



Selected Acquisition Report (SAR)

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



Ship to Shore Connector Amphibious Craft (SSC)

As of FY 2020 President's Budget

Defense Acquisition Management
Information Retrieval
(DAMIR)

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

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~~(U//FOUO)~~ Sensitivity Originator**Organization:** PEO SHIPS - PMS377**Organization Email:****Organization Phone:** 202-781-5084

The Aggregate Report Sensitivity has been defined as ~~(U//FOUO)~~ with the following explanation: This document contains information exempt from mandatory disclosure under FOIA Exemption 5 U.S.C. 552 (b) (4) applies.

Common Acronyms and Abbreviations for MDAP Programs

Acq O&M - Acquisition-Related Operations and Maintenance
ACAT - Acquisition Category
ADM - Acquisition Decision Memorandum
APB - Acquisition Program Baseline
APPN - Appropriation
APUC - Average Procurement Unit Cost
\$B - Billions of Dollars
BA - Budget Authority/Budget Activity
Blk - Block
BY - Base Year
CAPE - Cost Assessment and Program Evaluation
CARD - Cost Analysis Requirements Description
CDD - Capability Development Document
CLIN - Contract Line Item Number
CPD - Capability Production Document
CY - Calendar Year
DAB - Defense Acquisition Board
DAE - Defense Acquisition Executive
DAMIR - Defense Acquisition Management Information Retrieval
DoD - Department of Defense
DSN - Defense Switched Network
EMD - Engineering and Manufacturing Development
EVM - Earned Value Management
FOC - Full Operational Capability
FMS - Foreign Military Sales
FRP - Full Rate Production
FY - Fiscal Year
FYDP - Future Years Defense Program
ICE - Independent Cost Estimate
IOC - Initial Operational Capability
Inc - Increment
JROC - Joint Requirements Oversight Council
\$K - Thousands of Dollars
KPP - Key Performance Parameter
LRIP - Low Rate Initial Production
\$M - Millions of Dollars
MDA - Milestone Decision Authority
MDAP - Major Defense Acquisition Program
MILCON - Military Construction
N/A - Not Applicable
O&M - Operations and Maintenance
ORD - Operational Requirements Document
OSD - Office of the Secretary of Defense
O&S - Operating and Support
PAUC - Program Acquisition Unit Cost

PB - President's Budget
PE - Program Element
PEO - Program Executive Officer
PM - Program Manager
POE - Program Office Estimate
RDT&E - Research, Development, Test, and Evaluation
SAR - Selected Acquisition Report
SCP - Service Cost Position
TBD - To Be Determined
TY - Then Year
UCR - Unit Cost Reporting
U.S. - United States
USD(AT&L) - Under Secretary of Defense (Acquisition, Technology and Logistics)
USD(A&S) - Under Secretary of Defense (Acquisition and Sustainment)

Program Information

Program Name

Ship to Shore Connector Amphibious Craft (SSC)

DoD Component

Navy

Responsible Office

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References

SAR Baseline (Development Estimate)

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

Approved APB

Component Acquisition Executive (CAE) Approved Acquisition Program Baseline (APB) dated February 13, 2019

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

Program Highlights Since Last Report

The SSC program made notable progress in the production of multiple craft during CY 2018. However, first in class testing continues to pose challenges. A significant gearbox design issue was discovered which required a re-design of select gears in the lift fan and propulsion assemblies of the main engine gearbox to ensure a service life of 30 years. This re-design contributed to a shift in Test and Training (T&T) Craft Delivery. Interim gearboxes are being used to continue integration testing of the craft's remaining systems, and the final gearbox design solution will be incorporated into all craft prior to delivery to the fleet.

The program also made some progress resolving electrical stability and C4N integration issues revealed during T&T craft testing. Electrical system stability has improved based on power supply hardware and firmware updates and resolution of grounding issues. High priority C4N software issues were reduced by 90% based on updated software provided by the vendor and are expected to be resolved prior to T&T craft's Acceptance Trials. Electrical System Stability and C4N integration remain the critical path to trials.

In July 2018, the SSC program breached its threshold for T&T Craft Delivery, set for June 2018. In advance of this, in June 2018, the Program Office submitted a Program Deviation Report to notify the MDA of the schedule breach. A new APB was approved in February 2019, which includes revised objective and threshold dates for T&T delivery, Operational Evaluation/Initial Operational Test and Evaluation, IOC and FRP Decision milestones.

Following routine test events in October 2018, the T&T Craft made contact with the Chef's Pass Bridge on Highway 90 in New Orleans, LA. There was no damage to the bridge and the craft was towed back to Textron, repaired and returned to testing by mid-November 2018. No crewmembers were injured in this incident and lessons learned have been incorporated in subsequent craft operations.

Landing Craft, Air Cushion (LCAC) 101 through 108 are under construction, with lessons learned from Craft 100 and LCAC 101 being forward fit into LCACs 102 and subsequent craft. These lessons have resulted in better first time quality, as evidenced by the reduction in overall man hours and increased outfitting in earlier stages of construction.

The Navy released an updated solicitation on November 16, 2018 that included five of the eight SSCs in Enacted PB 2019 as part of base contract award, creating a total base of 15 craft (2 in Enacted PB 2017, 8 in Enacted PB 2018, and 5 of 8 in Enacted PB 2019). By limiting the quantity to 15 craft initially, Textron is able to utilize existing vendor pricing in the proposal submission which will expedite negotiations and definitization. Textron provided the Navy an updated proposal on December 21, 2018 and the Navy anticipates an early Q3 FY 2019 award. Prior to definitization, the program has authorized long lead time material purchases and initial production efforts to maintain the craft production schedule and allow for bulk material buys to reduce unit procurement costs.

