



Selected Acquisition Report (SAR)

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



Littoral Combat Ship Mission Modules (LCS MM)

As of FY 2016 President's Budget

Defense Acquisition Management
Information Retrieval
(DAMIR)

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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)

Program Information

Program Name

Littoral Combat Ship Mission Modules (LCS MM)

DoD Component

Navy

Responsible Office

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Date

Assigned: July 28, 2014

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. Mission modules' modular capability provides an open architecture environment that enables future rapid insertion of new technologies.

Executive Summary

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

The Secretary of Defense, in a memo dated December 10, 2014, "Littoral Combat Ship Program Way Ahead," approved the Navy's proposal to procure a small surface combatant based on an upgraded Flight 0+ LCS. The Navy is in the process of implementing this direction and will modify the program of record for the LCS MM Program accordingly at a future date. This SAR is based on the current program of record of 64 mission packages.

Mine Countermeasures Mission Package (MCM MP):

- MCM MP DT-B2 Phase 4 Period 2 successfully completed all planned events on October 27, 2014.
- MCM MP Technical Evaluation (TECHEVAL) is scheduled to begin in April 2015 and complete in June 2015.
- MCM Initial Operational Test and Evaluation (IOT&E) is scheduled to begin in July 2015 and complete in September 2015.

Surface Warfare Mission Package (SUW MP):

- SUW MP completed all Freedom variant IOT&E events aboard USS Fort Worth (LCS 3) on April 21, 2014.
- Commander, Operational Test and Evaluation Force (COMOPTEVFOR) issued its final IOT&E test report on August 21, 2014. COMOPTEVFOR recommended the introduction of LCS with the SUW MP into the Fleet.
- PEO LCS letter serial LCS 1779 of November 25, 2014, reported that LCS with the SUW MP has met the requirements for IOC.
- SUW MP Developmental Test (DT), TECHEVAL, and IOT&E testing onboard an Independence variant are scheduled in 2015. DT-B4 Phase 2 testing is scheduled to begin in March 2015. TECHEVAL, DT-C4, is scheduled to begin in June 2015 with IOT&E, OT-C4, scheduled to begin in August 2015.
- USS Independence (LCS 2) participated in Rim of the Pacific 2014 with an SUW MP embarked.

Anti-Submarine Warfare Mission Package (ASW MP):

- Request for Proposal for the Escort Mission Module Engineering Development Model was released August 14, 2014. Proposals were received in November 2015.
- USS Freedom (LCS 1) successfully completed ASW MP Advanced Development Model at-sea testing on September 30, 2014. This was the first time an LCS has tracked a submarine with a Variable Depth Sonar and a Multi-Function Towed Array.

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.
2. **2366b(2):** That the MDA has received a 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 Department will continue to review the LCS MM program at least annually until the certification components are satisfied.

