSF will plan, arrange, schedule, coordinate, and manage the execution of all maintenance and modernization tasks. The permanent MPSF workforce will be augmented with government and contractor personnel to handle surge, low volume, and specialized tasks.

In addition to the MPSF, MMRC will be established at other Continental United States (CONUS) sites and at forward OCONUS locations as deployed operations require. MMRC are designed to have appropriate maintenance, administrative, and storage capabilities. To support significant maintenance or other events, MMRC staffing may be augmented from the MPSF and/or other Navy or contractor surge forces. MMRC provide support forces a base for specific operations (*e.g.*, embarkation/debarkation evolutions and major maintenance availabilities).

A hybrid Performance Based Logistics (PBL) system with a Program Support Integrator (PSI) arrangement will be adopted as a near-term solution for early support. The PSI will monitor and report failure of performance against Participating Activity Requirements Manager (PARM)-initiated support contracts requirements, assess existing contractual requirements against needs and experience, and seek alternatives where contractual adjustments are not possible or feasible to improve performance. The PSI will be responsible for data identification and collection and will analyze and correlate hardware and sustainment systems performance. This analysis will help determine which issues demand product improvement, which demand process improvement, what near-term mitigation is possible and affordable, and what long-term solutions are needed and recommended. During the early support phases of the program, PMS 505 will make use of support contracts arranged by mission system program offices, as well as In-Service Engineering Agents (ISEA) and other organic Navy support to provide maintenance, technical, training, and spares support.

PMS 505 will pursue a long-range PBL strategy, with PMS 505 as lead and contractors in a supporting role. PMS 505 has initiated a formal process to transition support from interim support to full MPSF support. This process is designed to ensure that approved logistics products, which are critical to establishing and maintaining mission modules sustainment support, are complete, comprehensive, and current. Ultimately, PMS 505 will ensure that specific plans with firm delivery dates are in place and that approved draft products are available in the interim. Additionally, PMS 505 will ensure that version and configuration control is in place, configuration changes consider logistics impacts, and the costs of updates to applicable products are included in the costs of the change.

Up to 16 month deployments of an LCS utilizing crew swaps. However, it cannot be assumed that a given mission package type will be embarked for the entire deployment due to the swappable mission package concept.

Antecedent Information:

There is no antecedent system. The LCS Mission Modules provide new capabilities not present in the Fleet today for the purpose of closing warfighting gaps not addressed by any currently fielded system.

Unitized O&S Costs BY2010 $M		
Cost Element	**LCS MM Average Annual Cost Per Mission Package**	**No Antecedent (Antecedent)**
Unit-Level Manpower	3.210	--
Unit Operations	0.296	--
Maintenance	2.658	--
Sustaining Support	0.484	--
Continuing System Improvements	3.691	--
Indirect Support	0.905	--
Other	0.000	--
Total	11.244	--

Unitized Cost Comments:

Total Mission Package O&S = unitized cost x 64 mission packages x 30-year service life per mission package.

The figure provided under the "Continuing System Improvements" cost element includes the projected average annual cost of replacing or refreshing individual mission systems. Generally, individual mission systems within the mission packages have a projected service life of less than 30 years.

	Total O&S Cost $M			
	Current Development APB Objective/Threshold		Current Estimate	
	LCS MM		LCS MM	No Antecedent (Antecedent)
Base Year	21589.2	23748.1	21589.2	N/A
Then Year	33040.2	N/A	33040.2	N/A

Total O&S Costs Comments:

None

Disposal Costs:

The estimated disposal cost is $177.8M in BY 2010. The source of the estimate is the Navy Service Cost Position of February 6, 2013.