The FY 2018 National Defense Authorization Act (NDAA) (HR 2810) authorized and the FY 2018 Consolidated Appropriations (HR 1625) funded an additional five craft, bringing that year's total to an Economic Order Quantity (EOQ) of eight. The FY 2019 NDAA (HR 5515) authorized and FY 2019 Defense Appropriations (HR 6157) funded an additional three craft, bringing FY 2019 total to an EOQ of eight. The proposed PB 2020 budget has reduced FY 2020 craft quantities from eight craft to zero.

With zero craft allotted in FY 2020, there is an increased risk for growth in acquisition cost, lifecycle cost, and industrial base instability. Textron will revert to a slower production rate to five craft per year utilizing craft currently authorized under the FY 2019 National Defense Authorization Act. To sustain production in FY 2021, Textron would need to order material from its critical vendors in early FY 2021. If PB 2021's budget is enacted by October 2020, Textron and their vendors will receive funding in time to support production requirements. If a Continuing Resolution Act (CRA) occurs in FY 2021, the program would be treated as a New Start under CRA criteria with a gap year in FY 2020 and there is a program risk that the critical vendor's production lines will not be sustained.

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

History of Significant Developments Since Program Initiation	
History of Significant Developments Since Program Initiation	
Date	Significant Development Description
June 2010	On June 10, 2010, an Initial SSC CDD was approved.
July 2012	On July 5, 2012, a Milestone B review of the program was successfully held with the Service Acquisition Executive (SAE). The review included an evaluation of the SSC Milestone B Acquisition Strategy and the APB. Milestone B approval was authorized by the SAE and the program was granted approval to enter into the EMD phase and was authorized a LRIP quantity not to exceed 13 craft.
July 2012	On July 6, 2012, the Navy awarded a \$212.7M fixed price incentive fee contract to Textron, Inc. for the detail design and construction of the SSC Test and Training (T&T) Craft with options for eight production craft and technical manuals. The award was based on full and open competition.
September 2014	A Production Readiness Review (PRR) was held in September 2014 to evaluate the SSC craft design maturity and readiness, the availability of materials and components, and industry's ability to successfully start and sustain fabrication. All action items from the PRR were successfully addressed, adjudicated and closed out in October 2014. T&T Craft and Landing Craft Air Cushion (LCAC) 101 began production in November 2014 and January 2015, respectively.
February 2015	On February 5, 2015, a fire occurred at General Electric Dowty's propeller production facility in Gloucestershire, United Kingdom, while the contractor was in process of developing the SSC First Article Test units. In the interim, General Electric Dowty identified a temporary manufacturing facility and reconstituted the SSC production line in September 2015.
May 2015	On May 26, 2015, a Milestone C review of the program was successfully held with the SAE. The review included an evaluation of key factors that ensured adequate design maturity, production readiness, efficient manufacturing capability and low technical risk. Subsequent to this review, Milestone C approval was authorized by the SAE on July 21, 2015 and the program was granted approval to enter into the Production and Deployment Phase.
July 2015	On July 1, 2015, a revalidated CDD was signed by the Chief of Naval Operations and the Logistics Functional Capabilities Board completed its assessment with minor changes. On October 8, 2015, the CDD was signed by the Vice Chairman of the Joint Chiefs, Joint Requirements and Oversight Council.
March 2016	Pursuant to section 2308 of title 10, U.S. Code "Buy-to-Budget Acquisition - End Items" approval, the contract option for LCACs 104-108 construction was exercised in March 2016.
September 2017	Approval of APB Change 1 and increase in LRIP quantities.
February 2019	Approval of APB Change 2.