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

Threshold Breaches

APB Breaches

Schedule		<input 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"/>

Nunn-McCurdy Breaches

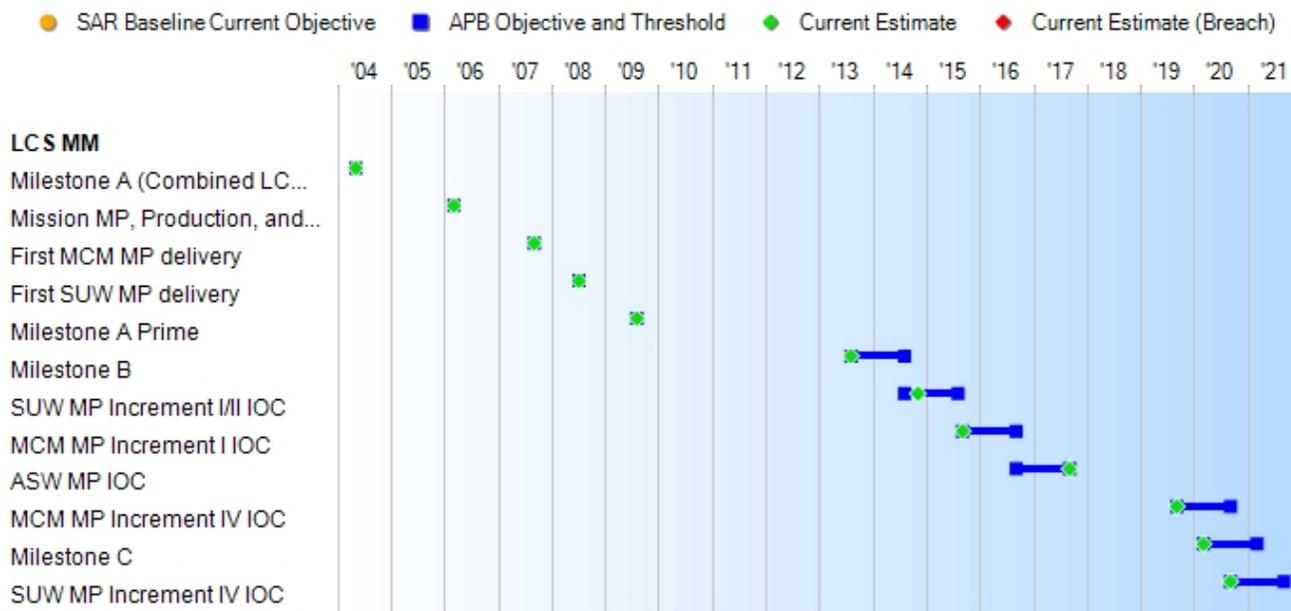
Current UCR Baseline

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 (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	Nov 2014
MCM MP Increment I IOC	Sep 2015	Sep 2015	Sep 2016	Sep 2015
ASW MP IOC	Sep 2016	Sep 2016	Sep 2017	Sep 2017
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

(Ch-1)

(Ch-2)

Change Explanations

(Ch-1) The current estimate for SUW MP Increment I/II IOC changed from August 2014 to November 2014 due to the time required for release of the operational test report and the Navy's development of a plan to address open items. The Navy declared IOC for SUW MP Increment I/II on November 25, 2014.

(Ch-2) The current estimate for ASW MP IOC changed from September 2016 to September 2017. The Congressional appropriations for FY 2015 contained significant reductions requiring reprioritization of ongoing development and integration efforts.

Acronyms and Abbreviations

ASW - Anti-Submarine Warfare

MCM - Mine Countermeasures

MP - Mission Package

SUW - Surface Warfare

Performance

Performance Characteristics				
SAR Baseline Development Estimate	Current APB Development Objective/Threshold		Demonstrated Performance	Current Estimate
MCM MP				
Material Availability				
.712	.712	.64	.673	.712 (Ch-1)
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				
Material Availability				
.712	.712	.64	.814	.712 (Ch-2)
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				
Material 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 Reference

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

Change Explanations

(Ch-1) Projected value from the LCS MM Reliability, Availability, Maintainability, and Cost (RAM-C) Rationale Report, updated in December 2013.

(Ch-2) Projected value from the LCS MM Reliability, Availability, Maintainability, and Cost (RAM-C) Rationale Report, updated in December 2013.

Notes

Interoperability Information Exchange Requirement KPP replaced by Net Ready KPP.

No materiel availability projection is available for the ASW MP currently in development.

