



Selected Acquisition Report (SAR)

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



Ship to Shore Connector Amphibious Craft (SSC)

As of FY 2017 President's Budget

Defense Acquisition Management
Information Retrieval
(DAMIR)

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Common Acronyms and Abbreviations for MDAP Programs

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

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

Program Information

Program Name

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

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 end of 2015 marked the completion of another successful year for the SSC program. The program successfully revalidated the CDD, achieved Milestone C, began its first year of the Production and Development (P&D) phase, held two Integrated Baseline Reviews (IBRs) with the Shipbuilder and established Performance Measurement Baselines (PMBs). The Navy also authorized the option for two additional craft, Landing Craft Air Cushion (LCAC) 102 and LCAC 103, on March 31, 2015.

The Government and Shipbuilder held an IBR for LCAC 101 in February 2015 and for LCACs 102 and 103 in November 2015. Lessons learned from Craft 100 and LCAC 101 IBRs were incorporated as applicable. This improved upon the integrity and reliability of each PMB resulting in its successful assessment. As a result, a mutual understanding of the budget, schedule, and program risks was achieved.

Craft 100 and LCAC 101 moved steadily through the production line in 2015. In November, Craft 100 marked a significant production milestone: hull turnover. The craft's hull is initially constructed upside down for ease of welding and construction, and then 'flipped' to complete its assembly. The turnover is a major transition point as the first craft entered the above deck module integration phase of production. LCAC 101 began fabrication in January and has progressed to the second station in hull construction to complete the buoyancy box structure and initial wiring of equipment. Moreover, all required work packages are complete for Craft 100 and LCAC 101 to sustain production. LCAC 102 and 103 production will begin in FY 2016. A delay in the delivery of aluminum slowed some shop work and Textron experienced challenges with their robotic welder. Despite these issues, Textron was able to implement workarounds to continue construction progress and remains on track to deliver Craft 100 and LCAC 101 within threshold.

Milestone C preparations occurred during the first two quarters of CY 2015. The program was required to complete 12 program-specific exit criteria in order to demonstrate the design is stable and meets requirements based on performance. The program updated the Acquisition Strategy, completed an Operational Assessment, developed mature software capability, re-validated the CDD, proved costs are within the affordability caps, and demonstrated no significant manufacturing risks, complete interoperability, and operational supportability.

In addition to program accomplishments, an Independent Logistics Assessment was conducted which evaluated the adequacy and program health of logistics planning, management, resources, affordability, risk mitigation, and execution of the SSC program. In February 2015, the program received certification of its product support program. The Naval Center for Cost Analysis completed an updated SCP in May 2015 projecting SSC program costs within the APB. The SSC CDD to support the Milestone C decision was revalidated by the Chief of Naval Operations and approved by the JROC on October 8, 2015, with no changes to the KPPs or Key System Attributes that impact design or production. The effort culminated on May 26, 2015 with a successful Milestone C review held with the MDA, the Assistant Secretary of the Navy for Research, Development and Acquisition. The review included an evaluation of key factors that ensured adequate design maturity, production readiness, efficient manufacturing capability and low technical risk. The MDA approved the SSC program to enter the P&D Phase based on demonstrating the low technical risk of the detail design, software development progress and solid reliability growth program. This is a major accomplishment, and paves the way for the production and delivery of 72 new LCACs for our fleet.

Software Release 1 is completed, and Release 2 integration tests and Release 3 development are ongoing.