Threshold Breaches

APB Breaches

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

Nunn-McCurdy Breaches

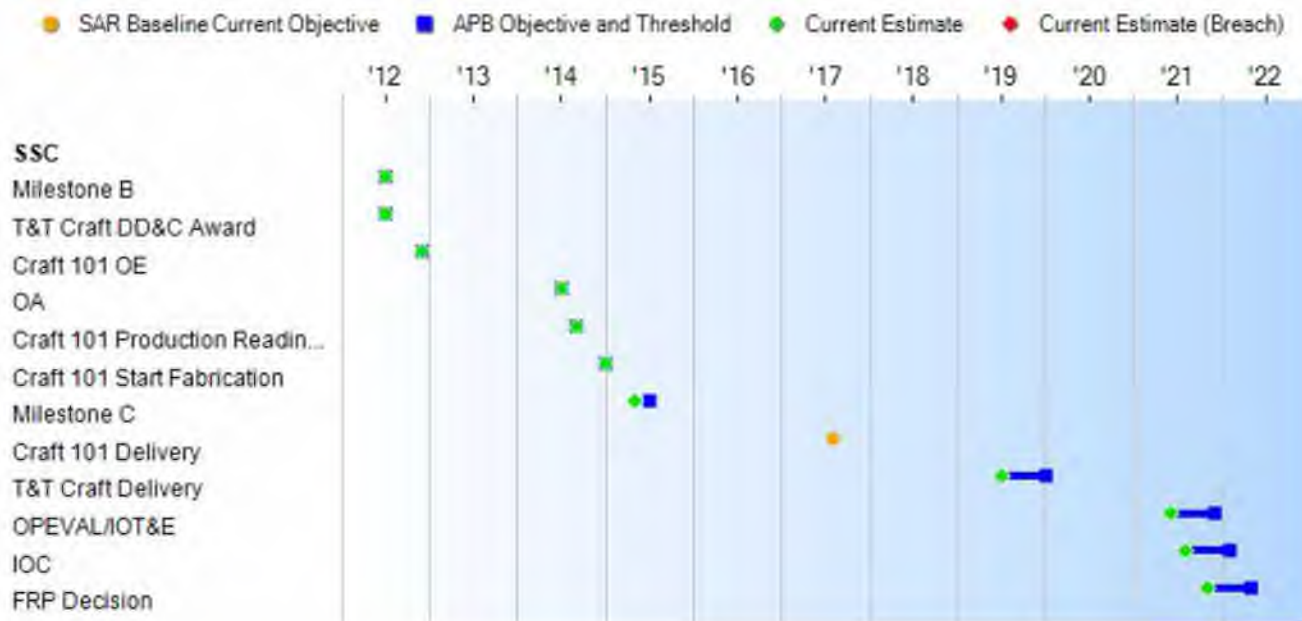
Current UCR Baseline

PAUC	None
APUC	None

Original UCR Baseline

PAUC	None
APUC	None

Schedule



Schedule Events				
Events	SAR Baseline Development Estimate	Current APB Production 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	Dec 2012	Dec 2012	Dec 2012
OA	Mar 2014	Jul 2014	Jul 2014	Jul 2014
Craft 101 Production Readiness Review	May 2014	Sep 2014	Sep 2014	Sep 2014
Craft 101 Start Fabrication	Dec 2014	Jan 2015	Jan 2015	Jan 2015
Milestone C	Nov 2014	Jul 2015	Jul 2015	May 2015
Craft 101 Delivery	Aug 2017	N/A	N/A	N/A
T&T Craft Delivery	Feb 2017	Jul 2019	Jan 2020	Jul 2019 (Ch-1)
OPEVAL/IOT&E	Apr 2018	Jun 2021	Dec 2021	Jun 2021 (Ch-2)
IOC	Aug 2020	Aug 2021	Feb 2022	Aug 2021 (Ch-2)
FRP Decision	Sep 2018	Nov 2021	May 2022	Nov 2021 (Ch-2)

Change Explanations

(Ch-1) T&T Craft Delivery has changed from April 2018 to July 2019 due to craft Test & Evaluation.

(Ch-2) OPEVAL/IOT&E CE has changed from October 2019 to June 2021, IOC CE has changed from August 2020 to August 2021 and FRP Decision CE has changed from April 2020 to November 2021 due to delay in T&T Craft Delivery.

Notes

SHIP	HULL #	DELIVERY
LCAC	101	2019-12
LCAC	102	2019-11
LCAC	103	2019-12
LCAC	104	2020-03
LCAC	105	2020-05
LCAC	106	2020-06
LCAC	107	2020-10
LCAC	108	2020-12
LCAC	110	2021-10
LCAC	109	2021-08
LCAC	112	2022-01
LCAC	111	2021-12
LCAC	113	2022-03
LCAC	114	2022-04
LCAC	115	2022-06
LCAC	116	2022-08
LCAC	117	2022-09
LCAC	118	2022-11
LCAC	125	2023-09
LCAC	126	2023-11
LCAC	119	2022-12
LCAC	120	2023-02
LCAC	121	2023-04

SSC

LCAC	122	2023-05
LCAC	123	2023-07
LCAC	124	2023-08
LCAC	128	2024-03
LCAC	127	2024-01
LCAC	129	2024-05
LCAC	130	2024-07
LCAC	136	2025-07
LCAC	134	2025-03
LCAC	131	2024-09
LCAC	133	2025-01
LCAC	135	2025-05
LCAC	132	2024-11
LCAC	137	2025-09
LCAC	139	2026-01
LCAC	140	2026-03
LCAC	138	2025-11
LCAC	142	2026-07
LCAC	141	2026-05
LCAC	147	2027-05
LCAC	146	2027-03
LCAC	143	2026-09
LCAC	144	2026-11
LCAC	145	2027-01
LCAC	149 -	2027-09
LCAC	150 -	2027-11
LCAC	148 -	2027-07
LCAC	151 -	2028-01
LCAC	152 -	2028-03

SSC

LCAC 157 - 2029-01
LCAC 154 - 2028-07
LCAC 155 - 2028-09
LCAC 156 - 2028-11
LCAC 153 - 2028-05
LCAC 160 - 2029-07
LCAC 161 - 2029-09
LCAC 158 - 2029-03
LCAC 162 - 2029-11
LCAC 159 - 2029-05
LCAC 164 - 2030-03
LCAC 167 - 2030-09
LCAC 165 - 2030-05
LCAC 166 - 2030-07
LCAC 163 - 2030-01
LCAC 172 - 2031-09
LCAC 171 - 2031-07
LCAC 170 - 2031-05
LCAC 168 - 2031-01
LCAC 169 - 2031-03

