



## Selected Acquisition Report (SAR)

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



### Littoral Combat Ship (LCS)

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 (LCS)

**DoD Component**

Navy

## Responsible Office

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**Date**

**Assigned:** November 16, 2012

## 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

On February 24, 2014 a Secretary of Defense (SECDEF) memo directed that no new contract negotiations beyond 32 Flight 0+ LCS ships will go forward pending the results of a small surface combatant task force (SSCTF). The mandated Navy study concluded that a modified LCS fulfilled the requirement of "a capable and lethal small surface combatant." On December 10, 2014, SECDEF issued a memo, "Littoral Combat Ship Program Way Ahead," concurring with the Navy's findings from the SSCTF study. The SECDEF memo reaffirmed the Navy's requirement for 52 Flight 0+ LCS and small surface combatants, with the final number and mix procured dependent on future fleet requirements, final procurement and O&S costs, and overall Department of the Navy resources. In response to this memo, the Navy is currently developing an Acquisition Strategy for the Frigate (FF) to support procurement of the FF beginning in FY 2019. The Navy is also developing a 52 small surface combatant Service Cost Estimate to support the FY 2017 PB. This SAR does not include any funding required to support design and procurement of the FF.

The FY 2016 PB submission requests \$1,332M to procure LCS hulls 24 through 26 in FY 2016. This represents no quantity change from FY 2015 PB. However, this is a change to the procurement profile from the original Block Buy contracts to Lockheed Martin and Austal USA. The last ship of the FY 2010 – FY 2015 Block Buy contract is now in FY 2016. On October 17, 2014, USD(AT&L) approved the LCS acquisition strategy for the FY 2016 ships. As such, the last ship of the of the Block Buy will be procured in accordance with the original contract, although funded in FY 2016, and the two remaining FY 2016 ships will be awarded as priced options under modified Block Buy contracts to Lockheed Martin and Austal USA. To support this new FY 2015 - FY 2016 Acquisition Strategy the FY 2015 Defense Appropriations bill provides the LCS program with \$80M in Advance Procurement funds for one FY 2016 ship. These funds will be used to procure long lead material in FY 2015 to preserve Block Buy pricing. The Program is currently working with Lockheed Martin and Austal USA to modify the Block Buy contracts in accordance with this strategy.

Sequestration and Congressional reductions in FY 2010 – FY 2013 reduced ships LCS 5 – LCS 16 budgets by \$213M impacting the program's ability to fund shipbuilding contracts to the program manager's estimate. FY 2016 PB requests \$86.3M of cost to complete for the FY 2012 ships.

Twenty-four LCS Seaframes have been awarded to date: four have delivered to the Navy, 12 are in various stages of production, and four are in pre-production status.

USS FREEDOM (LCS 1) is a fully operational fleet asset.

USS INDEPENDENCE (LCS 2) conducted Seaframe Developmental Testing (DT) and Mine Countermeasure (MCM) Mission Package (MP) events throughout 2014. In July 2014 LCS 2 participated in Rim of the Pacific prior to completing portions of its Special Trial in August 2014. LCS 2 has embarked the MCM MP for the DT phase, leading to operational testing and ultimately achieving INDEPENDENCE variant Initial Operational Test & Evaluation (IOT&E) in FY 2015.

USS FORTH WORTH (LCS 3) completed Surface Warfare (SUW) MP IOT&E events in April 2014, satisfying the IOT&E and IOC schedule milestones for the FREEDOM variant in the APB. Commander, Operational Test and Evaluation Force (COMOPTEVFOR) issued its final test report following SUW MP IOT&E events on August 21, 2014 recommending the introduction of LCS with the SUW MP into the Fleet. COMOPTEVFOR rated the LCS Freedom variant, with the SUW MP, as operationally effective. COMOPTEVFOR found that the performance of the ship, with the SUW MP, was sufficient to effectively defend the ship against surface threats and to effectively support the SUW mission. COMOPTEVFOR identified some issues requiring further demonstration which are being addressed and will ultimately be assessed in follow on testing. In October 2014, LCS 3 completed a Total Ship Survivability Test prior to deploying to the Western Pacific on November 17, 2014.

USS CORONADO (LCS 4) commissioned in April 2014 in San Diego, California, prior to conducting Core Seaframe and SUW DT events in preparation for INDEPENDENCE variant SUW MP IOT&E in FY 2015. In October 2014 USS CORONADO entered a Post Shakedown Availability in which it is scheduled to remain until March and will achieve its Obligation Work Limiting Date in April 2015.

MILWAUKEE (LCS 5) and JACKSON (LCS 6) are completing all remaining hull, mechanical and electrical and combat system work to support testing leading to Builders/Acceptance Trial in Spring 2015 followed by Delivery in Summer 2015.

MONTGOMERY (LCS 8) launched on August 6, 2014 and was christened on November 8, 2014. DETROIT (LCS 7) launched and christened on October 18, 2014. Both ships have entered the system completion and test phase of the production sequence to support a Fall 2015 Acceptance Trial followed by Delivery.