Acronyms and Abbreviations

ASW - Anti-Submarine Warfare

MCM - Mine Countermeasures

MP - Mission Package

SUW - Surface Warfare

Track to Budget

RDT&E

Appn	BA	PE		
Navy	1319	04	0603581N	
	Project		Name	
	3096		LCS Mission Package Development	(Shared) (Sunk)
	3129		LCS Mission Package Development	(Shared) (Sunk)
Navy	1319	04	0603596N	
	Project		Name	
	3129		LCS Mission Package Development	

Procurement

Appn	BA	PE		
Navy	1507	04	0204230N	
	Line Item		Name	
	4221		LCS Module Weapons	
	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 Minehunting System	

MILCON

Appn	BA	PE		
Navy	1205	01	0212176N	
	Project		Name	
	60201424		LCS Mission Module Readiness Center (MMRC)	

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	2233.7	2233.7	2457.1	2287.0	2415.6	2415.6	2454.5
Procurement	4116.7	4116.7	4528.4	3972.0	4995.0	4995.0	4986.8
Flyaway	--	--	--	3972.0	--	--	4986.8
Recurring	--	--	--	3972.0	--	--	4986.8
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	29.3	37.7	37.7	35.7
Acq O&M	0.0	0.0	--	0.0	0.0	0.0	0.0
Total	6379.5	6379.5	N/A	6288.3	7448.3	7448.3	7477.0

Confidence Level

Confidence Level of cost estimate for current APB: 50%

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

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

Quantity Notes

The LCS MM program uses Mission Packages (MP) as its quantity unit of measure. A MP 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 PB 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 Surface Warfare (SUW) MP using the 1603 line (LCS SUW MPs). 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 Summary									
FY 2016 President's Budget / December 2014 SAR (TY\$ M)									
Appropriation	Prior	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	To Complete	Total
RDT&E	1544.2	176.9	206.1	125.8	57.1	46.6	39.5	258.3	2454.5
Procurement	530.1	61.0	225.2	314.2	317.6	332.6	236.5	2969.6	4986.8
MILCON	0.0	0.0	16.2	0.0	0.0	0.0	0.0	19.5	35.7
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2016 Total	2074.3	237.9	447.5	440.0	374.7	379.2	276.0	3247.4	7477.0
PB 2015 Total	2153.8	338.8	515.8	423.9	435.8	423.6	558.7	2449.5	7299.9
Delta	-79.5	-100.9	-68.3	16.1	-61.1	-44.4	-282.7	797.9	177.1

Quantity Summary										
FY 2016 President's Budget / December 2014 SAR (TY\$ M)										
Quantity	Undistributed	Prior	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	To Complete	Total
Development	5	0	0	0	0	0	0	0	0	5
Production	0	11	0	4	4	5	5	4	26	59
PB 2016 Total	5	11	0	4	4	5	5	4	26	64
PB 2015 Total	5	12	3	5	6	6	6	6	15	64
Delta	0	-1	-3	-1	-2	-1	-1	-2	11	0

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
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	--	--	--	--	--	--	196.7
2015	--	--	--	--	--	--	176.9
2016	--	--	--	--	--	--	206.1
2017	--	--	--	--	--	--	125.8
2018	--	--	--	--	--	--	57.1
2019	--	--	--	--	--	--	46.6
2020	--	--	--	--	--	--	39.5
2021	--	--	--	--	--	--	34.1
2022	--	--	--	--	--	--	27.8
2023	--	--	--	--	--	--	23.6
2024	--	--	--	--	--	--	24.2
2025	--	--	--	--	--	--	31.6
2026	--	--	--	--	--	--	37.2
2027	--	--	--	--	--	--	2.1
2028	--	--	--	--	--	--	2.1
2029	--	--	--	--	--	--	2.2
2030	--	--	--	--	--	--	2.2
2031	--	--	--	--	--	--	2.4
2032	--	--	--	--	--	--	2.3
2033	--	--	--	--	--	--	2.1
2034	--	--	--	--	--	--	2.3
2035	--	--	--	--	--	--	2.4
2036	--	--	--	--	--	--	2.8
2037	--	--	--	--	--	--	2.5
2038	--	--	--	--	--	--	2.5

