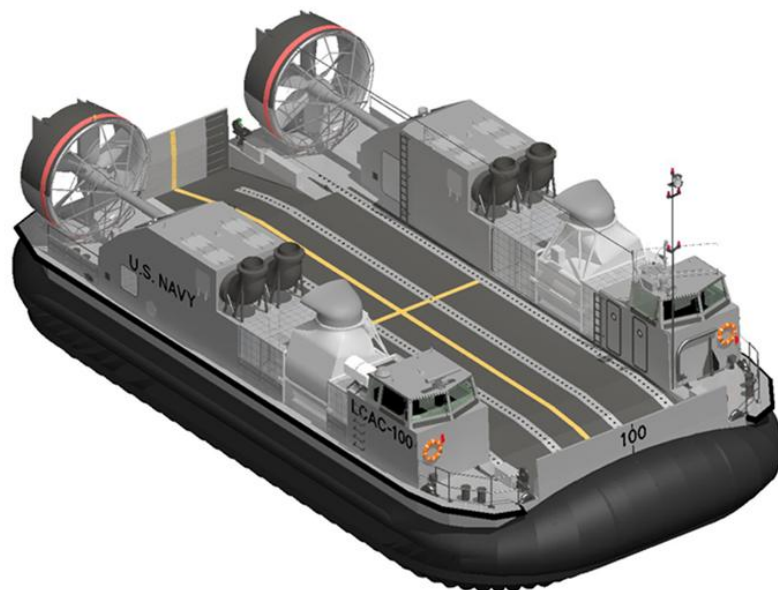




# Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-303



## Ship to Shore Connector Amphibious Craft (SSC)

As of FY 2015 President's Budget

Defense Acquisition Management  
Information Retrieval  
(DAMIR)

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## Common Acronyms and Abbreviations

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

## Program Information

**Program Name**

Ship to Shore Connector Amphibious Craft (SSC)

**DoD Component**

Navy

## Responsible Office

**Responsible Office**

CAPT Christopher Mercer  
Program Executive Office, Ships  
Amphibious Warfare Program Office  
1333 Isaac Hull Avenue  
Washington, DC 20376-2101  
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**DSN Fax** 326-4596

**Date Assigned** May 21, 2010

## References

**SAR Baseline (Development Estimate)**

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated July 5, 2012

**Approved APB**

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated July 5, 2012

## **Mission and Description**

Ship to Shore Connector (SSC) is the Landing Craft, Air Cushion (LCAC) replacement. It is an Air Cushion Vehicle with the same footprint as the LCAC Service Life Extension Program. The SSC mission is to land surface assault elements in support of Operational Maneuver from the Sea at Over-The-Horizon distances, while operating from amphibious ships and mobile landing platforms. The primary role of SSC is to transport weapon systems, equipment, cargo, and personnel of the assault elements of the Marine Expeditionary Brigades and the Army Brigade Combat Teams during Ship-to-Objective Maneuver and Prepare for Movement operations.

## Executive Summary

The SSC program completed a successful, yet challenging, year which marked the first complete year of detail design and construction. Significant progress in establishing the Program Measurement Baseline was accomplished in addition to craft design and LRIP readiness. To support naval forces operational needs, craft quantity adjustments were made to the Program of Record acquisition profile.

On July 6, 2012 the Navy awarded a \$212.7M fixed price incentive fee contract for the detail design and construction of a SSC Test and Training craft (LCAC 100) and technical manuals to Textron Marine and Land Systems (TM&LS), a division of Textron, Inc. The award was based on full and open competition. On December 19, 2012 the Navy exercised a contract option to procure Advanced Planning, Engineering and Procurement services and long lead time material for the first SSC LRIP craft (LCAC 101).

An Integrated Baseline Review (IBR) was conducted with TM&LS to establish a mutual understanding of the Performance Measurement Baseline (PMB) for the design and construction of LCAC 100. IBR action items for adjustments to the baseline are being adjudicated. The Command, Control, Communications, Computers, and Navigation (C4N) system represents the highest technical risk to the success of the program. As a result, full flow down of Earned Value Management to the C4N sub-contractor is contractually required to facilitate the management and mitigation of this risk. A joint TM&LS and government team conducted an IBR with L3, the subcontractor for C4N, to review the baseline. Action items from this review are being adjudicated by L3 and incorporated into the baseline. An exhaustive effort by the Navy and TM&LS will result in a mutual understanding of the baseline established for the program, with only slight adjustments remaining to be incorporated into the PMB by third quarter FY 2014.

The Detail Design effort is making substantial progress toward the completion of the functional and transition design, with the requisite IPTs engaged in component and system Preliminary Design Reviews and Critical Design Reviews, as well as the review and approval of the detail design deliverables that support Production Readiness Review (PRR). However, design efforts are slightly behind schedule primarily due to the later than planned subcontract awards by Textron, which subsequently delayed receipt of vendor furnished information that is needed to complete the design effort. While these delays may cause a minor slip to PRR, as much as a quarter, the prolonged subcontract negotiations resulted in Textron successfully awarding all Firm Fixed Price subcontracts to its vendors, which will significantly control cost on this program. Production planning activities have commenced and material ordering schedules and purchase order placements are aligned to support the start of fabrication.

Adjustments to the program of record have been made throughout the FY 2015 PB budget cycle to support naval operational force requirements. As identified in the following cost and funding sections, modifications to accelerate the procurement profile for the SSC craft procurement were made. Major changes include the restoration of a craft in FY 2015 and FY 2016, previously moved to the out years in FY 2014 PB. Additional acceleration to the procurement profile has been experienced in FY 2018 and FY 2019. As a result of this acceleration, completion of craft procurement will be in FY 2024, vice FY 2025.