As of January 2015, LITTLE ROCK (LCS 9) is 67 percent complete and GABRIELLE GIFFORDS (LCS 10) is 81 percent complete. SIOUX CITY (LCS 11) and OMAHA (LCS 12) are approximately 51 and 59 percent complete, respectively. WICHITA (LCS 13) and MANCHESTER (LCS 14) are approximately 24 and 38 percent complete, respectively.

BILLINGS (LCS 15) and TULSA (LCS 16) completed thorough detail design and production readiness review with the Navy and have been approved to proceed with ship fabrication.

INDIANAPOLIS (LCS 17) and ST. LOUIS (LCS 19) are currently in a pre-production phase with Lockheed Martin and CHARLESTON (LCS 18) and CINCINNATI (LCS 20) are in pre-production with Austal USA. Pre-production includes the procurement of long lead time material that is critical to maintaining a production schedule.

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, with waivers. Specifically, USD(AT&L) was unable to certify three provisions and that 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 remaining resources required to complete the 32 LCS program remain outside the FYDP as submitted for FY 2016 PB. For the waiver to provision (a)1(C) (reasonable cost estimates with concurrence of Director (D),CAPE), the D,CAPE continues to monitor the cost estimates as the program progresses through the budget cycles and participates in annual DAB In-Process Reviews conducted by USD(AT&L).

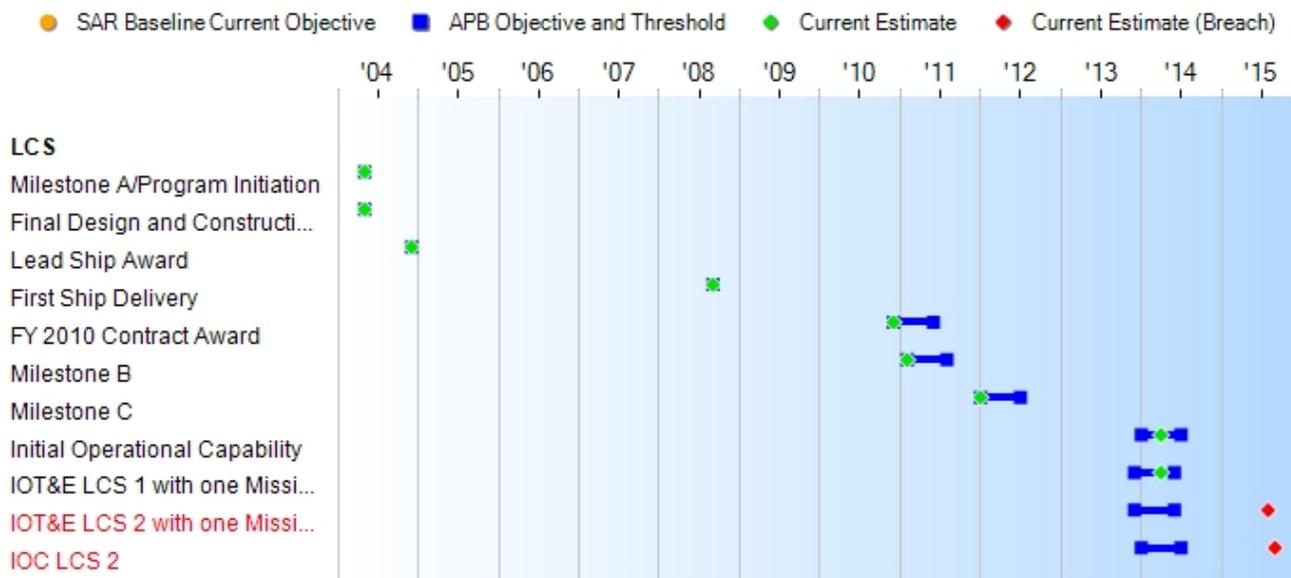
There are no significant software-related issues with this program at this time.

## Threshold Breaches

APB Breaches		Explanation of Breach
<b>Schedule</b>	<input checked="" type="checkbox"/>	The schedule breach was previously reported in the December 2013 SAR.
<b>Performance</b>	<input type="checkbox"/>	
<b>Cost</b>	<input type="checkbox"/>	A Program Deviation Report was submitted February 10, 2014.
RDT&E	<input type="checkbox"/>	
Procurement	<input type="checkbox"/>	
MILCON	<input type="checkbox"/>	
Acq O&M	<input type="checkbox"/>	
<b>O&amp;S Cost</b>	<input type="checkbox"/>	
<b>Unit Cost</b>	<input type="checkbox"/>	
PAUC	<input type="checkbox"/>	
APUC	<input type="checkbox"/>	

Nunn-McCurdy Breaches	
<b>Current UCR Baseline</b>	
PAUC	None
APUC	None
<b>Original UCR Baseline</b>	
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 (Ch-1)
IOT&E LCS 1 with one Mission Package	Dec 2013	Dec 2013	Jun 2014	Apr 2014 (Ch-2)
IOT&E LCS 2 with one Mission Package	Dec 2013	Dec 2013	Jun 2014	<b>Aug 2015<sup>1</sup></b>
IOC LCS 2	Jan 2014	Jan 2014	Jul 2014	<b>Sep 2015<sup>1</sup></b>

<sup>1</sup> APB Breach

## Change Explanations

(Ch-1) The current estimate for IOC was revised from March 2013 to April 2014 to align with formal declaration as documented in the PEO LCS letter dated November 14, 2014.