2039	--	--	--	--	--	--	2.6
2040	--	--	--	--	--	--	2.7
2041	--	--	--	--	--	--	3.0
2042	--	--	--	--	--	--	2.8
2043	--	--	--	--	--	--	2.6
2044	--	--	--	--	--	--	3.0
2045	--	--	--	--	--	--	2.7
2046	--	--	--	--	--	--	3.3
2047	--	--	--	--	--	--	2.8
2048	--	--	--	--	--	--	3.2
2049	--	--	--	--	--	--	3.2
2050	--	--	--	--	--	--	3.3
2051	--	--	--	--	--	--	3.2
2052	--	--	--	--	--	--	3.3
2053	--	--	--	--	--	--	3.2
2054	--	--	--	--	--	--	3.5
2055	--	--	--	--	--	--	3.5
Subtotal	5	--	--	--	--	--	2454.5

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
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	--	--	--	--	--	--	142.8
2013	--	--	--	--	--	--	184.6
2014	--	--	--	--	--	--	181.4
2015	--	--	--	--	--	--	160.6
2016	--	--	--	--	--	--	183.9
2017	--	--	--	--	--	--	110.2
2018	--	--	--	--	--	--	49.0
2019	--	--	--	--	--	--	39.2
2020	--	--	--	--	--	--	32.6
2021	--	--	--	--	--	--	27.6
2022	--	--	--	--	--	--	22.1
2023	--	--	--	--	--	--	18.4
2024	--	--	--	--	--	--	18.5
2025	--	--	--	--	--	--	23.6
2026	--	--	--	--	--	--	27.3
2027	--	--	--	--	--	--	1.5
2028	--	--	--	--	--	--	1.5
2029	--	--	--	--	--	--	1.5
2030	--	--	--	--	--	--	1.5
2031	--	--	--	--	--	--	1.6
2032	--	--	--	--	--	--	1.5
2033	--	--	--	--	--	--	1.3
2034	--	--	--	--	--	--	1.4
2035	--	--	--	--	--	--	1.5
2036	--	--	--	--	--	--	1.7
2037	--	--	--	--	--	--	1.5
2038	--	--	--	--	--	--	1.4
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	--	--	--	--	--	2287.0

Only includes RDT&E, Navy costs associated with initial procurement. The LCS MM program will procure five 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 SCP.

Annual Funding 1507 Procurement Weapons 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
2017	--	2.8	--	--	2.8	--	2.8
2018	--	14.5	--	--	14.5	--	14.5
2019	--	21.0	--	--	21.0	--	21.0
2020	--	19.5	--	--	19.5	--	19.5
2021	--	28.5	--	--	28.5	--	28.5
2022	--	29.0	--	--	29.0	--	29.0
Subtotal	--	115.3	--	--	115.3	--	115.3

Annual Funding 1507 Procurement Weapons 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
2017	--	2.4	--	--	2.4	--	2.4
2018	--	12.2	--	--	12.2	--	12.2
2019	--	17.4	--	--	17.4	--	17.4
2020	--	15.8	--	--	15.8	--	15.8
2021	--	22.7	--	--	22.7	--	22.7
2022	--	22.6	--	--	22.6	--	22.6
Subtotal	--	93.1	--	--	93.1	--	93.1

The FY 2016 PB submission reflects the Navy decision to procure the Longbow Hellfire missile system instead of the Griffin Missile System.