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

## Threshold Breaches

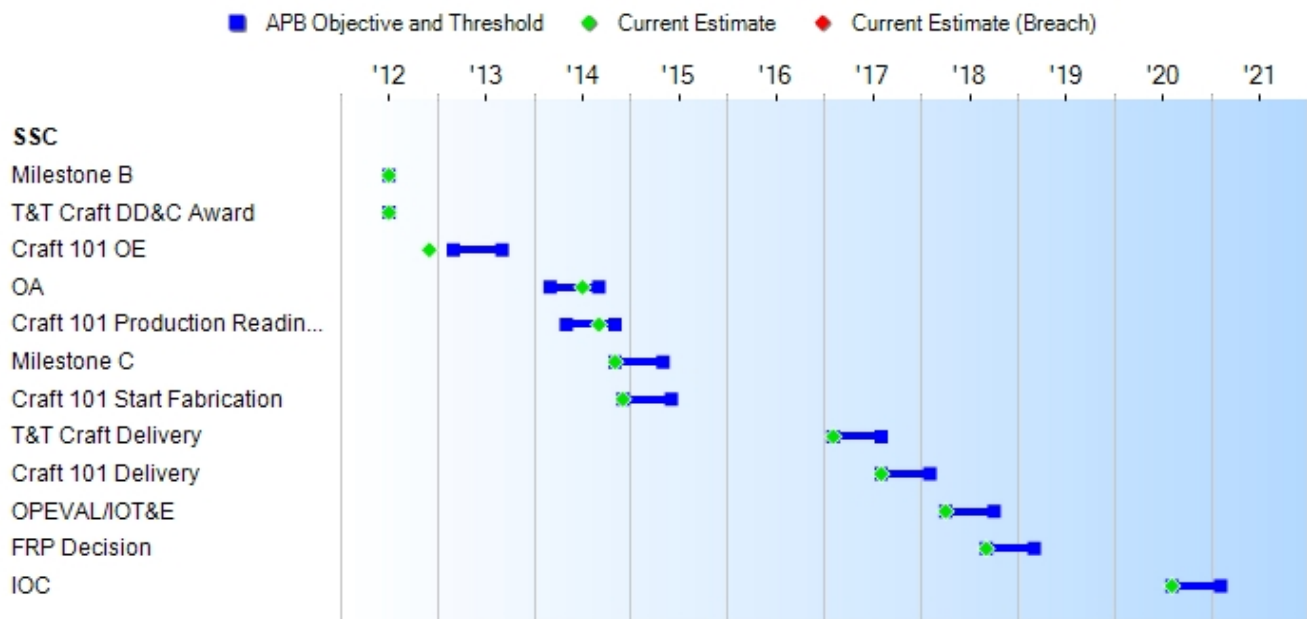
### APB Breaches

<b>Schedule</b>		<input type="checkbox"/>
<b>Performance</b>		<input type="checkbox"/>
<b>Cost</b>	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>	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



Milestones	SAR Baseline Dev Est	Current APB Development Objective/Threshold		Current Estimate
Milestone B	JUL 2012	JUL 2012	JUL 2012	JUL 2012
T&T Craft DD&C Award	JUL 2012	JUL 2012	JUL 2012	JUL 2012
Craft 101 OE	MAR 2013	MAR 2013	SEP 2013	DEC 2012
OA	MAR 2014	MAR 2014	SEP 2014	JUL 2014 (Ch-1)
Craft 101 Production Readiness Review	MAY 2014	MAY 2014	NOV 2014	SEP 2014 (Ch-2)
Milestone C	NOV 2014	NOV 2014	MAY 2015	NOV 2014
Craft 101 Start Fabrication	DEC 2014	DEC 2014	JUN 2015	DEC 2014
T&T Craft Delivery	FEB 2017	FEB 2017	AUG 2017	FEB 2017
Craft 101 Delivery	AUG 2017	AUG 2017	FEB 2018	AUG 2017
OPEVAL/IOT&E	APR 2018	APR 2018	OCT 2018	APR 2018
FRP Decision	SEP 2018	SEP 2018	MAR 2019	SEP 2018
IOC	AUG 2020	AUG 2020	FEB 2021	AUG 2020



**Change Explanations**

(Ch-1) OA current estimate was updated from March 2014 to July 2014 to reflect the revised estimate as agreed to between the Operational Test Authority and the Program Office.

(Ch-2) Craft 101 PRR was updated from May 2014 to September 2014 due to the delay of subcontract awards by Textron and the subsequent delay in delivery of vendor furnished information required to complete the design effort in support of PRR.

**Memo**

OPEVAL/IOT&E event starts and completes in April 2018.

**Acronyms and Abbreviations**

DD&C - Detail Design and Construction  
FRP - Full Rate Production  
IOT&E - Initial Operational Test and Evaluation  
OA - Operational Assessment  
OE - Option Exercise  
OPEVAL - Operational Evaluation  
PRR - Production Readiness Review  
T&T - Test and Training

## Performance

Characteristics	SAR Baseline Dev Est	Current APB Development Objective/Threshold		Demonstrated Performance	Current Estimate
Payload Capacity	The SSC should be capable of transporting 79 short tons over the threshold range in the threshold temperature operating range and threshold sea state.	The SSC should be capable of transporting 79 short tons over the threshold range in the threshold temperature operating range and threshold sea state.	The SSC should be capable of transporting 74 short tons over the threshold range in the threshold temperature operating range and threshold sea state.	TBD	The SSC should be capable of transporting 74 short tons over the threshold range in the threshold temperature operating range and threshold sea state.
Interoperability	In addition to the threshold Interoperability, the SSC should be able to operate with allied amphibious ships classes with suitable well decks, to include French Mistral, Japanese Osumi, Korean Dokdo, Spanish Juan Carlos, and Australian Canberra if this interoperability does not alter other interfaces.	In addition to the threshold Interoperability, the SSC should be able to operate with allied amphibious ships classes with suitable well decks, to include French Mistral, Japanese Osumi, Korean Dokdo, Spanish Juan Carlos, and Australian Canberra if this interoperability does not alter other interfaces.	The SSC shall be able to: enter, exit, and embark in well decks of current and programmed USN amphibious ships, to include LHD-1, LPD-17, LSD-41, LSD-49 classes, without ship alterations, while transporting an embarked load 168" high; the off cushion length of the SSC shall permit embarkation of (4) SSCs	TBD	The SSC shall be able to: enter, exit, and embark in well decks of current and programmed USN amphibious ships, to include LHD-1, LPD-17, LSD-41, LSD-49 classes, without ship alterations, while transporting an embarked load 168" high; the off cushion length of the SSC shall permit embarkation of (4) SSCs