(Ch-2) The current estimate for IOT&E LCS 1 with one Mission Package was revised from June 2014 to April 2014 to align with actual completion as documented in the PEO LCS letter dated November 14, 2014.

**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
<b>Navigational Draft (ft)</b>				
10	10	20	15.7	15.7
<b>Sprint Speed (kts)</b>				
50	50	40	TBD	40
<b>Range at Transit Speed (includes payload)</b>				
4,300 nm @ 16 kts	4,300 nm @ 16 kts	3,500 nm @ 14 kts	3533 nm @ 14 kts	3533 nm @ 14 kts
<b>Mission Package Payload (Weight)</b>				
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 (105 MT) mission package/75 MT mission package fuel)
<b>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.</b>				
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 nonrepudiation, 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, authentication, confidentiality,	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 including availability, integrity, authentication,	TBD	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,

(Ch-1)

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.	and nonreputiation, 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.	confidentiality, and nonreputiation, 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.		and nonreputiation, 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.
<b>Core Crew Manning (# Core Crew Members)</b>				
15	15	50	50 Core Crew	50 Core Crew
<b>Materiel Availability</b>				
0.712	0.712	0.64	TBD	0.64
<b>Systems Training (Core Crew)</b>				
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	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) Navigational Draft current estimate revised from 15.4(ft) to 15.7(ft) based on actual performance data.

#### 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

## RDT&amp;E

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

## Procurement

Appn	BA	PE	
Navy	1611	02	0204230N
	<b>Line Item</b>		<b>Name</b>
	2127		Littoral Combat Ship
Navy	1611	05	0204230N
	<b>Line Item</b>		<b>Name</b>
	5110		Outfitting (Shared)
	5300		Completion of Prior Year Shipbuilding Programs (Shared)
Navy	1810	01	0204230N
	<b>Line Item</b>		<b>Name</b>
	0944		LCS Class Equipment
	1320		Other Ship Training Equipment (Shared)

## MILCON

Appn	BA	PE	
Navy	1205	01	0203176N
	<b>Project</b>		<b>Name</b>
	00245499		LCS Facility Support
	00245500		LCS Training Facility (Sunk)
	60201425		LCS Logistics Support Facility (Shared) (Sunk)
Navy	1205	01	0815976N
	<b>Project</b>		<b>Name</b>
	60201423		LCS Operational Trainer Facility (Shared)
Navy	1205	03	0901211N
	<b>Project</b>		<b>Name</b>
	64482044		Planning (Shared) (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	3143.7	3481.7	3481.7	3153.7
Procurement	28369.2	28369.2	31206.1	15655.7	33720.5	33720.5	18434.6
Flyaway	--	--	--	15655.7	--	--	18434.6
Recurring	--	--	--	15655.7	--	--	18434.6
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	213.8	236.6	236.6	254.0
Acq O&M	0.0	0.0	--	0.0	0.0	0.0	0.0
Total	32011.0	32011.0	N/A	19013.2	37438.8	37438.8	21842.3

#### Confidence Level

Confidence Level of cost estimate for current APB: 50%

The estimate to support this program, like most cost estimates, is built upon a product-oriented work breakdown structure based on historical actual cost information to the maximum extent possible, and, most importantly, based on conservative assumptions that are consistent with actual demonstrated contractor and government performance for a series of acquisition programs in which we have been successful.

It is difficult to calculate mathematically the precise confidence levels associated with life-cycle cost estimates prepared for Major Defense Acquisition Programs (MDAPs). Based on the rigor in methods used in building estimates, the strong adherence to the collection and use of historical cost information, and the review of applied assumptions, we project that it is about as likely the estimate will prove too low or too high for the program as described.

#### Cost Notes

In response to the December 10, 2014 Secretary of Defense memo, the Navy is currently developing an Acquisition Strategy for the Frigate (FF) to support procurement of the FF beginning in FY 2019. The Navy is also developing a 52 small surface combatant Service Cost Estimate to support the FY 2017 PB. This SAR does not include any funding required to support design and procurement of the FF. The estimate in this SAR represents the cost of the 32 ship program.

Total Quantity

Quantity	SAR Baseline Development Estimate	Current APB Development	Current Estimate
RDT&E	2	2	2
Procurement	53	53	30
Total	55	55	32

## 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	2717.7	86.7	88.4	47.0	24.5	18.6	11.0	159.8	3153.7
Procurement	9242.1	1731.5	1722.1	1825.5	1792.6	428.0	512.4	1180.4	18434.6
MILCON	78.4	20.5	37.4	0.0	0.0	0.0	0.0	117.7	254.0
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2016 Total	12038.2	1838.7	1847.9	1872.5	1817.1	446.6	523.4	1457.9	21842.3
PB 2015 Total	12029.8	1793.4	1889.2	1864.3	1821.9	452.2	807.4	1965.2	22623.4
Delta	8.4	45.3	-41.3	8.2	-4.8	-5.6	-284.0	-507.3	-781.1