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	
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	2	90.3	--	--	90.3	--	90.3	
2015	--	61.0	--	--	61.0	--	61.0	
2016	4	225.2	--	--	225.2	--	225.2	
2017	4	311.4	--	--	311.4	--	311.4	
2018	5	303.1	--	--	303.1	--	303.1	
2019	5	311.6	--	--	311.6	--	311.6	
2020	4	217.0	--	--	217.0	--	217.0	
2021	6	512.7	--	--	512.7	--	512.7	
2022	6	542.5	--	--	542.5	--	542.5	
2023	7	734.0	--	--	734.0	--	734.0	
2024	7	600.5	--	--	600.5	--	600.5	
2025	--	19.4	--	--	19.4	--	19.4	
2026	--	18.4	--	--	18.4	--	18.4	
2027	--	19.1	--	--	19.1	--	19.1	
2028	--	20.3	--	--	20.3	--	20.3	
2029	--	21.9	--	--	21.9	--	21.9	
2030	--	21.6	--	--	21.6	--	21.6	
2031	--	21.9	--	--	21.9	--	21.9	
2032	--	22.7	--	--	22.7	--	22.7	
2033	--	22.3	--	--	22.3	--	22.3	
2034	--	20.5	--	--	20.5	--	20.5	
2035	--	20.1	--	--	20.1	--	20.1	
2036	--	20.7	--	--	20.7	--	20.7	
2037	--	20.6	--	--	20.6	--	20.6	
2038	--	19.9	--	--	19.9	--	19.9	
2039	--	20.7	--	--	20.7	--	20.7	
2040	--	20.7	--	--	20.7	--	20.7	
2041	--	20.8	--	--	20.8	--	20.8	
2042	--	20.4	--	--	20.4	--	20.4	
2043	--	18.9	--	--	18.9	--	18.9	
2044	--	18.7	--	--	18.7	--	18.7	
2045	--	18.7	--	--	18.7	--	18.7	
2046	--	17.4	--	--	17.4	--	17.4	
2047	--	15.6	--	--	15.6	--	15.6	
2048	--	14.0	--	--	14.0	--	14.0	
2049	--	13.0	--	--	13.0	--	13.0	

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	4871.5	--	--	4871.5	--	4871.5

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
2010	2	213.9	--	--	213.9	--	213.9
2011	2	40.8	--	--	40.8	--	40.8
2012	2	63.7	--	--	63.7	--	63.7
2013	3	101.3	--	--	101.3	--	101.3
2014	2	82.5	--	--	82.5	--	82.5
2015	--	54.8	--	--	54.8	--	54.8
2016	4	198.8	--	--	198.8	--	198.8
2017	4	269.7	--	--	269.7	--	269.7
2018	5	257.5	--	--	257.5	--	257.5
2019	5	259.5	--	--	259.5	--	259.5
2020	4	177.2	--	--	177.2	--	177.2
2021	6	410.4	--	--	410.4	--	410.4
2022	6	425.7	--	--	425.7	--	425.7
2023	7	564.7	--	--	564.7	--	564.7
2024	7	452.9	--	--	452.9	--	452.9
2025	--	14.3	--	--	14.3	--	14.3
2026	--	13.3	--	--	13.3	--	13.3
2027	--	13.6	--	--	13.6	--	13.6
2028	--	14.1	--	--	14.1	--	14.1
2029	--	15.0	--	--	15.0	--	15.0
2030	--	14.5	--	--	14.5	--	14.5
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	3878.9	--	--	3878.9	--	3878.9

The FY 2016 PB defers procurement of seven Surface Warfare, two Mine Countermeasures, and two Anti-Submarine Warfare Mission Packages from 2014-2020 to years outside of the FYDP. This SAR assumes procurement of those 11 Mission Packages in 2022-2024.

Other Procurement, Navy (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 PE 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	213.9
2011	2	40.8
2012	2	63.7
2013	3	101.3
2014	2	82.5
2015	--	54.8
2016	4	198.8
2017	4	269.7
2018	5	257.5
2019	5	259.5
2020	4	177.2
2021	6	410.4
2022	6	425.7
2023	7	564.7
2024	7	452.9
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	--	--
<hr/>		
Subtotal	59	3573.4

Annual Funding 1205 MILCON Military Construction, Navy and Marine Corps	
Fiscal Year	TY \$M
	Total Program
2016	16.2
2017	--
2018	--
2019	--
2020	--
2021	19.5
<hr/>	
Subtotal	35.7

Annual Funding 1205 MILCON Military Construction, Navy and Marine Corps	
Fiscal Year	BY 2010 \$M
	Total Program
2016	14.0
2017	--
2018	--
2019	--
2020	--
2021	15.3
Subtotal	29.3

The SCP assumed receipt of MILCON funds in FY 2021 for construction of four Mission Module Readiness Centers in various locations. One of the locations will be Mayport, FL. The FY 2016 PB submission moves the funds for the construction of the Mission Module Readiness Center in Mayport, FL to FY 2016. However, the Naval Facilities Command manages, executes, and reports on these funds.