			<p>in LSD-41 class, (2) SSCs in LSD-49 and LPD-17 classes, and (3) SSCs in LHD-1 class; and, enter/exit well decks of amphibious ships while on cushion or in displacement mode (wet well only). SSC shall embark on board the planned MLP, without ship alterations, as designed and built for the LCAC. SSC shall be able to operate with existing ships services, including the planned MLP, in place for the LCAC including ship's power, fueling/defueling stations, compressed air, potable and washdown water, lighting,</p>		<p>in LSD-41 class, (2) SSCs in LSD-49 and LPD-17 classes, and (3) SSCs in LHD-1 class; and, enter/exit well decks of amphibious ships while on cushion or in displacement mode (wet well only). SSC shall embark on board the planned MLP, without ship alterations, as designed and built for the LCAC. SSC shall be able to operate with existing ships services, including the planned MLP, in place for the LCAC including ship's power, fueling/defueling stations, compressed air, potable and washdown water, lighting,</p>
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			navigational aids, footprint for spare / consumable pack-up kits, and night vision systems.		navigational aids, footprint for spare / consumable pack-up kits, and night vision systems. The SSC shall be able to enter and exit allied amphibious ships Mistral (French) and Osumi (Japan).
Net-Ready	The SSC should fully support execution of all operational activities and information exchanges identified in DoD Enterprise Architecture and solution architectures based on integrated DoDAF content, and must satisfy the technical requirements for transition to Net-Centric military operations to include: 1) Solution architecture products compliant	The SSC should fully support execution of all operational activities and information exchanges identified in DoD Enterprise Architecture and solution architectures based on integrated DoDAF content, and must satisfy the technical requirements for transition to Net-Centric military operations to include: 1) Solution architecture products compliant	The SSC must fully support execution of joint critical operational activities and information exchanges identified in the DoD Enterprise Architecture and solution architectures based on integrated DoDAF content, and must satisfy the technical requirements for transition to Net-Centric military operations to include: 1) Solution architecture products compliant	TBD	The SSC must fully support execution of joint critical operational activities and information exchanges identified in the DoD Enterprise Architecture and solution architectures based on integrated DoDAF content, and must satisfy the technical requirements for transition to Net-Centric military operations to include: 1) Solution architecture products compliant

	<p>with DoD Enterprise Architecture based on integrated DoDAF content, including specified operationally effective information exchanges. 2) Compliant with Net - Centric Data Strategy and Net-Centric Services Strategy, and the principles and rules identified in the DoD IEA, excepting tactical and non-IP communications. 3) Compliant with GIG Technical Guidance to include IT Standards identified in the TV-1 and implementation guidance of GESPs, necessary to meet all operational requirements specified in the DoD Enterprise Architecture</p>	<p>with DoD Enterprise Architecture based on integrated DoDAF content, including specified operationally effective information exchanges. 2) Compliant with Net - Centric Data Strategy and Net-Centric Services Strategy, and the principles and rules identified in the DoD IEA, excepting tactical and non-IP communications. 3) Compliant with GIG Technical Guidance to include IT Standards identified in the TV-1 and implementation guidance of GESPs, necessary to meet all operational requirements specified in the DoD Enterprise Architecture</p>	<p>with DoD Enterprise Architecture based on integrated DoDAF content, including specified operationally effective information exchanges. 2) Compliant with Net - Centric Data Strategy and Net-Centric Services Strategy, and the principles and rules identified in the DoD IEA, excepting tactical and non-IP communications. 3) Compliant with GIG Technical Guidance to include IT Standards identified in the TV-1 and implementation guidance of GESPs necessary to meet all operational requirements specified in the DoD Enterprise Architecture</p>		<p>with DoD Enterprise Architecture based on integrated DoDAF content, including specified operationally effective information exchanges. 2) Compliant with Net - Centric Data Strategy and Net-Centric Services Strategy, and the principles and rules identified in the DoD IEA, excepting tactical and non-IP communications. 3) Compliant with GIG Technical Guidance to include IT Standards identified in the TV-1 and implementation guidance of GESPs necessary to meet all operational requirements specified in the DoD Enterprise Architecture</p>
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	and solution architecture views. 4) Information assurance requirements including availability, integrity, authentication, confidentiality, and non-repudiation, and issuance of an ATO by the DAA. 5) Supportability requirements to include SAASM, Spectrum and JTRS requirements. See appendix A of the CDD for additional details on the NR-KPP.	and solution architecture views. 4) Information assurance requirements including availability, integrity, authentication, confidentiality, and non-repudiation, and issuance of an ATO by the DAA. 5) Supportability requirements to include SAASM, Spectrum and JTRS requirements. See appendix A of the CDD for additional details on the NR-KPP.	and solution architecture views. 4) Information assurance requirements including availability, integrity, authentication, confidentiality, and non-repudiation, and issuance of an IATO or ATO by the DAA. 5) Supportability requirements to include SAASM, Spectrum and JTRS requirements. See appendix A of the CDD for additional details on the NR-KPP.		and solution architecture views. 4) Information assurance requirements including availability, integrity, authentication, confidentiality, and non-repudiation, and issuance of an IATO or ATO by the DAA. 5) Supportability requirements to include SAASM, Spectrum and JTRS requirements. See appendix A of the CDD for additional details on the NR-KPP.
Force Protection	The SSC should be equipped with a remotely operated crew-served weapon system and provide ballistic and fragmentation protection for crew, internally carried embarked	The SSC should be equipped with a remotely operated crew-served weapon system and provide ballistic and fragmentation protection for crew, internally carried embarked	The SSC shall provide protection to the crew and internally carried embarked forces from small arms, crew served weapons and fragmentation. Appendix F of the CDD describes the specific	TBD	The SSC shall provide protection to the crew and internally carried embarked forces from small arms, crew served weapons and fragmentation. Appendix F of the CDD describes the specific

	forces and critical machinery spaces. Appendix F of the CDD describes the specific ballistic protection requirement.	forces and critical machinery spaces. Appendix F of the CDD describes the specific ballistic protection requirement.	ballistic protection requirement. The SSC shall be equipped with mounts capable of accepting current US crew-served weapons to include the M2 .50 Caliber (12.7mm) Machine Gun, MK19 40mm Grenade Machine Gun and M60/M240 Series 7.62mm Light Machine Gun.		ballistic protection requirement. The SSC shall be equipped with mounts capable of accepting current US crew-served weapons to include the M2 .50 Caliber (12.7mm) Machine Gun, MK19 40mm Grenade Machine Gun and M60/M240 Series 7.62mm Light Machine Gun.
Survivability (Sea-Worthiness)	T=O The SSC shall be capable of surviving (remaining afloat) in displacement mode without power or steering through seas up to ten foot SWH without incurring structural damage which would impair mission capability until recovered or	T=O The SSC shall be capable of surviving (remaining afloat) in displacement mode without power or steering through seas up to ten foot SWH without incurring structural damage which would impair mission capability until recovered or	T=O The SSC shall be capable of surviving (remaining afloat) in displacement mode without power or steering through seas up to ten foot SWH without incurring structural damage which would impair mission capability until recovered or	TBD	T=O The SSC shall be capable of surviving (remaining afloat) in displacement mode without power or steering through seas up to ten foot SWH without incurring structural damage which would impair mission capability until recovered or