Acronyms and Abbreviations

CE - Current Estimate
DD&C - Detail Design and Construction
IOT&E - Initial Operational Test and Evaluation
LCAC - Landing Craft Air Cushion
OA - Operational Assessment
OE - Option Exercise
OPEVAL - Operational Evaluation
T&T - Test and Training

Performance

Performance Characteristics				
SAR Baseline Development Estimate	Current APB Production 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 is 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 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	TBD	The SSC is 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 permits embarkation of (4) SSCs 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 embarks on board the planned MLP, without ship alterations, as designed and built for the LCAC. SSC is able to operate with existing ships services, including the planned MLP, in place for the LCAC including ship's power, fueling/

		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, navigational aids, footprint for spare / consumable pack-up kits, and night vision systems.		defueling stations, compressed air, potable and washdown water, lighting, navigational aids, footprint for spare / consumable pack-up kits, and night vision systems. The SSC is 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 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)	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 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	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 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	TBD	The SSC fully supports 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 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

<p>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 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.</p>	<p>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 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.</p>	<p>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 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.</p>	<p>of GESPs necessary to meet all operational requirements specified in the DoD Enterprise Architecture 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.</p>
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Force Protection

<p>The SSC should be equipped with a remotely operated crew-served weapon system and provide ballistic and fragmentation protection for crew, internally carried embarked forces and critical machinery spaces. Appendix F of the CDD describes the specific ballistic protection requirement.</p>	<p>The SSC should be equipped with a remotely operated crew-served weapon system and provide ballistic and fragmentation protection for crew, internally carried embarked forces and critical machinery spaces. Appendix F of the CDD describes the specific ballistic protection requirement.</p>	<p>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 ballistic protection requirement. The SSC shall be equipped with mounts capable of</p>	<p>TBD</p>	<p>The SSC provides protection to the crew and internally carried embarked forces from small arms, crew served weapons and fragmentation. The SSC is 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.</p>
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		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 steerage through seas up to ten foot SWH without incurring structural damage which would impair mission capability until recovered or towed to a boat haven.	T=O The SSC shall be capable of surviving (remaining afloat) in displacement mode without power or steerage through seas up to ten foot SWH without incurring structural damage which would impair mission capability until recovered or towed to a boat haven.	T=O The SSC shall be capable of surviving (remaining afloat) in displacement mode without power or steerage through seas up to ten foot SWH without incurring structural damage which would impair mission capability until recovered or towed to a boat haven.	Objective demonstrated through 1/10-Scale Model Testing.	T=O The SSC is capable of surviving (remaining afloat) in displacement mode without power or steerage through seas up to ten foot SWH without incurring structural damage which would impair mission capability until recovered or 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 is fully operable, including conducting on load/offload operations, with a crew of 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 Materiel Availability is 60.7 percent. (Ch-1)
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	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	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	TBD	The SSC is capable of operating over the high water mark. This includes movement over ice, mud, rivers, swamps, and marshes. While moving inland, the SSC is able to negotiate obstacles found in the complex operational environment (natural and

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.	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.	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.	man-made). The SSC is able to operate over a beach high water mark, rocks, rubble, obstacles and walls up to 4 feet high, grass, reeds and dunes.
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Requirements Reference

CDD dated June 10, 2010

Change Explanations

(Ch-1) The Material Availability (Am) current estimate has changed from 61.3% to 60.7% due to new analysis conducted against the Product Baseline vice the Allocated Baseline used previously.

Notes

The following footnotes apply to Interoperability Threshold KPP:

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

2/ LHD-1 Power converter for 3rd 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.

4/ The Expeditionary Transfer Dock (ESD) is the new name of the Mobile Landing Platform (MLP).

Acronyms and Abbreviations

ATO - Authority to Operate
DAA - Designated Approval 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

RDT&E

Appn	BA	PE	
Navy	1319	04	0603564N
	Project	Name	
	3127	Preliminary Design and Feasibility Study	(Shared) (Sunk)
	Notes:	Preliminary Design and Feasibility Study/SSC Design	
Navy	1319	05	0604567N
	Project	Name	
	3133	Ship to Shore Connectors Contract Design	(Sunk)
	3137	SSC Construction	(Sunk)
Navy	1319	05	0605220N
	Project	Name	
	3133	Ship to Shore Connectors Contract Design	
	3137	SSC Construction	
	C410	SSC Composite Research	

Procurement

Appn	BA	PE	
Navy	1611	05	0204411N
	Line Item	Name	
	5110	Outfitting	(Shared)
Navy	1611	05	0204228N
	Line Item	Name	
	5112	Ship to Shore Connector	
	Notes:	Ship to Shore Connector End Cost	
	5300	Completion of Prior Year Shipbuilding	(Shared) (Sunk)
Navy	1810	04	0204228N
	Line Item	Name	
	5664	Surface Training Equipment	(Shared)

MILCON

Appn	BA	PE	
Navy	1205	01	0712776N
	Project	Name	
	P176	Facilities New Footprint -	(Shared) (Sunk)

Utilities

Notes: Electrical Upgrades at ACU-4

P5002 Facilities New Footprint - (Shared)
Utilities

Notes: Electrical Upgrades at ACU-5

Navy 1205 01 0815976N

Project	Name
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P5001 Facilities New Footprint - (Shared)
Training