Low Rate Initial Production

Item	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	2019

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 three 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 2019.

The MDA 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 three Surface Warfare, one Mine Countermeasures, and one 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 2016.

Foreign Military Sales

None

Nuclear Costs

None

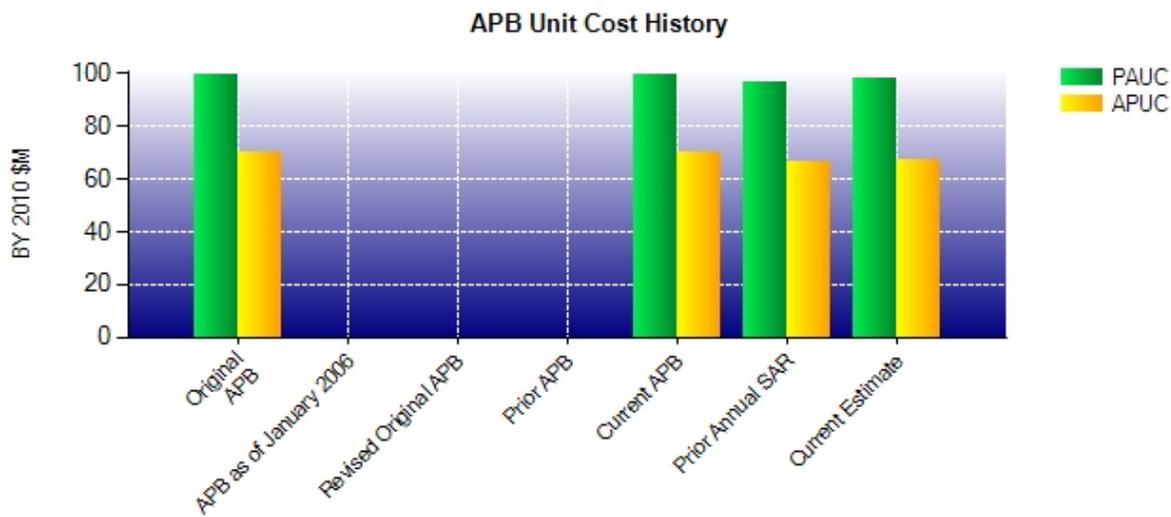
Unit Cost

Unit Cost Report

Item	BY 2010 \$M	BY 2010 \$M	% Change
	Current UCR Baseline (Nov 2013 APB)	Current Estimate (Dec 2014 SAR)	
Program Acquisition Unit Cost			
Cost	6379.5	6288.3	
Quantity	64	64	
Item	99.680	98.255	-1.43
Average Procurement Unit Cost			
Cost	4116.7	3972.0	
Quantity	59	59	
Unit Cost	69.775	67.322	-3.52

Item	BY 2010 \$M	BY 2010 \$M	% Change
	Original UCR Baseline (Nov 2013 APB)	Current Estimate (Dec 2014 SAR)	
Program Acquisition Unit Cost			
Cost	6379.5	6288.3	
Quantity	64	64	
Unit Cost	99.680	98.255	-1.43
Average Procurement Unit Cost			
Cost	4116.7	3972.0	
Quantity	59	59	
Unit Cost	69.775	67.322	-3.52

Unit Cost History



Item	Date	BY 2010 \$M		TY \$M	
		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	Dec 2013	96.323	66.664	114.061	82.900
Current Estimate	Dec 2014	98.255	67.322	116.828	84.522

SAR Unit Cost History

Current SAR Baseline to Current Estimate (TY \$M)									
Initial PAUC Development Estimate	Changes								PAUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
116.380	-1.430	0.000	6.766	-0.344	-4.544	0.000	0.000	0.448	116.828