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	2	0	0	0	0	0	0	0	0	2
Production	0	18	3	3	3	3	0	0	0	30
PB 2016 Total	2	18	3	3	3	3	0	0	0	32
PB 2015 Total	2	18	3	3	3	3	0	0	0	32
Delta	0	0	0	0	0	0	0	0	0	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
2003	--	--	--	--	--	--	35.8
2004	--	--	--	--	--	--	116.8
2005	--	--	--	--	--	--	369.8
2006	--	--	--	--	--	--	384.5
2007	--	--	--	--	--	--	573.1
2008	--	--	--	--	--	--	200.9
2009	--	--	--	--	--	--	197.4
2010	--	--	--	--	--	--	259.1
2011	--	--	--	--	--	--	99.0
2012	--	--	--	--	--	--	147.0
2013	--	--	--	--	--	--	168.8
2014	--	--	--	--	--	--	165.5
2015	--	--	--	--	--	--	86.7
2016	--	--	--	--	--	--	88.4
2017	--	--	--	--	--	--	47.0
2018	--	--	--	--	--	--	24.5
2019	--	--	--	--	--	--	18.6
2020	--	--	--	--	--	--	11.0
2021	--	--	--	--	--	--	107.3
2022	--	--	--	--	--	--	26.1
2023	--	--	--	--	--	--	26.4
Subtotal	2	--	--	--	--	--	3153.7

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	--	--	--	--	--	--	255.2
2011	--	--	--	--	--	--	95.2
2012	--	--	--	--	--	--	139.0
2013	--	--	--	--	--	--	157.2
2014	--	--	--	--	--	--	152.6
2015	--	--	--	--	--	--	78.7
2016	--	--	--	--	--	--	78.9
2017	--	--	--	--	--	--	41.2
2018	--	--	--	--	--	--	21.0
2019	--	--	--	--	--	--	15.7
2020	--	--	--	--	--	--	9.1
2021	--	--	--	--	--	--	86.8
2022	--	--	--	--	--	--	20.7
2023	--	--	--	--	--	--	20.5
Subtotal	2	--	--	--	--	--	3143.7

RDT&E for the LCS Seaframe Program includes the detail design and construction of two Flight 0 ships in addition to the program development, test and evaluation, training development, and sustained engineering.

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	--	--	30.8	--	30.8	--	30.8	
2014	--	--	70.5	--	70.5	--	70.5	
2015	--	--	35.4	--	35.4	--	35.4	
2016	--	--	107.4	--	107.4	--	107.4	
2017	--	--	93.2	--	93.2	--	93.2	
2018	--	--	88.4	--	88.4	--	88.4	
2019	--	--	107.8	--	107.8	--	107.8	
2020	--	--	104.3	--	104.3	--	104.3	
2021	--	--	55.9	--	55.9	--	55.9	
Subtotal	--	--	714.1	--	714.1	--	714.1	

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	--	--	28.6	--	28.6	--	28.6	
2014	--	--	64.4	--	64.4	--	64.4	
2015	--	--	31.8	--	31.8	--	31.8	
2016	--	--	94.8	--	94.8	--	94.8	
2017	--	--	80.7	--	80.7	--	80.7	
2018	--	--	75.1	--	75.1	--	75.1	
2019	--	--	89.8	--	89.8	--	89.8	
2020	--	--	85.2	--	85.2	--	85.2	
2021	--	--	44.7	--	44.7	--	44.7	
Subtotal	--	--	614.3	--	614.3	--	614.3	

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	
2006	--	500.0	--	--	500.0	--	500.0	
2007	--	--	--	--	--	--	--	
2008	--	--	--	--	--	--	--	
2009	2	1017.0	--	--	1017.0	--	1017.0	
2010	2	1044.8	--	--	1044.8	--	1044.8	
2011	2	1189.0	--	--	1189.0	--	1189.0	
2012	4	1719.3	--	--	1719.3	--	1719.3	
2013	4	1789.1	--	--	1789.1	--	1789.1	
2014	4	1861.2	--	--	1861.2	--	1861.2	
2015	3	1696.1	--	--	1696.1	--	1696.1	
2016	3	1614.7	--	--	1614.7	--	1614.7	
2017	3	1732.3	--	--	1732.3	--	1732.3	
2018	3	1704.2	--	--	1704.2	--	1704.2	
2019	--	320.2	--	--	320.2	--	320.2	
2020	--	408.1	--	--	408.1	--	408.1	
2021	--	601.4	--	--	601.4	--	601.4	
2022	--	359.3	--	--	359.3	--	359.3	
2023	--	163.8	--	--	163.8	--	163.8	
Subtotal	30	17720.5	--	--	17720.5	--	17720.5	