	towed to a boat haven.	towed to a boat haven.	towed to a boat haven.		towed to a boat haven.
Manpower	The SSC should be fully operable with a crew of no more than three (3).	The SSC should be fully operable with a crew of no more than three (3).	The SSC shall be fully operable, to include conducting on load/offload operations, with a crew of no more than five (5).	TBD	The SSC shall be fully operable, to include conducting on load/offload operations, with a crew of no more than five (5).
Materiel Availability (Am)	The SSC should have a Materiel Availability of 63 percent.	The SSC should have a Materiel Availability of 63 percent.	The SSC shall have a Materiel Availability of 59.5 percent.	TBD	The SSC shall have a Materiel Availability of 61.9 percent.
Inland Accessibility	T=O The SSC shall be capable of operating over the high water mark. This includes movement over ice, mud, rivers, swamps, and marshes. While moving inland, the SSC shall be able to negotiate obstacles found in the complex operational environment (natural and man-made). The SSC shall be able to operate over a beach high water mark, rocks,	T=O The SSC shall be capable of operating over the high water mark. This includes movement over ice, mud, rivers, swamps, and marshes. While moving inland, the SSC shall be able to negotiate obstacles found in the complex operational environment (natural and man-made). The SSC shall be able to operate over a beach high water mark, rocks,	T=O The SSC shall be capable of operating over the high water mark. This includes movement over ice, mud, rivers, swamps, and marshes. While moving inland, the SSC shall be able to negotiate obstacles found in the complex operational environment (natural and man-made). The SSC shall be able to operate over a beach high water mark, rocks,	TBD	T=O The SSC shall be capable of operating over the high water mark. This includes movement over ice, mud, rivers, swamps, and marshes. While moving inland, the SSC shall be able to negotiate obstacles found in the complex operational environment (natural and man-made). The SSC shall be able to operate over a beach high water mark, rocks,



	rubble, obstacles and walls up to 4 feet high, grass, reeds and dunes.	rubble, obstacles and walls up to 4 feet high, grass, reeds and dunes.	rubble, obstacles and walls up to 4 feet high, grass, reeds and dunes.		rubble, obstacles and walls up to 4 feet high, grass, reeds and dunes.
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### Requirements Source

Capability Development Document (CDD) dated June 10, 2010

### Change Explanations

None

### Memo

The following footnotes apply to Interoperability Threshold Key Performance Parameters:

1/ LSD-41 well deck can embark a fifth craft in a non-tactical capacity without ship services.

2/ LHD-1 Power converter for 3<sup>rd</sup> spot not part of Pack Up Kit footprint.

3/ MLP ship's power for SSC may require alteration or separate pieces of equipment which is not part of Pack Up Kit footprint.

### Acronyms and Abbreviations

ATO - Authority to Operate

CDD - Capability Development Document

DAA - Designated Accrediting Authority

DoD IEA - Department of Defense Information Enterprise Architecture

DoDAF - Department of Defense Architecture Framework

GESP - GIG Enterprise Service Profile

GIG - Global Information Grid

IATO - Interim Authority to Operate

IP - Internet Protocol

IT - Information Technology

JTRS - Joint Tactical Radio System

LCAC - Landing Craft Air Cushion

MLP - Mobile Landing Platform

mm - Millimeter

NR-KPP - Net Ready Key Performance Parameter

O - Objective

SAASM - Selective Availability Anti-Spoofing Module

SWH - Significant Wave Height

T - Threshold

TV - Technical View

US - United States

USN - United States Navy

## Track to Budget

### General Memo

There are no specific budget lines of accounting assigned yet for APPN 1205 (MILCON) or APPN 1810 Other Procurement Navy. The budget lines will be populated in the track to budget section once budgets are identified by the program sponsor.

### RDT&E

Appn	BA	PE	
Navy	1319	04	0603564N
	<b>Project</b>		<b>Name</b>
	3127		Preliminary Design and Feasibility Study/SSC Design (Shared) (Sunk)
Navy	1319	05	0604567N
	<b>Project</b>		<b>Name</b>
	3133		Ship Contract Design/Live Fire T&E (Shared)
	<b>Notes:</b>		SSC Contract Design
	3137		Ship Contract Design/Live Fire T&E (Shared)
	<b>Notes:</b>		SSC Construction
Navy	1319	05	0605220N
	<b>Project</b>		<b>Name</b>
	3133		Ship to Shore Connector(SSC)
	<b>Notes:</b>		SSC Contract Design
	3137		Ship to Shore Connector(SSC)
	<b>Notes:</b>		SSC Construction

### Procurement

Appn	BA	PE	
Navy	1611	05	0204411N
	<b>Line Item</b>		<b>Name</b>
	5110		Outfitting and Post Delivery (Shared)
Navy	1611	05	0204228N
	<b>Line Item</b>		<b>Name</b>
	5112		Ship to Shore Connector
	<b>Notes:</b>		SSC End Cost

## Cost and Funding

### Cost Summary

#### Total Acquisition Cost and Quantity

Appropriation	BY2011 \$M			BY2011 \$M	TY \$M		
	SAR Baseline Dev Est	Current APB Development Objective/Threshold		Current Estimate	SAR Baseline Dev Est	Current APB Development Objective	Current Estimate
RDT&E	552.7	552.7	608.0	529.0	571.9	571.9	549.4
Procurement	3354.4	3354.4	3689.8	3253.9	4137.5	4137.5	4142.1
Flyaway	--	--	--	3186.1	--	--	4055.9
Recurring	--	--	--	3186.1	--	--	4055.9
Non Recurring	--	--	--	0.0	--	--	0.0
Support	--	--	--	67.8	--	--	86.2
Other Support	--	--	--	0.0	--	--	0.0
Initial Spares	--	--	--	67.8	--	--	86.2
MILCON	18.5	18.5	20.4	18.2	21.7	21.7	21.7
Acq O&M	0.0	0.0	--	0.0	0.0	0.0	0.0
Total	3925.6	3925.6	N/A	3801.1	4731.1	4731.1	4713.2

Confidence Level for Current APB Cost 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.