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

Threshold Breaches

APB Breaches

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

Nunn-McCurdy Breaches

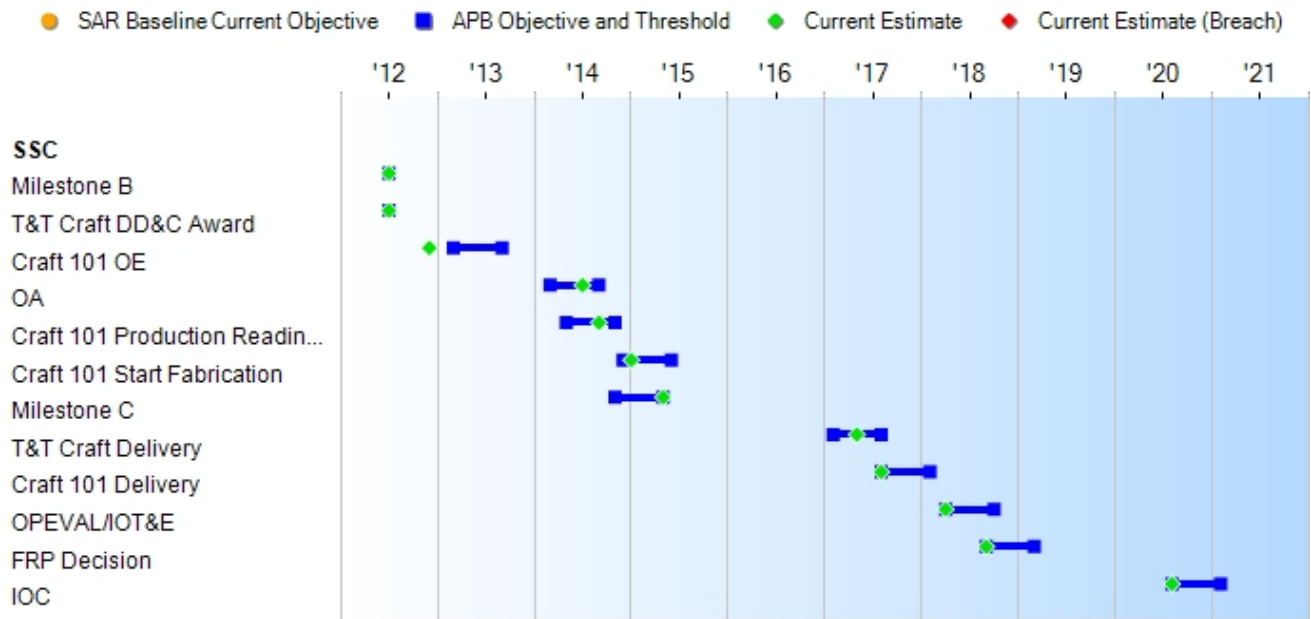
Current UCR Baseline

| | |
|------|------|
| PAUC | None |
| APUC | None |

Original UCR Baseline

| | |
|------|------|
| PAUC | None |
| APUC | None |

Schedule



| Schedule Events | | | | |
|---------------------------------------|-----------------------------------|---|----------|------------------|
| Events | SAR Baseline Development Estimate | Current APB Development Objective/Threshold | | Current Estimate |
| Milestone 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 |
| Craft 101 Production Readiness Review | May 2014 | May 2014 | Nov 2014 | Sep 2014 |
| Craft 101 Start Fabrication | Dec 2014 | Dec 2014 | Jun 2015 | Jan 2015 |
| Milestone C | Nov 2014 | Nov 2014 | May 2015 | May 2015 |
| T&T Craft Delivery | Feb 2017 | Feb 2017 | Aug 2017 | May 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

None

Acronyms and Abbreviations

DD&C - Detail Design and Construction
IOT&E - Initial Operational Test and Evaluation
OA - Operational Assessment
OE - Option Exercise
OPEVAL - Operational Evaluation
T&T - Test and Training

Performance

| Performance Characteristics | | | | |
|---|---|---|------------------|---|
| SAR Baseline Development Estimate | 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 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 | 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 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 |

| | | | | |
|--|--|---|--|---|
| | | 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. | | power, fueling/ defueling stations, compressed air, potable and washdown water, lighting, 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 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 | 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) Compliant with GIG Technical Guidance to include IT Standards identified in the TV-1 and implementation guidance of GESPs, | 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 IEA, excepting tactical and non-IP communications. 3) Compliant with GIG Technical Guidance to include IT Standards identified in the TV-1 and implementation | 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 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 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. | 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. | 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. | | 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. |
| 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 forces and critical machinery spaces. Appendix F of the CDD describes the specific ballistic protection requirement. | 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. | 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 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. | 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 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 | T=O The SSC shall be capable of surviving (remaining afloat) in | T=O The SSC shall be capable of surviving (remaining afloat) in | TBD | 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. | 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. | 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. | | 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 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, rubble, obstacles and walls up to 4 feet high, grass, reeds and dunes. | 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. | 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. | 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. |

Requirements Reference

Capability Development Document (CDD) dated June 10, 2010

Change Explanations

None

Notes

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 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.