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
2006	--	535.7	--	--	535.7	--	535.7
2007	--	--	--	--	--	--	--
2008	--	--	--	--	--	--	--
2009	2	977.6	--	--	977.6	--	977.6
2010	2	970.7	--	--	970.7	--	970.7
2011	2	1070.3	--	--	1070.3	--	1070.3
2012	4	1514.2	--	--	1514.2	--	1514.2
2013	4	1545.7	--	--	1545.7	--	1545.7
2014	4	1579.8	--	--	1579.8	--	1579.8
2015	3	1414.4	--	--	1414.4	--	1414.4
2016	3	1321.5	--	--	1321.5	--	1321.5
2017	3	1390.5	--	--	1390.5	--	1390.5
2018	3	1341.2	--	--	1341.2	--	1341.2
2019	--	247.1	--	--	247.1	--	247.1
2020	--	308.7	--	--	308.7	--	308.7
2021	--	446.0	--	--	446.0	--	446.0
2022	--	261.2	--	--	261.2	--	261.2
2023	--	116.8	--	--	116.8	--	116.8
Subtotal	30	15041.4	--	--	15041.4	--	15041.4

Cost Quantity Information 1611   Procurement   Shipbuilding and Conversion, Navy		
Fiscal Year	Quantity	End Item Recurring Flyaway (Aligned With Quantity) BY 2010 \$M
2006	--	--
2007	--	--
2008	--	--
2009	2	1628.5
2010	2	1111.3
2011	2	1105.4
2012	4	1794.9
2013	4	1707.6
2014	4	1760.5
2015	3	1392.4
2016	3	1527.9
2017	3	1560.5
2018	3	1452.4
2019	--	--
2020	--	--
2021	--	--
2022	--	--
2023	--	--
Subtotal	30	15041.4

Annual Funding 1205   MILCON   Military Construction, Navy and Marine Corps	
Fiscal Year	TY \$M
	Total Program
2013	62.3
2014	16.1
2015	20.5
2016	37.4
2017	--
2018	--
2019	--
2020	--
2021	117.7
Subtotal	254.0

Annual Funding 1205   MILCON   Military Construction, Navy and Marine Corps	
Fiscal Year	BY 2010 \$M
	Total Program
2013	56.8
2014	14.4
2015	18.1
2016	32.3
2017	--
2018	--
2019	--
2020	--
2021	92.2
Subtotal	213.8

## Low Rate Initial Production

Item	Initial LRIP Decision	Current Total LRIP
<b>Approval Date</b>	2/18/2011	10/17/2014
<b>Approved Quantity</b>	24	26
<b>Reference</b>	Milestone B ADM	LCS 2016 Acquisition Strategy
<b>Start Year</b>	2005	2005
<b>End Year</b>	2015	2016

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 through 2016, in order to cover the LCS Seaframe program requirements.

The LRIP decision of 26 ships includes two ships procured with RDT&E, two ships procured in FY 2009, and the 22 ships being procured in a block buy arrangement in FY 2010 through FY 2016.

## **Foreign Military Sales**

None

## **Nuclear Costs**

None

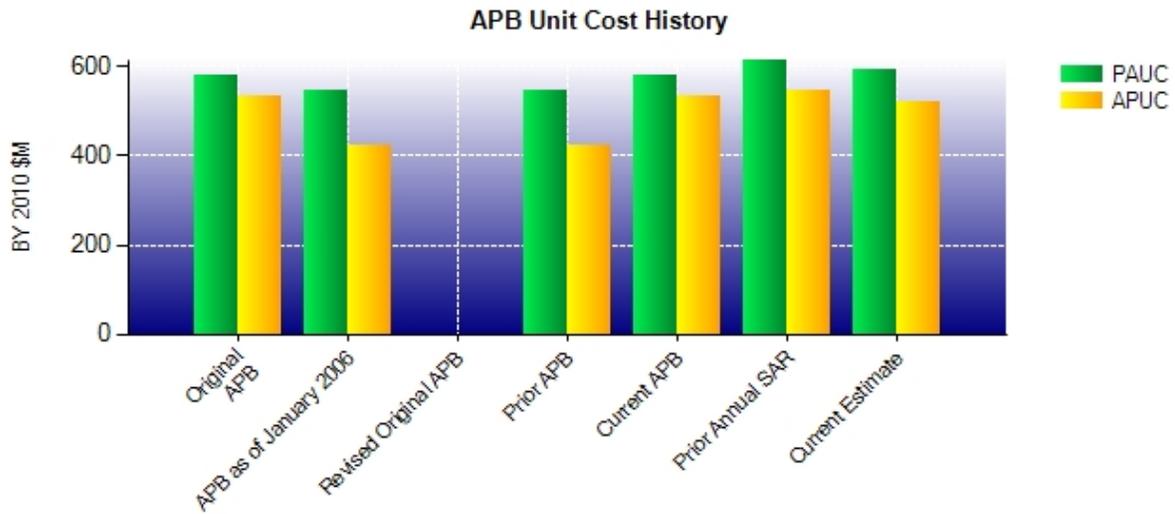
## Unit Cost

### Unit Cost Report

Item	BY 2010 \$M	BY 2010 \$M	% Change
	Current UCR Baseline (Apr 2011 APB)	Current Estimate (Dec 2014 SAR)	
<b>Program Acquisition Unit Cost</b>			
Cost	32008.2	19013.2	
Quantity	55	32	
Item	581.967	594.162	+2.10
<b>Average Procurement Unit Cost</b>			
Cost	28369.2	15655.7	
Quantity	53	30	
Unit Cost	535.268	521.857	-2.51