Notes: Trainer Facility

Cost and Funding

Cost Summary

Total Acquisition Cost							
Appropriation	BY 2011 \$M			BY 2011 \$M	TY \$M		
	SAR Baseline Development Estimate	Current APB Production Objective/Threshold		Current Estimate	SAR Baseline Development Estimate	Current APB Production Objective	Current Estimate
RDT&E	552.7	552.7	608.0	525.4	571.9	571.9	545.3
Procurement	3354.4	3354.4	3689.8	3625.5	4137.5	4137.5	4885.8
Flyaway	--	--	--	3542.6	--	--	4774.7
Recurring	--	--	--	3542.6	--	--	4774.7
Non Recurring	--	--	--	0.0	--	--	0.0
Support	--	--	--	82.9	--	--	111.1
Other Support	--	--	--	0.0	--	--	0.0
Initial Spares	--	--	--	82.9	--	--	111.1
MILCON	18.5	18.5	20.4	14.4	21.7	21.7	17.3
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	3925.6	3925.6	N/A	4165.3	4731.1	4731.1	5448.4

Cost Notes

No cost estimate for the program has been completed in the previous year.

Total Quantity				
Quantity	SAR Baseline Development Estimate	Current APB Production	Current Estimate	
RDT&E		2	2	1
Procurement		71	71	72
Total		73	73	73

Cost and Funding

Funding Summary

Appropriation Summary									
FY 2020 President's Budget / December 2018 SAR (TY\$ M)									
Appropriation	Prior	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
RDT&E	533.9	1.4	4.9	5.1	0.0	0.0	0.0	0.0	545.3
Procurement	1033.0	543.5	12.6	308.8	484.8	365.6	373.0	1764.5	4885.8
MILCON	2.6	14.7	0.0	0.0	0.0	0.0	0.0	0.0	17.3
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2020 Total	1569.5	559.6	17.5	313.9	484.8	365.6	373.0	1764.5	5448.4
PB 2019 Total	1249.5	377.1	521.6	540.4	531.8	486.2	584.3	1078.0	5368.9
Delta	320.0	182.5	-504.1	-226.5	-47.0	-120.6	-211.3	686.5	79.5

Funding Notes

Quantity Summary										
FY 2020 President's Budget / December 2018 SAR (TY\$ M)										
Quantity	Undistributed	Prior	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Development	1	0	0	0	0	0	0	0	0	1
Production	0	18	8	0	4	7	5	5	25	72
PB 2020 Total	1	18	8	0	4	7	5	5	25	73
PB 2019 Total	1	13	5	8	8	8	8	8	14	73
Delta	0	5	3	-8	-4	-1	-3	-3	11	0

Cost and Funding

Annual Funding By Appropriation

Annual Funding							
1319 RDT&E Research, Development, Test, and Evaluation, Navy							
Fiscal Year	Quantity	TY \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2006	--	--	--	--	--	--	14.0
2007	--	--	--	--	--	--	13.0
2008	--	--	--	--	--	--	27.0
2009	--	--	--	--	--	--	24.9
2010	--	--	--	--	--	--	33.5
2011	--	--	--	--	--	--	95.5
2012	--	--	--	--	--	--	51.0
2013	--	--	--	--	--	--	112.7
2014	--	--	--	--	--	--	68.2
2015	--	--	--	--	--	--	41.7
2016	--	--	--	--	--	--	8.2
2017	--	--	--	--	--	--	12.6
2018	--	--	--	--	--	--	31.6
2019	--	--	--	--	--	--	1.4
2020	--	--	--	--	--	--	4.9
2021	--	--	--	--	--	--	5.1
Subtotal	1	--	--	--	--	--	545.3

Annual Funding 1319 RDT&E Research, Development, Test, and Evaluation, Navy							
Fiscal Year	Quantity	BY 2011 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2006	--	--	--	--	--	--	15.1
2007	--	--	--	--	--	--	13.7
2008	--	--	--	--	--	--	27.9
2009	--	--	--	--	--	--	25.4
2010	--	--	--	--	--	--	33.7
2011	--	--	--	--	--	--	93.7
2012	--	--	--	--	--	--	49.2
2013	--	--	--	--	--	--	107.6
2014	--	--	--	--	--	--	64.2
2015	--	--	--	--	--	--	38.8
2016	--	--	--	--	--	--	7.5
2017	--	--	--	--	--	--	11.3
2018	--	--	--	--	--	--	27.8
2019	--	--	--	--	--	--	1.2
2020	--	--	--	--	--	--	4.1
2021	--	--	--	--	--	--	4.2
Subtotal	1	--	--	--	--	--	525.4

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	
2019	--	19.8	--	--	19.8	--	19.8	
2020	--	--	--	--	--	--	--	
2021	--	14.8	--	--	14.8	--	14.8	
Subtotal	--	34.6	--	--	34.6	--	34.6	

Annual Funding 1810 Procurement Other Procurement, Navy							
Fiscal Year	Quantity	BY 2011 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2019	--	16.9	--	--	16.9	--	16.9
2020	--	--	--	--	--	--	--
2021	--	12.1	--	--	12.1	--	12.1
Subtotal	--	29.0	--	--	29.0	--	29.0