<b>Quantity</b>	<b>SAR Baseline Dev Est</b>	<b>Current APB Development</b>	<b>Current Estimate</b>
RDT&E	2	2	2
Procurement	71	71	71
Total	73	73	73

## Cost and Funding

### Funding Summary

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

Appropriation	Prior	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	To Complete	Total
RDT&E	371.7	87.5	67.8	7.8	7.1	3.2	1.1	3.2	549.4
Procurement	0.0	0.0	123.2	258.1	278.8	462.4	651.3	2368.3	4142.1
MILCON	0.0	0.0	0.0	0.0	0.0	21.7	0.0	0.0	21.7
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2015 Total	371.7	87.5	191.0	265.9	285.9	487.3	652.4	2371.5	4713.2
PB 2014 Total	390.3	90.0	151.5	242.1	295.2	438.7	480.0	2676.8	4764.6
Delta	-18.6	-2.5	39.5	23.8	-9.3	48.6	172.4	-305.3	-51.4

Quantity	Undistributed	Prior	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	To Complete	Total
Development		2	0	0	0	0	0	0	0	2
Production		0	0	0	2	5	5	8	11	40
PB 2015 Total		2	0	0	2	5	5	8	11	40
PB 2014 Total		2	0	0	1	4	5	7	8	46
Delta		0	0	0	1	1	0	1	3	-6

## Cost and Funding

### Annual Funding By Appropriation

#### Annual Funding TY\$

#### 1319 | RDT&E | Research, Development, Test, and Evaluation, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway TY \$M	Non End Item Recurring Flyaway TY \$M	Non Recurring Flyaway TY \$M	Total Flyaway TY \$M	Total Support TY \$M	Total Program TY \$M
2006	--	--	--	--	--	--	14.0
2007	--	--	--	--	--	--	13.0
2008	--	--	--	--	--	--	27.0
2009	--	--	--	--	--	--	25.0
2010	--	--	--	--	--	--	33.5
2011	--	--	--	--	--	--	95.5
2012	--	--	--	--	--	--	51.0
2013	--	--	--	--	--	--	112.7
2014	--	--	--	--	--	--	87.5
2015	--	--	--	--	--	--	67.8
2016	--	--	--	--	--	--	7.8
2017	--	--	--	--	--	--	7.1
2018	--	--	--	--	--	--	3.2
2019	--	--	--	--	--	--	1.1
2020	--	--	--	--	--	--	2.8
2021	--	--	--	--	--	--	0.2
2022	--	--	--	--	--	--	0.2
<b>Subtotal</b>	<b>2</b>	--	--	--	--	--	<b>549.4</b>

## Annual Funding BY\$

## 1319 | RDT&amp;E | Research, Development, Test, and Evaluation, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2011 \$M	Non End Item Recurring Flyaway BY 2011 \$M	Non Recurring Flyaway BY 2011 \$M	Total Flyaway BY 2011 \$M	Total Support BY 2011 \$M	Total Program BY 2011 \$M
2006	--	--	--	--	--	--	15.1
2007	--	--	--	--	--	--	13.7
2008	--	--	--	--	--	--	27.9
2009	--	--	--	--	--	--	25.5
2010	--	--	--	--	--	--	33.7
2011	--	--	--	--	--	--	93.6
2012	--	--	--	--	--	--	49.2
2013	--	--	--	--	--	--	106.9
2014	--	--	--	--	--	--	81.6
2015	--	--	--	--	--	--	62.1
2016	--	--	--	--	--	--	7.0
2017	--	--	--	--	--	--	6.3
2018	--	--	--	--	--	--	2.8
2019	--	--	--	--	--	--	0.9
2020	--	--	--	--	--	--	2.3
2021	--	--	--	--	--	--	0.2
2022	--	--	--	--	--	--	0.2
<b>Subtotal</b>	<b>2</b>	--	--	--	--	--	<b>529.0</b>

**Annual Funding TY\$**  
**1611 | Procurement | Shipbuilding and Conversion, Navy**

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway TY \$M</b>	<b>Non End Item Recurring Flyaway TY \$M</b>	<b>Non Recurring Flyaway TY \$M</b>	<b>Total Flyaway TY \$M</b>	<b>Total Support TY \$M</b>	<b>Total Program TY \$M</b>
2015	2	120.3	--	--	120.3	2.9	123.2
2016	5	252.1	--	--	252.1	6.0	258.1
2017	5	272.5	--	--	272.5	6.3	278.8
2018	8	432.0	--	--	432.0	10.4	442.4
2019	11	622.1	--	--	622.1	14.2	636.3
2020	8	477.4	--	--	477.4	9.7	487.1
2021	8	425.7	--	--	425.7	9.0	434.7
2022	8	441.4	--	--	441.4	9.1	450.5
2023	8	444.4	--	--	444.4	9.2	453.6
2024	8	489.2	--	--	489.2	9.4	498.6
2025	--	12.5	--	--	12.5	--	12.5
2026	--	12.8	--	--	12.8	--	12.8
2027	--	12.2	--	--	12.2	--	12.2
2028	--	6.3	--	--	6.3	--	6.3
<b>Subtotal</b>	<b>71</b>	<b>4020.9</b>	<b>--</b>	<b>--</b>	<b>4020.9</b>	<b>86.2</b>	<b>4107.1</b>