Acronyms and Abbreviations

ATO - Authority to Operate

CDD - Capability Development Document

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 | |

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 | |

Cost and Funding

Cost Summary

| Total Acquisition Cost | | | | | | | |
|------------------------|-----------------------------------|---|--------|------------------|-----------------------------------|-----------------------------------|------------------|
| Appropriation | BY 2011 \$M | | | BY 2011 \$M | TY \$M | | |
| | SAR Baseline Development Estimate | Current APB Development Objective/Threshold | | Current Estimate | SAR Baseline Development Estimate | Current APB Development Objective | Current Estimate |
| RDT&E | 552.7 | 552.7 | 608.0 | 495.4 | 571.9 | 571.9 | 510.7 |
| Procurement | 3354.4 | 3354.4 | 3689.8 | 3153.3 | 4137.5 | 4137.5 | 4034.7 |
| Flyaway | -- | -- | -- | 3094.2 | -- | -- | 3959.1 |
| Recurring | -- | -- | -- | 3094.2 | -- | -- | 3959.1 |
| Non Recurring | -- | -- | -- | 0.0 | -- | -- | 0.0 |
| Support | -- | -- | -- | 59.1 | -- | -- | 75.6 |
| Other Support | -- | -- | -- | 0.0 | -- | -- | 0.0 |
| Initial Spares | -- | -- | -- | 59.1 | -- | -- | 75.6 |
| MILCON | 18.5 | 18.5 | 20.4 | 13.5 | 21.7 | 21.7 | 16.0 |
| Acq O&M | 0.0 | 0.0 | -- | 0.0 | 0.0 | 0.0 | 0.0 |
| Total | 3925.6 | 3925.6 | N/A | 3662.2 | 4731.1 | 4731.1 | 4561.4 |

Confidence Level

Confidence Level of cost estimate for current APB: 50%

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

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

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

Cost and Funding

Funding Summary

| Appropriation Summary | | | | | | | | | |
|---|-------|---------|---------|---------|---------|---------|---------|-------------|--------|
| FY 2017 President's Budget / December 2015 SAR (TY\$ M) | | | | | | | | | |
| Appropriation | Prior | FY 2016 | FY 2017 | FY 2018 | FY 2019 | FY 2020 | FY 2021 | To Complete | Total |
| RDT&E | 481.4 | 7.8 | 11.1 | 7.0 | 1.4 | 2.0 | 0.0 | 0.0 | 510.7 |
| Procurement | 159.6 | 210.7 | 128.1 | 335.9 | 529.1 | 641.9 | 685.2 | 1344.2 | 4034.7 |
| MILCON | 0.0 | 0.0 | 0.0 | 11.0 | 0.0 | 2.5 | 2.5 | 0.0 | 16.0 |
| Acq O&M | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| PB 2017 Total | 641.0 | 218.5 | 139.2 | 353.9 | 530.5 | 646.4 | 687.7 | 1344.2 | 4561.4 |
| PB 2016 Total | 642.5 | 263.4 | 282.6 | 547.0 | 585.0 | 528.2 | 435.2 | 1412.6 | 4696.5 |
| Delta | -1.5 | -44.9 | -143.4 | -193.1 | -54.5 | 118.2 | 252.5 | -68.4 | -135.1 |

| Quantity Summary | | | | | | | | | | |
|---|---------------|-------|---------|---------|---------|---------|---------|---------|-------------|-------|
| FY 2017 President's Budget / December 2015 SAR (TY\$ M) | | | | | | | | | | |
| Quantity | Undistributed | Prior | FY 2016 | FY 2017 | FY 2018 | FY 2019 | FY 2020 | FY 2021 | To Complete | Total |
| Development | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Production | 0 | 3 | 4 | 2 | 6 | 10 | 12 | 12 | 23 | 72 |
| PB 2017 Total | 1 | 3 | 4 | 2 | 6 | 10 | 12 | 12 | 23 | 73 |
| PB 2016 Total | 1 | 3 | 5 | 5 | 9 | 10 | 9 | 8 | 23 | 73 |
| Delta | 0 | 0 | -1 | -3 | -3 | 0 | 3 | 4 | 0 | 0 |