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	
2015	3	155.4	--	--	155.4	4.2	159.6	
2016	5	203.5	--	--	203.5	7.4	210.9	
2017	2	125.0	--	--	125.0	3.1	128.1	
2018	8	522.2	--	--	522.2	12.2	534.4	
2019	8	511.6	--	--	511.6	12.1	523.7	
2020	--	12.6	--	--	12.6	--	12.6	
2021	4	288.1	--	--	288.1	5.9	294.0	
2022	7	474.4	--	--	474.4	10.4	484.8	
2023	5	357.9	--	--	357.9	7.7	365.6	
2024	5	365.2	--	--	365.2	7.8	373.0	
2025	5	334.2	--	--	334.2	8.0	342.2	
2026	5	333.7	--	--	333.7	8.0	341.7	
2027	5	333.7	--	--	333.7	8.0	341.7	
2028	5	333.7	--	--	333.7	8.1	341.8	
2029	5	333.7	--	--	333.7	8.2	341.9	
2030	--	16.5	--	--	16.5	--	16.5	
2031	--	16.1	--	--	16.1	--	16.1	
2032	--	15.3	--	--	15.3	--	15.3	
2033	--	7.3	--	--	7.3	--	7.3	
Subtotal	72	4740.1	--	--	4740.1	111.1	4851.2	

Annual Funding								
1611 Procurement Shipbuilding and Conversion, Navy								
Fiscal Year	Quantity	BY 2011 \$M						
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program	
2015	3	133.8	--	--	133.8	3.6	137.4	
2016	5	171.6	--	--	171.6	6.3	177.9	
2017	2	103.3	--	--	103.3	2.5	105.8	
2018	8	422.9	--	--	422.9	9.9	432.8	
2019	8	406.2	--	--	406.2	9.6	415.8	
2020	--	9.8	--	--	9.8	--	9.8	
2021	4	219.9	--	--	219.9	4.5	224.4	
2022	7	355.0	--	--	355.0	7.8	362.8	
2023	5	262.5	--	--	262.5	5.7	268.2	
2024	5	262.6	--	--	262.6	5.7	268.3	
2025	5	235.6	--	--	235.6	5.7	241.3	
2026	5	230.7	--	--	230.7	5.5	236.2	
2027	5	226.2	--	--	226.2	5.4	231.6	
2028	5	221.7	--	--	221.7	5.4	227.1	
2029	5	217.4	--	--	217.4	5.3	222.7	
2030	--	10.5	--	--	10.5	--	10.5	
2031	--	10.1	--	--	10.1	--	10.1	
2032	--	9.4	--	--	9.4	--	9.4	
2033	--	4.4	--	--	4.4	--	4.4	
Subtotal	72	3513.6	--	--	3513.6	82.9	3596.5	

The 2015 Defense Appropriations Act directed the completion of Craft 101 with the Shipbuilding and Conversion, Navy, appropriation.

Cost Quantity Information		
1611 Procurement Shipbuilding and Conversion, Navy		
Fiscal Year	Quantity	End Item Recurring Flyaway (Aligned With Quantity) BY 2011 \$M
2015	3	133.8
2016	5	171.6
2017	2	103.3
2018	8	422.9
2019	8	416.0
2020	--	--
2021	4	219.9
2022	7	354.9
2023	5	262.6
2024	5	262.6
2025	5	235.6
2026	5	230.7
2027	5	226.2
2028	5	221.7
2029	5	251.8
2030	--	--
2031	--	--
2032	--	--
2033	--	--
Subtotal	72	3513.6

Annual Funding 1205 MILCON Military Construction, Navy and Marine Corps	
Fiscal Year	TY \$M
	Total Program
2018	2.6
2019	14.7
Subtotal	17.3

Annual Funding 1205 MILCON Military Construction, Navy and Marine Corps	
Fiscal Year	BY 2011 \$M
	Total Program
2018	2.2
2019	12.2
Subtotal	14.4

Low Rate Initial Production

Item	Initial LRIP Decision	Current Total LRIP
Approval Date	7/5/2012	9/21/2017
Approved Quantity	13	18
Reference	Milestone B ADM	Gate 6 Sufficiency Review ADM
Start Year	2013	2013
End Year	2021	2021

The Current Total LRIP Quantity is more than 10% of the total production quantity per the Milestone B approved Acquisition Strategy which establishes an initial production base for the system, provides for an orderly increase in the production rate prior to approval for FRP, and meets fleet operational requirements by FY 2020.

The Service Acquisition Executive authorized an increase in LRIP quantities to 29 in order to cover fluctuating procurement quantities in FY 2018 and FY 2019. Based on the PB 2019, LRIP quantity was 18 craft.