**Annual Funding BY\$**  
**1611 | Procurement | Shipbuilding and Conversion, Navy**

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway BY 2011 \$M</b>	<b>Non End Item Recurring Flyaway BY 2011 \$M</b>	<b>Non Recurring Flyaway BY 2011 \$M</b>	<b>Total Flyaway BY 2011 \$M</b>	<b>Total Support BY 2011 \$M</b>	<b>Total Program BY 2011 \$M</b>
2015	2	104.6	--	--	104.6	2.5	107.1
2016	5	214.9	--	--	214.9	5.1	220.0
2017	5	227.8	--	--	227.8	5.2	233.0
2018	8	354.0	--	--	354.0	8.5	362.5
2019	11	499.8	--	--	499.8	11.4	511.2
2020	8	376.0	--	--	376.0	7.6	383.6
2021	8	328.7	--	--	328.7	7.0	335.7
2022	8	334.2	--	--	334.2	6.8	341.0
2023	8	329.8	--	--	329.8	6.9	336.7
2024	8	356.0	--	--	356.0	6.8	362.8
2025	--	8.9	--	--	8.9	--	8.9
2026	--	9.0	--	--	9.0	--	9.0
2027	--	8.4	--	--	8.4	--	8.4
2028	--	4.2	--	--	4.2	--	4.2
<b>Subtotal</b>	<b>71</b>	<b>3156.3</b>	<b>--</b>	<b>--</b>	<b>3156.3</b>	<b>67.8</b>	<b>3224.1</b>

**Cost Quantity Information****1611 | Procurement | Shipbuilding and Conversion, Navy**

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway (Aligned with Quantity) BY 2011 \$M</b>
2015	2	107.0
2016	5	220.8
2017	5	233.7
2018	8	362.6
2019	11	510.1
2020	8	377.0
2021	8	331.6
2022	8	331.4
2023	8	330.3
2024	8	351.8
2025	--	--
2026	--	--
2027	--	--
2028	--	--
<b>Subtotal</b>	<b>71</b>	<b>3156.3</b>

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

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway TY \$M</b>	<b>Non End Item Recurring Flyaway TY \$M</b>	<b>Non Recurring Flyaway TY \$M</b>	<b>Total Flyaway TY \$M</b>	<b>Total Support TY \$M</b>	<b>Total Program TY \$M</b>
2018	--	20.0	--	--	20.0	--	20.0
2019	--	15.0	--	--	15.0	--	15.0
<b>Subtotal</b>	--	<b>35.0</b>	--	--	<b>35.0</b>	--	<b>35.0</b>

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

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway BY 2011 \$M</b>	<b>Non End Item Recurring Flyaway BY 2011 \$M</b>	<b>Non Recurring Flyaway BY 2011 \$M</b>	<b>Total Flyaway BY 2011 \$M</b>	<b>Total Support BY 2011 \$M</b>	<b>Total Program BY 2011 \$M</b>
2018	--	17.2	--	--	17.2	--	17.2
2019	--	12.6	--	--	12.6	--	12.6
<b>Subtotal</b>	<b>--</b>	<b>29.8</b>	<b>--</b>	<b>--</b>	<b>29.8</b>	<b>--</b>	<b>29.8</b>

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

<b>Fiscal Year</b>	<b>Total Program TY \$M</b>
2018	21.7
<b>Subtotal</b>	<b>21.7</b>

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

<b>Fiscal Year</b>	<b>Total Program BY 2011 \$M</b>
2018	18.2
<b>Subtotal</b>	<b>18.2</b>

## Low Rate Initial Production

	<b>Initial LRIP Decision</b>	<b>Current Total LRIP</b>
<b>Approval Date</b>	7/5/2012	7/5/2012
<b>Approved Quantity</b>	13	13
<b>Reference</b>	ADM	ADM
<b>Start Year</b>	2013	2013
<b>End Year</b>	2021	2021

The Current Total LRIP Quantity is more than 10% of the total production quantity due to the July 5, 2012 Milestone B Acquisition Decision Memorandum (ADM).

## **Foreign Military Sales**

None

## **Nuclear Costs**

None



**Unit Cost****Unit Cost Report**

	<b>BY2011 \$M</b>	<b>BY2011 \$M</b>	
<b>Unit Cost</b>	<b>Current UCR Baseline (JUL 2012 APB)</b>	<b>Current Estimate (DEC 2013 SAR)</b>	<b>BY % Change</b>

## Program Acquisition Unit Cost (PAUC)

Cost	3925.6	3801.1	
Quantity	73	73	
Unit Cost	53.775	52.070	-3.17

## Average Procurement Unit Cost (APUC)

Cost	3354.4	3253.9	
Quantity	71	71	
Unit Cost	47.245	45.830	-3.00

	<b>BY2011 \$M</b>	<b>BY2011 \$M</b>	
<b>Unit Cost</b>	<b>Original UCR Baseline (JUL 2012 APB)</b>	<b>Current Estimate (DEC 2013 SAR)</b>	<b>BY % Change</b>

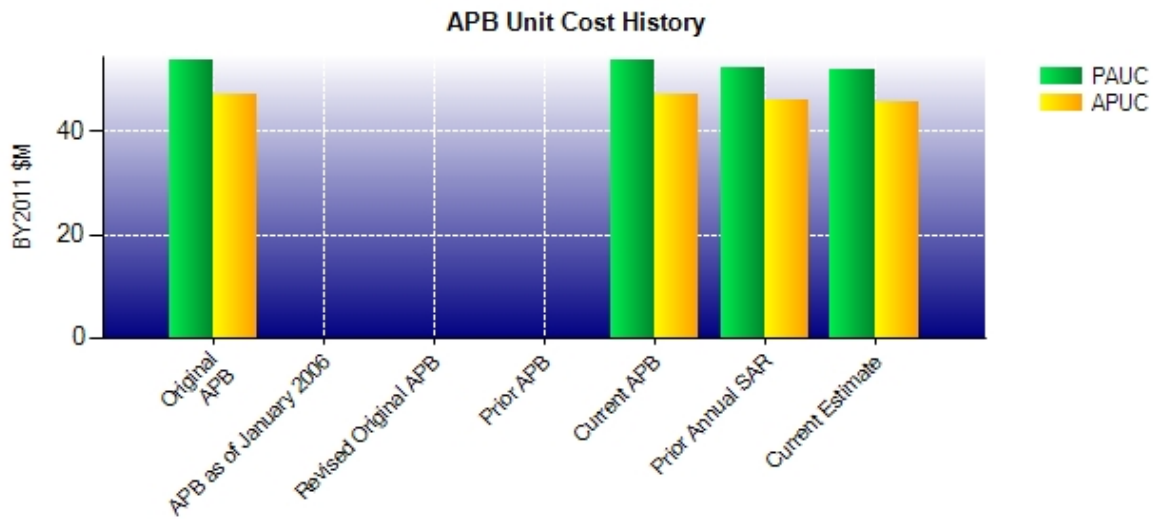
## Program Acquisition Unit Cost (PAUC)