Current SAR Baseline to Current Estimate (TY \$M)									
Initial APUC Development Estimate	Changes								APUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
84.661	-1.193	0.000	7.339	-0.373	-5.912	0.000	0.000	-0.139	84.522

SAR Baseline History				
Item	SAR Planning Estimate	SAR Development Estimate	SAR Production Estimate	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	Nov 2014
Total Cost (TY \$M)	N/A	7448.3	N/A	7477.0
Total Quantity	N/A	64	N/A	64
PAUC	N/A	116.380	N/A	116.828

Cost Variance

Summary TY \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Development Estimate)	2415.6	4995.0	37.7	7448.3
Previous 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
Current Changes				
Economic	-13.8	-41.1	-0.4	-55.3
Quantity	--	--	--	--
Schedule	--	+419.4	--	+419.4
Engineering	--	--	--	--
Estimating	+96.9	-282.6	-1.3	-187.0
Other	--	--	--	--
Support	--	--	--	--
Subtotal	+83.1	+95.7	-1.7	+177.1
Total Changes	+38.9	-8.2	-2.0	+28.7
CE - Cost Variance	2454.5	4986.8	35.7	7477.0
CE - Cost & Funding	2454.5	4986.8	35.7	7477.0

Summary BY 2010 \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Development Estimate)	2233.7	4116.7	29.1	6379.5
Previous 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
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	+277.5	--	+277.5
Engineering	--	--	--	--
Estimating	+84.5	-238.7	+0.3	-153.9
Other	--	--	--	--
Support	--	--	--	--
Subtotal	+84.5	+38.8	+0.3	+123.6
Total Changes	+53.3	-144.7	+0.2	-91.2
CE - Cost Variance	2287.0	3972.0	29.3	6288.3
CE - Cost & Funding	2287.0	3972.0	29.3	6288.3

Previous Estimate: December 2013

RDT&E	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-13.8
Adjustment for current and prior escalation. (Estimating)	+3.8	+4.1
FY 2014 execution year adjustments. (Estimating)	-7.0	-7.4
FY 2015 program under execution reduction. (Estimating)	-18.2	-20.0
Addition of Mine Countermeasure Mission Package (MP) equipment development and integration funding. (Estimating)	+12.1	+13.5
Adjustment to reflect change from Griffin Missile System to Longbow Hellfire Missile System. (Estimating)	+28.4	+32.2
Switch of Anti-Submarine Warfare (ASW) MP funds from Other Procurement, Navy to RDT&E, Navy and adjustment of funding for integration. (Estimating)	+56.0	+63.1
Adjustment to align FY 2020 Previous Estimate with initial PB 2016 FYDP entry. (Estimating)	+9.4	+11.4
RDT&E Subtotal	+84.5	+83.1

Procurement	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-41.1
Stretch-out of procurement buy profile from FY 2023 to FY 2024 due to reductions in procurements in FY 2014 - FY 2020 and Congressional reduction against procurements in FY 2015. (Schedule)	0.0	+116.2
Manual corrections to automatically calculated schedule variance resulting from averaging procurement costs of Mission Module equipment across all mission package types and increments. (Schedule)	+277.5	+303.2
Adjustment for current and prior escalation. (Estimating)	+1.9	+2.1
Reduction of Weapons Procurement, Navy to reflect change to Longbow Hellfire Missile System from the Griffin Missile System. (Estimating)	-4.8	-5.6
FY 2014 Execution Year adjustments (Estimating)	-8.1	-8.9
Congressional and Navy budget adjustments (Estimating)	-150.7	-173.6
Adjustment to reflect projected cost of modifying existing LCS to allow fielding of the current ASW MP design. (Estimating)	+26.1	+30.6
Adjustment to reflect pricing from new mission system contracts (Estimating)	+9.5	+10.8
Adjustment to FY 2020 Prior Estimate to align with PB 2016 FYDP controls (Estimating)	-112.6	-138.0
Procurement Subtotal	+38.8	+95.7