SSC

December 2018 SAR

Foreign Military Sales

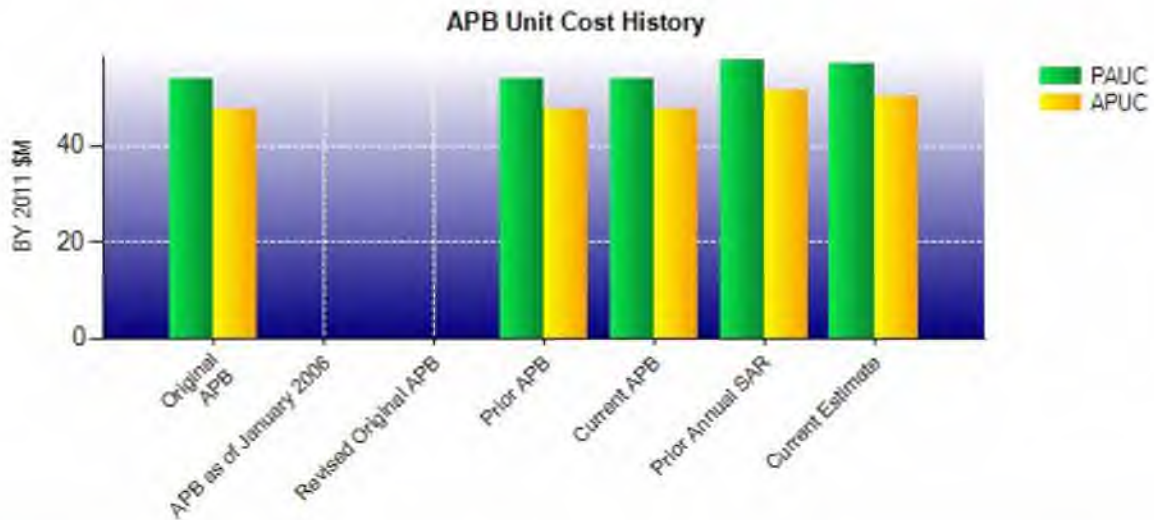
None

Nuclear Costs

None

Unit Cost

Current UCR Baseline and Current Estimate (Base-Year Dollars)			
Item	BY 2011 \$M	BY 2011 \$M	% Change
	Current UCR Baseline (Feb 2019 APB)	Current Estimate (Dec 2018 SAR)	
Program Acquisition Unit Cost			
Cost	3925.6	4165.3	
Quantity	73	73	
Unit Cost	53.775	57.059	+6.11
Average Procurement Unit Cost			
Cost	3354.4	3625.5	
Quantity	71	72	
Unit Cost	47.245	50.354	+6.58
Original UCR Baseline and Current Estimate (Base-Year Dollars)			
Item	BY 2011 \$M	BY 2011 \$M	% Change
	Original UCR Baseline (Jul 2012 APB)	Current Estimate (Dec 2018 SAR)	
Program Acquisition Unit Cost			
Cost	3925.6	4165.3	
Quantity	73	73	
Unit Cost	53.775	57.059	+6.11
Average Procurement Unit Cost			
Cost	3354.4	3625.5	
Quantity	71	72	
Unit Cost	47.245	50.354	+6.58



APB Unit Cost History					
Item	Date	BY 2011 \$M		TY \$M	
		PAUC	APUC	PAUC	APUC
Original APB	Jul 2012	53.775	47.245	64.810	58.275
APB as of January 2006	N/A	N/A	N/A	N/A	N/A
Revised Original APB	N/A	N/A	N/A	N/A	N/A
Prior APB	Sep 2017	53.775	47.245	64.810	58.275
Current APB	Feb 2019	53.775	47.245	64.810	58.275
Prior Annual SAR	Dec 2017	57.736	51.229	73.547	66.979
Current Estimate	Dec 2018	57.059	50.354	74.636	67.858

SAR Unit Cost History

Current SAR Baseline to Current Estimate (TY \$M)									
PAUC Development Estimate	Changes								PAUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
64.810	2.882	-0.021	2.097	0.000	4.595	0.000	0.273	9.826	74.636

Current SAR Baseline to Current Estimate (TY \$M)									
Initial APUC Development Estimate	Changes								APUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
58.275	2.935	-0.297	2.126	0.000	4.543	0.000	0.276	9.583	67.858

SAR Baseline History				
Item	SAR Planning Estimate	SAR Development Estimate	SAR Production Estimate	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	May 2015
IOC	N/A	Aug 2020	N/A	Aug 2021
Total Cost (TY \$M)	N/A	4731.1	N/A	5448.4
Total Quantity	N/A	73	N/A	73
PAUC	N/A	64.810	N/A	74.636

Cost Variance

Summary TY \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Development Estimate)	571.9	4137.5	21.7	4731.1
Previous Changes				
Economic	-1.3	+138.0	+0.2	+136.9
Quantity	-38.4	+36.9	--	-1.5
Schedule	--	+62.5	--	+62.5
Engineering	--	--	--	--
Estimating	-3.9	+426.1	-3.8	+418.4
Other	--	--	--	--
Support	--	+21.5	--	+21.5
Subtotal	-43.6	+685.0	-3.6	+637.8
Current Changes				
Economic	+0.1	+73.3	+0.1	+73.5
Quantity	--	--	--	--
Schedule	--	+90.6	--	+90.6
Engineering	--	--	--	--
Estimating	+16.9	-99.0	-0.9	-83.0
Other	--	--	--	--
Support	--	-1.6	--	-1.6
Subtotal	+17.0	+63.3	-0.8	+79.5
Total Changes	-26.6	+748.3	-4.4	+717.3
CE - Cost Variance	545.3	4885.8	17.3	5448.4
CE - Cost & Funding	545.3	4885.8	17.3	5448.4

Summary BY 2011 \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Development Estimate)	552.7	3354.4	18.5	3925.6
Previous Changes				
Economic	--	--	--	--
Quantity	-35.8	+31.8	--	-4.0
Schedule	--	-3.1	--	-3.1
Engineering	--	--	--	--
Estimating	-5.9	+290.3	-3.3	+281.1
Other	--	--	--	--
Support	--	+15.1	--	+15.1
Subtotal	-41.7	+334.1	-3.3	+289.1
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	+14.4	-60.5	-0.8	-46.9
Other	--	--	--	--
Support	--	-2.5	--	-2.5
Subtotal	+14.4	-63.0	-0.8	-49.4
Total Changes	-27.3	+271.1	-4.1	+239.7
CE - Cost Variance	525.4	3625.5	14.4	4165.3
CE - Cost & Funding	525.4	3625.5	14.4	4165.3