Item	BY 2010 \$M	BY 2010 \$M	% Change
	Original UCR Baseline (Apr 2011 APB)	Current Estimate (Dec 2014 SAR)	
<b>Program Acquisition Unit Cost</b>			
Cost	32008.2	19013.2	
Quantity	55	32	
Unit Cost	581.967	594.162	+2.10
<b>Average Procurement Unit Cost</b>			
Cost	28369.2	15655.7	
Quantity	53	30	
Unit Cost	535.268	521.857	-2.51

**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 2013	612.838	544.573	706.981	643.970
Current Estimate	Dec 2014	594.162	521.857	682.572	614.487

**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	
680.705	81.175	-24.105	19.119	4.931	-79.253	0.000	0.000	1.867	682.572

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	85.430	-59.806	24.607	5.260	-77.240	0.000	0.000	-21.749	614.487

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	21842.3
Total Quantity	2	55	N/A	32
PAUC	605.850	680.705	N/A	682.572

## 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	+34.6	+2506.2	+8.3	+2549.1
Quantity	--	-16427.6	--	-16427.6
Schedule	-108.9	+738.2	-17.5	+611.8
Engineering	--	+34.8	--	+34.8
Estimating	-323.1	-1253.0	-7.4	-1583.5
Other	--	--	--	--
Support	--	--	--	--
Subtotal	-397.4	-14401.4	-16.6	-14815.4
Current Changes				
Economic	-6.7	+56.7	-1.5	+48.5
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	+123.0	--	+123.0
Estimating	+76.1	-1064.2	+35.5	-952.6
Other	--	--	--	--
Support	--	--	--	--
Subtotal	+69.4	-884.5	+34.0	-781.1
Adjustments	--	--	--	--
Total Changes	-328.0	-15285.9	+17.4	-15596.5
CE - Cost Variance	3153.7	18434.6	254.0	21842.3
CE - Cost & Funding	3153.7	18434.6	254.0	21842.3

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	--	-11562.5	--	-11562.5
Schedule	-75.8	+574.5	-12.5	+486.2
Engineering	--	+29.0	--	+29.0
Estimating	-271.3	-1073.0	-8.6	-1352.9
Other	--	--	--	--
Support	--	--	--	--
Subtotal	-347.1	-12032.0	-21.1	-12400.2
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	+104.6	--	+104.6
Estimating	+57.5	-786.1	+26.4	-702.2
Other	--	--	--	--
Support	--	--	--	--
Subtotal	+57.5	-681.5	+26.4	-597.6
Adjustments	--	--	--	--
Total Changes	-289.6	-12713.5	+5.3	-12997.8
CE - Cost Variance	3143.7	15655.7	213.8	19013.2
CE - Cost & Funding	3143.7	15655.7	213.8	19013.2

Previous Estimate: December 2013

<b>RDT&amp;E</b>	<b>\$M</b>	
<b>Current Change Explanations</b>	<b>Base Year</b>	<b>Then Year</b>
Revised escalation indices. (Economic)	N/A	-6.7
Revised estimate for Research and Development activities and completion of test and evaluation. (Estimating)	+36.8	+52.3
Revised estimate for LCS training development requirements. (Estimating)	+18.1	+21.0
Adjustment for current and prior escalation. (Estimating)	+2.6	+2.8
<b>RDT&amp;E Subtotal</b>	<b>+57.5</b>	<b>+69.4</b>

<b>Procurement</b>	<b>\$M</b>	
<b>Current Change Explanations</b>	<b>Base Year</b>	<b>Then Year</b>
Revised escalation indices. (Economic)	N/A	+56.7
Revised estimate for the addition of design improvements in ship baseline. (Engineering)	+104.6	+123.0
Revised estimate for proper pricing of trainer and battle spare requirements. (Estimating)	+85.8	+107.5
Revised estimate for proper pricing of outfitting and post-delivery requirements. (Estimating)	+420.7	+570.0
Revised estimate for proper pricing of Shipbuilding & Conversion, Navy construction requirements. (Estimating)	-1188.8	-1615.0
Revised estimate for contracted services reductions. (Estimating)	-53.6	-67.0
Adjustment for current and prior escalation. (Estimating)	-36.2	-41.8
Revised estimate to reflect application of new outyear escalation indices. (Estimating)	-14.0	-17.9
<b>Procurement Subtotal</b>	<b>-681.5</b>	<b>-884.5</b>

<b>MILCON</b>	<b>\$M</b>	
<b>Current Change Explanations</b>	<b>Base Year</b>	<b>Then Year</b>
Revised escalation indices. (Economic)	N/A	-1.5
Revised estimate for proper phasing and pricing of MILCON requirements. (Estimating)	+26.0	+35.1
Adjustment for current and prior escalation. (Estimating)	+0.4	+0.4
<b>MILCON Subtotal</b>	<b>+26.4</b>	<b>+34.0</b>

## Contracts

### Contract Identification

**Appropriation:** Procurement  
**Contract Name:** Construction - LCS 5  
**Contractor:** Lockheed Martin  
**Contractor Location:** 2323 Eastern Boulevard  
 Middle River, MD 21220  
**Contract Number:** N00024-11-C-2300/1  
**Contract Type:** Fixed Price Incentive(Firm Target) (FPIF)  
**Award Date:** December 29, 2010  
**Definitization Date:** December 29, 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
436.8	498.1	1	442.3	503.9	1	466.1	467.0

### Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to the execution of change order budget on the contract.