Cost and Funding

Annual Funding By Appropriation

| Annual Funding | | | | | | | |
|--|----------|----------------------------|--------------------------------|-----------------------|---------------|---------------|---------------|
| 1319 RDT&E Research, Development, Test, and Evaluation, Navy | | | | | | | |
| Fiscal Year | Quantity | TY \$M | | | | | |
| | | End Item Recurring Flyaway | Non End Item Recurring Flyaway | Non Recurring Flyaway | Total Flyaway | Total Support | Total Program |
| 2006 | -- | -- | -- | -- | -- | -- | 14.0 |
| 2007 | -- | -- | -- | -- | -- | -- | 13.0 |
| 2008 | -- | -- | -- | -- | -- | -- | 27.0 |
| 2009 | -- | -- | -- | -- | -- | -- | 24.9 |
| 2010 | -- | -- | -- | -- | -- | -- | 33.5 |
| 2011 | -- | -- | -- | -- | -- | -- | 95.5 |
| 2012 | -- | -- | -- | -- | -- | -- | 51.0 |
| 2013 | -- | -- | -- | -- | -- | -- | 112.5 |
| 2014 | -- | -- | -- | -- | -- | -- | 68.4 |
| 2015 | -- | -- | -- | -- | -- | -- | 41.6 |
| 2016 | -- | -- | -- | -- | -- | -- | 7.8 |
| 2017 | -- | -- | -- | -- | -- | -- | 11.1 |
| 2018 | -- | -- | -- | -- | -- | -- | 7.0 |
| 2019 | -- | -- | -- | -- | -- | -- | 1.4 |
| 2020 | -- | -- | -- | -- | -- | -- | 2.0 |
| Subtotal | 1 | -- | -- | -- | -- | -- | 510.7 |

| 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 | -- | -- | -- | -- | -- | -- | 107.4 |
| 2014 | -- | -- | -- | -- | -- | -- | 64.4 |
| 2015 | -- | -- | -- | -- | -- | -- | 38.7 |
| 2016 | -- | -- | -- | -- | -- | -- | 7.1 |
| 2017 | -- | -- | -- | -- | -- | -- | 10.0 |
| 2018 | -- | -- | -- | -- | -- | -- | 6.2 |
| 2019 | -- | -- | -- | -- | -- | -- | 1.2 |
| 2020 | -- | -- | -- | -- | -- | -- | 1.7 |
| Subtotal | 1 | -- | -- | -- | -- | -- | 495.4 |

| 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 | -- | 20.0 | -- | -- | 20.0 | -- | 20.0 |
| 2020 | -- | -- | -- | -- | -- | -- | -- |
| 2021 | -- | 15.0 | -- | -- | 15.0 | -- | 15.0 |
| Subtotal | -- | 35.0 | -- | -- | 35.0 | -- | 35.0 |

| 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 | -- | 17.1 | -- | -- | 17.1 | -- | 17.1 | |
| 2020 | -- | -- | -- | -- | -- | -- | -- | |
| 2021 | -- | 12.3 | -- | -- | 12.3 | -- | 12.3 | |
| Subtotal | -- | 29.4 | -- | -- | 29.4 | -- | 29.4 | |