Previous Estimate: December 2017

RDT&E	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	+0.1
Revised estimate due to execution realignment. (Estimating)	+14.8	+17.3
Revised estimate to reflect Navy Working Capital Fund rate adjustment FY 2020 - 2024. (Estimating)	-0.2	-0.2
Revised estimate to reflect FY 2016 SSC acceleration of C4N Critical Flight Signal. (Estimating)	-0.1	-0.1
Adjustment for current and prior escalation. (Estimating)	-0.1	-0.1
RDT&E Subtotal	+14.4	+17.0

Procurement	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	+73.3
Change in Navy buy profile. Congressional add of five craft in FY 2019 and a reduction from FY 2020 to FY2024 procurements due to under execution and extend acquisition plan from FY 2026 to FY 2029 (Shipbuilding and Conversion, Navy (SCN)). (Schedule)	0.0	+90.6
Adjustment for current and prior escalation. (Estimating)	-11.4	-14.1
Revised estimate to reflect Navy Working Capital Fund (SCN). (Estimating)	-0.2	-0.2
Revised estimate for SSC procurement outside the FYDP in anticipation of decrease as prime and vendor learning curves mature and multi-year procurement opportunities develop (SCN). (Estimating)	-46.3	-84.5
Revised estimates for Post Delivery and Outfitting (SCN). (Estimating)	-2.4	0.0
Revised estimate for inflation (Other Procurement, Navy (OPN)). (Estimating)	-0.2	-0.2
Adjustment for current and prior escalation. (Support)	-0.4	-0.3
Decrease Initial Spares estimate as a result of a change in Navy buy profile (SCN). (Support)	-2.1	-1.3
Procurement Subtotal	-63.0	+63.3

MILCON	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	+0.1
Revised estimates for SSC trainer facility electrical upgrades and new mission trainer. (Estimating)	-0.7	-0.8
Adjustment for current and prior escalation. (Estimating)	-0.1	-0.1
MILCON Subtotal	-0.8	-0.8

(b)(4)

Deliveries and Expenditures

Deliveries				
Delivered to Date	Planned to Date	Actual to Date	Total Quantity	Percent Delivered
Development	0	0	1	0.00%
Production	0	0	72	0.00%
Total Program Quantity Delivered	0	0	73	0.00%

Expended and Appropriated (TY \$M)			
Total Acquisition Cost	5448.4	Years Appropriated	14
Expended to Date	778.7	Percent Years Appropriated	50.00%
Percent Expended	14.29%	Appropriated to Date	2129.1
Total Funding Years	28	Percent Appropriated	39.08%

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

Operating and Support Cost

Cost Estimate Details

Date of Estimate:	May 19, 2015
Source of Estimate:	SCP
Quantity to Sustain:	73
Unit of Measure:	Craft
Service Life per Unit:	30.00 Years
Fiscal Years in Service:	FY 2018 - FY 2057

Unit of Measure equals Craft. A Craft is defined as one Ship to Shore Connector.

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. Given that the SSC replaces the existing LCAC assets and the same infrastructure is used for logistics support and sustainment, the SSC strategy is baselined on the LCAC program. 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

The Antecedent System is the Landing Craft Air Cushion (LCAC). LCAC Model (-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 CARD for the SSC.

Cost Element	Annual O&S Costs BY2011 \$M	
	SSC Average Annual Cost Per Craft	LCAC (Antecedent) Average Annual Cost Per Craft
Unit-Level Manpower	1.525	1.291
Unit Operations	0.454	0.460
Maintenance	1.090	1.357
Sustaining Support	0.463	0.463
Continuing System Improvements	0.264	0.329
Indirect Support	0.819	0.410
Other	0.000	0.000
Total	4.615	4.310

Item	Total O&S Cost \$M			
	SSC		Current Estimate	LCAC (Antecedent)
	Current Production APB Objective/Threshold			
Base Year	10171.3	11188.4	10106.0	9437.0
Then Year	18058.9	N/A	15657.0	0.0

The total program O&S cost estimate is determined to be \$15,657 TY\$M. This total was de-escalated by the Naval Center for Cost Analysis to arrive at a total O&S Current Estimate of \$10,106.0 BY 2011 \$M.

Equation to Translate Annual Cost to Total Cost

Total O&S cost is calculated by multiplying the Average Annual Cost per Craft by the total number of craft by total years of service. $4.615 \text{ BY 2011 } \$M \times 73 \times 30 = \$10,106.0 \text{ BY 2011 } \M .

O&S Cost Variance		
Category	BY 2011 \$M	Change Explanations
Prior SAR Total O&S Estimates - Dec 2017 SAR	10106.0	
Programmatic/Planning Factors	0.0	
Cost Estimating Methodology	0.0	
Cost Data Update	0.0	
Labor Rate	0.0	
Energy Rate	0.0	
Technical Input	0.0	
Other	0.0	
Total Changes	0.0	
Current Estimate	10106.0	

Disposal Estimate Details

Date of Estimate: May 19, 2015
Source of Estimate: SCP
Disposal/Demilitarization Total Cost (BY 2011 \$M): 14.2

The SSC disposal cost estimate is based on the actual disposal costs of the ten LCAC disposed as of February 2018.