Cost	3925.6	3801.1	
Quantity	73	73	
Unit Cost	53.775	52.070	-3.17

## Average Procurement Unit Cost (APUC)

Cost	3354.4	3253.9	
Quantity	71	71	
Unit Cost	47.245	45.830	-3.00

### Unit Cost History



	Date	BY2011 \$M		TY \$M	
		PAUC	APUC	PAUC	APUC
<b>Original APB</b>	JUL 2012	53.775	47.245	64.810	58.275
<b>APB as of January 2006</b>	N/A	N/A	N/A	N/A	N/A
<b>Revised Original APB</b>	N/A	N/A	N/A	N/A	N/A
<b>Prior APB</b>	N/A	N/A	N/A	N/A	N/A
<b>Current APB</b>	JUL 2012	53.775	47.245	64.810	58.275
<b>Prior Annual SAR</b>	DEC 2012	52.426	46.052	65.268	58.870
<b>Current Estimate</b>	DEC 2013	52.070	45.830	64.564	58.339

### SAR Unit Cost History

#### Current SAR Baseline to Current Estimate (TY \$M)

Initial PAUC Dev Est	Changes								PAUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
64.810	2.225	0.000	-0.384	0.000	-2.034	0.000	-0.053	-0.246	64.564

## Current SAR Baseline to Current Estimate (TY \$M)

Initial APUC Dev Est	Changes								APUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
58.275	2.259	0.000	-0.394	0.000	-1.745	0.000	-0.055	0.065	58.339

## SAR Baseline History

Item/Event	SAR Planning Estimate (PE)	SAR Development Estimate (DE)	SAR Production Estimate (PdE)	Current Estimate
Milestone A	N/A	N/A	N/A	N/A
Milestone B	N/A	JUL 2012	N/A	JUL 2012
Milestone C	N/A	NOV 2014	N/A	NOV 2014
IOC	N/A	AUG 2020	N/A	AUG 2020
Total Cost (TY \$M)	N/A	4731.1	N/A	4713.2
Total Quantity	N/A	73	N/A	73
Prog. Acq. Unit Cost (PAUC)	N/A	64.810	N/A	64.564

**Cost Variance**

<b>Summary Then Year \$M</b>				
	<b>RDT&amp;E</b>	<b>Proc</b>	<b>MILCON</b>	<b>Total</b>
SAR Baseline (Dev Est)	571.9	4137.5	21.7	4731.1
Previous Changes				
Economic	+5.2	+134.4	+0.5	+140.1
Quantity	--	--	--	--
Schedule	--	+21.5	--	+21.5
Engineering	--	--	--	--
Estimating	-14.0	-111.4	-0.5	-125.9
Other	--	--	--	--
Support	--	-2.2	--	-2.2
Subtotal	-8.8	+42.3	--	+33.5
Current Changes				
Economic	-3.5	+26.0	-0.1	+22.4
Quantity	--	--	--	--
Schedule	--	-49.5	--	-49.5
Engineering	--	--	--	--
Estimating	-10.2	-12.5	+0.1	-22.6
Other	--	--	--	--
Support	--	-1.7	--	-1.7
Subtotal	-13.7	-37.7	--	-51.4
Total Changes	-22.5	+4.6	--	-17.9
CE - Cost Variance	549.4	4142.1	21.7	4713.2
CE - Cost & Funding	549.4	4142.1	21.7	4713.2

<b>Summary Base Year 2011 \$M</b>				
	<b>RDT&amp;E</b>	<b>Proc</b>	<b>MILCON</b>	<b>Total</b>
SAR Baseline (Dev Est)	552.7	3354.4	18.5	3925.6
Previous Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	-13.4	-82.8	-0.4	-96.6
Other	--	--	--	--
Support	--	-1.9	--	-1.9
<b>Subtotal</b>	<b>-13.4</b>	<b>-84.7</b>	<b>-0.4</b>	<b>-98.5</b>
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	-10.3	-15.2	+0.1	-25.4
Other	--	--	--	--
Support	--	-0.6	--	-0.6
<b>Subtotal</b>	<b>-10.3</b>	<b>-15.8</b>	<b>+0.1</b>	<b>-26.0</b>
<b>Total Changes</b>	<b>-23.7</b>	<b>-100.5</b>	<b>-0.3</b>	<b>-124.5</b>
CE - Cost Variance	529.0	3253.9	18.2	3801.1
CE - Cost & Funding	529.0	3253.9	18.2	3801.1

Previous Estimate: December 2012

<b>RDT&amp;E</b>	<b>\$M</b>	
	<b>Base Year</b>	<b>Then Year</b>
<b>Current Change Explanations</b>		
Revised escalation indices. (Economic)	N/A	-3.5
Adjustment for current and prior escalation. (Estimating)	+2.4	+2.6
Revised estimate to reflect the reductions for contract services. (Estimating)	-12.7	-12.8
RDT&E Subtotal	-10.3	-13.7
<b>Procurement</b>	<b>\$M</b>	
	<b>Base Year</b>	<b>Then Year</b>
<b>Current Change Explanations</b>		
Revised escalation indices. (Economic)	N/A	+26.0
Acceleration of procurement buy profile (Navy). FY 2015 and FY 2016 quantities were restored to the program of record. FY 2018 has increased by one craft while FY 2019 has increased by 3 craft. The craft procurement profile now ends one year earlier in FY 2024 while the program of record quantity of 71 Shipbuilding and Conversion, Navy and 2 RDT&E remains the same. (Schedule)	0.0	-49.5
Revised estimate to reflect the change in better buying power initiatives and reductions for contract services. (Estimating)	-19.2	-17.4
Revised estimate to reflect the application of new outyear escalation indices. (Estimating)	+0.3	+0.3
Adjustment of Post Delivery and Outfitting funding allocation. (Estimating)	+3.7	+4.6
Decrease in Initial Spares to reflect acceleration of the buy profile. (Support)	-0.6	-1.7
Procurement Subtotal	-15.8	-37.7
<b>MILCON</b>	<b>\$M</b>	
	<b>Base Year</b>	<b>Then Year</b>
<b>Current Change Explanations</b>		
Revised escalation indices. (Economic)	N/A	-0.1
Revised estimate to reflect the application of new outyear escalation indices. (Estimating)	+0.1	+0.1
MILCON Subtotal	+0.1	0.0

## Contracts

### Appropriation: RDT&E

Contract Name	<b>SSC Detail Design &amp; Construction</b>
Contractor	Textron, Inc
Contractor Location	19401 Chef Menteur Hwy New Orleans, LA 70129-2565
Contract Number, Type	N00024-12-C-2401, FPIF
Award Date	July 06, 2012
Definitization Date	July 06, 2012

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price at Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
199.9	226.4	1	227.0	255.9	2	236.9	236.9

### Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to exercising the option for Long Lead Time Material (LLTM) and Advance Planning Funds for Landing Craft Air Cushion (LCAC) 101 and other engineering changes. The Current Contract Price values do not include the price to construct LCAC 101, which is a separate Option CLIN that has not been exercised yet.