MILCON	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-0.4
Funding for LCS MM Readiness Center, previously reported in the LCS Shipbuilding Program SAR moved to LCS MM SAR (Estimating)	+0.3	-1.3
MILCON Subtotal	+0.3	-1.7

Contracts

Contract Identification

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: N00024-06-C-6311/1
Contract Type: Cost Plus Award Fee (CPAF)
Award Date: January 04, 2006
Definitization Date: January 04, 2006

Contract Price

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	211.6	N/A	0	211.6	211.6

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to ongoing design, development, systems engineering, and integration efforts.

Contract Variance

Item	Cost Variance	Schedule Variance
Cumulative Variances To Date	0.0	0.0
Previous Cumulative Variances	--	--
Net Change	+0.0	+0.0

Cost and Schedule Variance Explanations

None

General Contract Variance Explanation

Cost and schedule variances are not reported for this contract, because EVM reporting was waived due to the nature of the work being level of effort systems engineering services.

Notes

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 is a CPAF effort.

Contract Identification

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: N00024-06-C-6311/0
Contract Type: Cost Plus Award Fee (CPAF)
Award Date: September 28, 2010
Definitization Date: September 28, 2010

Contract Price							
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.

Contract Variance			
Item	Cost Variance		Schedule Variance
Cumulative Variances To Date (12/18/2014)	-0.1		+1.1
Previous Cumulative Variances	+0.3		-0.3
Net Change	-0.4		+1.4

Cost and Schedule Variance Explanations

The unfavorable net change in the cost variance is due to normal fluctuations in the Budgeted Cost of Work Produced and Actual Cost of Work Produced.

The favorable net change in the schedule variance is due to performance associated with production of the Surface Warfare #7 Gun Mission Module.

Notes

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 CPAF effort.

Deliveries and Expenditures

Deliveries				
Delivered to Date	Planned 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	7477.0	Years Appropriated	12
Expended to Date	1873.5	Percent Years Appropriated	23.08%
Percent Expended	25.06%	Appropriated to Date	2312.2
Total Funding Years	52	Percent Appropriated	30.92%

The above data is current as of January 22, 2015.

Operating and Support Cost

Cost Estimate Details

Date of Estimate:	February 06, 2013
Source of Estimate:	SCP
Quantity to Sustain:	64
Unit of Measure:	Mission Package
Service Life per Unit:	30.00 Years
Fiscal Years in Service:	FY 2009 - FY 2055

There will be 24 Mine Countermeasures, 24 Surface Warfare, and 16 Anti-Submarine Warfare 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 MM 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 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 / Fire Scout
- One MH-60R helicopter
- Crew detachment

Sustainment Strategy

The Fleet Introduction and Sustainment program office, Program Manager, Ship (PMS) 505 is responsible for the sustainment of LCS MM. The sustainment strategy closely couples the development and production role of the LCS MM 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, 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 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 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 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.

Antecedent Information

No Antecedent

Cost Element	Annual O&S Costs BY2010 \$M	
	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	--

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

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

Equation to Translate Annual Cost to Total Cost

Total Mission Package O&S = unitized cost (Unit Level Manpower + Unit Operations + Maintenance + Sustaining Support + Continuing System Improvements + Indirect Support) 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.

O&S Cost Variance		
Category	BY 2010 \$M	Change Explanations
Prior SAR Total O&S Estimates - Dec 2013 SAR	21589.2	
Programmatic/Planning Factors	0.0	
Cost Estimating Methodology	0.0	
Cost Data Update	0.0	
Labor Rate	0.0	
Energy Rate	0.0	
Technical Input	0.0	
Other	0.0	
Total Changes	0.0	
Current Estimate	21589.2	

Disposal Estimate Details

Date of Estimate: February 06, 2012
Source of Estimate: SCP
Disposal/Demilitarization Total Cost (BY 2010 \$M): Total costs for disposal of all Mission Package are 177.8