### Contract Variance

Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (12/28/2014)	-41.0	-23.6
Previous Cumulative Variances	-24.5	-11.7
Net Change	-16.5	-11.9

### Cost and Schedule Variance Explanations

The unfavorable net change in the cost variance is due to inefficiencies during the system completion and test phase of ship construction.

The unfavorable net change in the schedule variance is due to late completion of work orders.

**Contract Identification**

**Appropriation:** Procurement  
**Contract Name:** Construction - LCS 6  
**Contractor:** Austal USA  
**Contractor Location:** 1 Dunlap Drive  
 Mobile, AL 36602  
**Contract Number:** N00024-11-C-2301/1  
**Contract Type:** Fixed Price Incentive(Firm Target) (FPIF)  
**Award Date:** December 29, 2010  
**Definitization Date:** December 29, 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
432.0	480.4	1	446.3	495.8	1	468.8	479.6

**Target Price Change Explanation**

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to the execution of change order budget on the contract.

Contract Variance		
Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (12/28/2014)	-69.5	-25.4
Previous Cumulative Variances	-38.0	-14.3
Net Change	-31.5	-11.1

**Cost and Schedule Variance Explanations**

The unfavorable net change in the cost variance is due to inefficiencies during the system completion and test phase of ship construction.

The unfavorable net change in the schedule variance is due to rework and inefficiencies during the system completion and test phase of ship construction.

**Contract Identification**

**Appropriation:** Procurement  
**Contract Name:** Construction - LCS 7  
**Contractor:** Lockheed Martin  
**Contractor Location:** 2323 Eastern Boulevard  
 Middle River, MD 21220  
**Contract Number:** N00024-11-C-2300/2  
**Contract Type:** Fixed Price Incentive(Firm Target) (FPIF)  
**Award Date:** March 07, 2011  
**Definitization Date:** March 17, 2011

Contract Price							
Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
376.6	430.4	1	379.2	433.3	1	383.7	391.4

**Target Price Change Explanation**

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to the execution of change order budget on the contract.

Contract Variance		
Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (12/28/2014)	-11.9	-20.2
Previous Cumulative Variances	-2.0	-1.4
Net Change	-9.9	-18.8

**Cost and Schedule Variance Explanations**

The unfavorable net change in the cost variance is due to shipyard performance while preparing the ship for launch.

The unfavorable net change in the schedule variance is due to delays in system completion and test in support of launch.

**Contract Identification**

**Appropriation:** Procurement  
**Contract Name:** Construction - LCS 8  
**Contractor:** Austal USA  
**Contractor Location:** 1 Dunlap Drive  
 Mobile, AL 36602  
**Contract Number:** N00024-11-C-2301/2  
**Contract Type:** Fixed Price Incentive(Firm Target) (FPIF)  
**Award Date:** March 17, 2011  
**Definitization Date:** March 17, 2011

Contract Price							
Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
368.6	405.7	1	377.6	415.4	1	381.0	400.4

**Target Price Change Explanation**

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to the execution of change order budget on the contract.

Contract Variance		
Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (12/28/2014)	-24.6	-12.3
Previous Cumulative Variances	-8.2	-1.9
Net Change	-16.4	-10.4

**Cost and Schedule Variance Explanations**

The unfavorable net change in the cost variance is due to rework and performance below plan in the construction trades.

The unfavorable net change in the schedule variance is due to reduced manning levels preventing work from starting on schedule.

**Contract Identification**

**Appropriation:** Procurement  
**Contract Name:** Construction - LCS 9  
**Contractor:** Lockheed Martin  
**Contractor Location:** 2323 Eastern Boulevard  
 Middle River, MD 21220  
**Contract Number:** N00024-11-C-2300/3  
**Contract Type:** Fixed Price Incentive(Firm Target) (FPIF)  
**Award Date:** March 16, 2012  
**Definitization Date:** March 16, 2012

Contract Price							
Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
363.6	416.2	1	365.8	418.6	1	370.5	375.9

**Target Price Change Explanation**

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to the execution of change order budget on the contract.

Contract Variance		
Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (12/28/2014)	-4.5	-26.1
Previous Cumulative Variances	+1.0	-15.7
Net Change	-5.5	-10.4

**Cost and Schedule Variance Explanations**

The unfavorable net change in the cost variance is due to inefficiencies in the construction trades.

The unfavorable net change in the schedule variance is due to reduced manning levels preventing work from starting on schedule.

**Contract Identification**

**Appropriation:** Procurement  
**Contract Name:** Construction - LCS 10  
**Contractor:** Austal USA  
**Contractor Location:** 1 Dunlap Drive  
 Mobile, AL 36610-1703  
**Contract Number:** N00024-11-C-2301/3  
**Contract Type:** Fixed Price Incentive(Firm Target) (FPIF)  
**Award Date:** March 16, 2012  
**Definitization Date:** March 16, 2012

Contract Price							
Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
348.8	383.7	1	356.2	391.4	1	356.0	383.6

**Target Price Change Explanation**

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to the execution of change order budget on the contract.