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date (2/1/2014)	-2.8	-20.3
Previous Cumulative Variances	0.0	0.0
Net Change	-2.8	-20.3

### Cost and Schedule Variance Explanations

The unfavorable cumulative cost variance is due to prolonged negotiations with subcontractors, material invoice timing, and design complexities experienced in auxiliary systems.

The unfavorable cumulative schedule variance is due to the misalignment of the milestone payment plan (MPP) for L3. As a result, the progress in the Contract Performance Report (CPR) is not representative of the plan being executed which is causing significant variance. Textron is in the process of incorporating the updated MPP into the baseline, at which time the majority of the variance will be eliminated.

## Deliveries and Expenditures

Delivered to Date	Plan to Date	Actual to Date	Total Quantity	Percent Delivered
Development	0	0	2	0.00%
Production	0	0	71	0.00%
Total Program Quantity Delivered	0	0	73	0.00%

### Expended and Appropriated (TY \$M)

Total Acquisition Cost	4713.2	Years Appropriated	9
Expended to Date	206.0	Percent Years Appropriated	39.13%
Percent Expended	4.37%	Appropriated to Date	459.2
Total Funding Years	23	Percent Appropriated	9.74%

The above data is current as of 2/20/2014.



## Operating and Support Cost

### SSC

#### Assumptions and Ground Rules

##### Cost Estimate Reference:

The SSC O&S cost estimate is based primarily on Landing Craft Air Cushion (LCAC) actual operating and support cost data. The cost data is obtained from the Assault Craft Units (ACU) and the program office and managed using the LCAC-M cost model. The LCAC-M model is a Chief of Naval Operations accredited cost model currently used as a financial model and management information tool by the LCAC Program. LCAC-M is the LCAC program equivalent of the Visibility and Management of Operating and Support Cost database and Operating and Support Cost Analysis Model. The LCAC-M model was used to generate an LCAC Baseline O&S cost model to account for the differences in operating hours between the SSC and LCAC and to reflect the various design changes made to improve reliability, maintainability and performance. Since the SSC is basically an updated version of the LCAC design with an identical support structure at the ACU's, LCAC O&S cost data provides a reasonable basis of estimate for SSC. The Program Life Cycle Cost Estimate for SSC was completed in April 2012.

##### Sustainment Strategy:

The SSC product support strategy is based on performance driven sustainment and involves utilizing performance-based objectives with traditional data analysis practices to meet program sustainment goals. This strategy is based on implementing an effective supportability analysis program to develop and deliver the logistics products and processes necessary to execute an efficient, affordable sustainment program. Sustainment goals will be applied to both Government and Contractor support activities to use supportability analysis practices that delivers required craft availability while enabling best-cost improvement opportunities. Performance of the support activities will be measured by their assigned equipment availability as it relates to overall program operational and material availability measures.

##### Antecedent Information:

LCAC-M is currently used as a financial model and management information tool by the LCAC Program. LCAC-M uses data from the most recent ten years of Operating Target data which funds LCAC Operations, Support, Readiness, Hours of Operation, Sustaining Support, and Continuing System Improvements to predict the O&S cost of a specified level of readiness. The LCAC-M model parameters were adjusted to reflect the specified 150 operating hours per year and manning specified in the Cost Analysis Requirements Description for the SSC.

Unitized O&S Costs BY2011 \$M			
Cost Element	SSC		LCAC (Antecedent)
	Average Annual Cost Per Craft		Average Annual Cost Per Craft
Unit-Level Manpower		1.498	1.291
Unit Operations		0.367	1.035
Maintenance		0.307	0.440
Sustaining Support		0.184	0.061
Continuing System Improvements		0.681	0.670
Indirect Support		0.498	0.410
Other		0.000	0.000
<b>Total</b>		<b>3.535</b>	<b>3.907</b>

Unitized Cost Comments:

The unitized O&S costs of \$3.535 BY\$M reflect the 50<sup>th</sup> percentile estimate for one craft. In order to translate this into the total O&S Cost for the life cycle of SSC, a point estimate \$3.823 BY\$M was calculated against 73 craft over 30 years to arrive at an estimate of \$16,099.0 TY\$M. An element of risk was then added. This risk of cost changes, seen primarily through inflation adjustments over time, is associated with price fluctuations that sometimes exceed nominal inflation values in Military Personnel Navy, Operation and Maintenance Navy, and DoD fuel price indices.

	Total O&S Cost \$M			
	Current Development APB Objective/Threshold		Current Estimate	
	SSC		SSC	LCAC (Antecedent)
<b>Base Year</b>	10171.3	11188.4	10154.0	11222.0
<b>Then Year</b>	18058.9	N/A	18023.0	19920.0

Total O&S Costs Comments:

The total O&S cost for one craft across the 30-year life is estimated to be \$106M (FY 2011). The total program O&S cost estimate is determined to be \$18,023.0 TY\$M. This total was de-escalated by the Naval Center for Cost Analysis using FY 2011 indices to arrive at a total O&S Current Estimate of \$10,154.0 BY\$M.

**Disposal Costs:**

O&S costs do not include disposal costs (\$35.941 TY\$M). The SSC disposal cost estimate is based on the actual disposal costs of the ten LCAC disposed of to date. The five west coast LCACs were disposed of at an average cost of \$164K (FY 2010). The five east coast LCACs were disposed of at an average cost of \$76K (FY 2010). The difference in cost is attributable to the more stringent environmental regulations on the west coast. The disposal estimate uses the average of the two costs or \$120K per craft (FY 2010). The estimate for disposal of all craft is \$120K for 73 craft (FY 2010).