Contract Variance		
Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (12/28/2014)	-11.2	-13.9
Previous Cumulative Variances	--	--
Net Change	-11.2	-13.9

**Cost and Schedule Variance Explanations**

The unfavorable cumulative cost variance is due to higher material costs.

The unfavorable cumulative schedule variance is due to delays in production ramp up at the start of construction due to yard wide labor demand. Schedule performance has recovered recently due to over-manning in preparation for launch.

**Notes**

This is the first time this contract is being reported.

## Deliveries and Expenditures

Deliveries				
Delivered to Date	Planned to Date	Actual to Date	Total Quantity	Percent Delivered
Development	2	2	2	100.00%
Production	2	2	30	6.67%
Total Program Quantity Delivered	4	4	32	12.50%

Expended and Appropriated (TY \$M)			
Total Acquisition Cost	21842.3	Years Appropriated	13
Expended to Date	7907.9	Percent Years Appropriated	61.90%
Percent Expended	36.20%	Appropriated to Date	13876.9
Total Funding Years	21	Percent Appropriated	63.53%

The above data is current as of January 30, 2015.

## Operating and Support Cost

### Cost Estimate Details

<b>Date of Estimate:</b>	January 16, 2015
<b>Source of Estimate:</b>	NAVSEA 05C Estimate
<b>Quantity to Sustain:</b>	32
<b>Unit of Measure:</b>	Ship
<b>Service Life per Unit:</b>	25.00 Years
<b>Fiscal Years in Service:</b>	FY 2009 - FY 2046

Costs are incurred in preparation for and after the fielding of each LCS Seaframe. Operating and sustainment costs assume:

- a) 48 Crews (50 personnel: 8 Officers/42 Enlisted per crew)
- b) Steaming Hours underway/not underway (4421 underway/718 not underway)
- 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.

### Sustainment Strategy

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

Sustainment execution includes maintenance execution planning, planned and emergent maintenance; planning for Chief of Naval Operations scheduled availabilities, facilities maintenance; fly-away support; modernization and engineering support services of LCS ships homeported in San Diego, CA, Mayport, FL, and deploying worldwide. Core services and maintenance execution are currently being performed under an Interim Support Plan. Transition to In-Service sustainment under a Product Support Plan is scheduled to occur in FY 2015.

### Antecedent Information

The LCS Seaframe program does not have an antecedent system. LCS was envisioned to fill a role in operations satisfying identified capability gaps. The LCS Seaframe fills a void where no system exists.

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 plus 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 by other program offices. As an example; for the MCM MP, the separate reportable programs would include: Remote Minehunting System, unmanned aerial and underwater vehicles, airborne laser mine detection, mine neutralization systems, MH-60S, various support equipment, and crew detachments.

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	8.917	--
Unit Operations	8.696	--
Maintenance	16.172	--
Sustaining Support	5.990	--
Continuing System Improvements	5.654	--
Indirect Support	4.316	--
Other	--	--
<b>Total</b>	<b>49.745</b>	<b>--</b>

Item	Total O&S Cost \$M			
	LCS		No Antecedent (Antecedent)	
	Current Development APB Objective/Threshold	Current Estimate		
<b>Base Year</b>	50479.0	55526.9	39796.0	N/A
<b>Then Year</b>	87089.3	N/A	55139.4	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.

#### 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 = \$49.745M \* 32 \* 25 = \$39,796M

O&S Cost Variance		
Category	BY 2010 \$M	Change Explanations
Prior SAR Total O&S Estimates - Dec 2013 SAR	35101.9	
Programmatic/Planning Factors	54.7	Updated ship building profile based on Production Schedule; Updated crew phasing profile; Changed start of

Cost Estimating Methodology	428.2	O&S assumption to the date of ship delivery Redefined Rate for Civilian Shore Support; Updated Facilities Sustainment Estimate, Altered Historical Ship Set used in Cost Estimating Relationships, Removed Outliers in Historical Data, Updated Fly Away Teams Estimate Based on Freedom Deployment Lessons Learned
Cost Data Update	-998.9	Additional Naval Visibility and Management of Operating and Support Costs data added to Cost Estimating Relationships, Updated to the FY 2016 PB Naval Center for Cost Analysis Inflation Guidance, Updated Indirect Support Rates via Manpower cost Estimating Tool for Enhanced Online Reporting data
Labor Rate	-136.1	Updated to the FY 2015 OSD Military Standard Composite Rates
Energy Rate	0.0	
Technical Input	5346.2	Decreased the number of shore support personnel; Identified new LCS specific requirements (Regional Maintenance Centers; 2S COG); Updated maintenance to reflect OPNAV 4700 requirements; Updated Burn Rates based on data from LCS Calm Water Trials
Other	0.0	
<b>Total Changes</b>	<b>4694.1</b>	
<b>Current Estimate</b>	<b>39796.0</b>	

#### Disposal Estimate Details

<b>Date of Estimate:</b>	January 16, 2015
<b>Source of Estimate:</b>	NAVSEA 05C Estimate
<b>Disposal/Demilitarization Total Cost (BY 2010 \$M):</b>	Total costs for disposal of all Ship are 89.8