| 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 | 156.7 | -- | -- | 156.7 | 2.9 | 159.6 |
| 2016 | 4 | 206.5 | -- | -- | 206.5 | 4.2 | 210.7 |
| 2017 | 2 | 125.9 | -- | -- | 125.9 | 2.2 | 128.1 |
| 2018 | 6 | 329.5 | -- | -- | 329.5 | 6.4 | 335.9 |
| 2019 | 10 | 498.6 | -- | -- | 498.6 | 10.5 | 509.1 |
| 2020 | 12 | 629.0 | -- | -- | 629.0 | 12.9 | 641.9 |
| 2021 | 12 | 658.0 | -- | -- | 658.0 | 12.2 | 670.2 |
| 2022 | 10 | 551.6 | -- | -- | 551.6 | 10.3 | 561.9 |
| 2023 | 13 | 708.8 | -- | -- | 708.8 | 14.0 | 722.8 |
| 2024 | -- | 17.0 | -- | -- | 17.0 | -- | 17.0 |
| 2025 | -- | 11.7 | -- | -- | 11.7 | -- | 11.7 |
| 2026 | -- | 12.0 | -- | -- | 12.0 | -- | 12.0 |
| 2027 | -- | 12.4 | -- | -- | 12.4 | -- | 12.4 |
| 2028 | -- | 6.4 | -- | -- | 6.4 | -- | 6.4 |
| Subtotal | 72 | 3924.1 | -- | -- | 3924.1 | 75.6 | 3999.7 |

| 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 | 135.4 | -- | -- | 135.4 | 2.5 | 137.9 |
| 2016 | 4 | 175.2 | -- | -- | 175.2 | 3.6 | 178.8 |
| 2017 | 2 | 104.8 | -- | -- | 104.8 | 1.8 | 106.6 |
| 2018 | 6 | 269.0 | -- | -- | 269.0 | 5.2 | 274.2 |
| 2019 | 10 | 399.0 | -- | -- | 399.0 | 8.4 | 407.4 |
| 2020 | 12 | 493.5 | -- | -- | 493.5 | 10.1 | 503.6 |
| 2021 | 12 | 506.1 | -- | -- | 506.1 | 9.4 | 515.5 |
| 2022 | 10 | 416.0 | -- | -- | 416.0 | 7.7 | 423.7 |
| 2023 | 13 | 524.0 | -- | -- | 524.0 | 10.4 | 534.4 |
| 2024 | -- | 12.3 | -- | -- | 12.3 | -- | 12.3 |
| 2025 | -- | 8.3 | -- | -- | 8.3 | -- | 8.3 |
| 2026 | -- | 8.4 | -- | -- | 8.4 | -- | 8.4 |
| 2027 | -- | 8.5 | -- | -- | 8.5 | -- | 8.5 |
| 2028 | -- | 4.3 | -- | -- | 4.3 | -- | 4.3 |
| Subtotal | 72 | 3064.8 | -- | -- | 3064.8 | 59.1 | 3123.9 |

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 | 135.4 |
| 2016 | 4 | 175.2 |
| 2017 | 2 | 104.8 |
| 2018 | 6 | 269.0 |
| 2019 | 10 | 399.0 |
| 2020 | 12 | 493.5 |
| 2021 | 12 | 506.1 |
| 2022 | 10 | 431.5 |
| 2023 | 13 | 550.3 |
| 2024 | -- | -- |
| 2025 | -- | -- |
| 2026 | -- | -- |
| 2027 | -- | -- |
| 2028 | -- | -- |
| Subtotal | 72 | 3064.8 |

| Annual Funding 1205 MILCON Military Construction, Navy and Marine Corps | |
|--|---------------|
| Fiscal Year | TY \$M |
| | Total Program |
| 2018 | 11.0 |
| 2019 | -- |
| 2020 | 2.5 |
| 2021 | 2.5 |
| Subtotal | 16.0 |

| Annual Funding 1205 MILCON Military Construction, Navy and Marine Corps | |
|--|---------------|
| Fiscal Year | BY 2011 \$M |
| | Total Program |
| 2018 | 9.4 |
| 2019 | -- |
| 2020 | 2.1 |
| 2021 | 2.0 |
| Subtotal | 13.5 |

MILCON reflects changes made to the Department of the Navy Service Cost Position for the Ship to Shore Connector.

Low Rate Initial Production

| Item | Initial LRIP Decision | Current Total LRIP |
|--------------------------|-----------------------|--------------------|
| Approval Date | 7/5/2012 | 7/21/2015 |
| Approved Quantity | 13 | 13 |
| Reference | Milestone B ADM | Milestone C 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, provide for an orderly increase in the production rate prior to approval for FRP, and meet fleet operational requirements by FY 2020.

Foreign Military Sales

None

Nuclear Costs

None

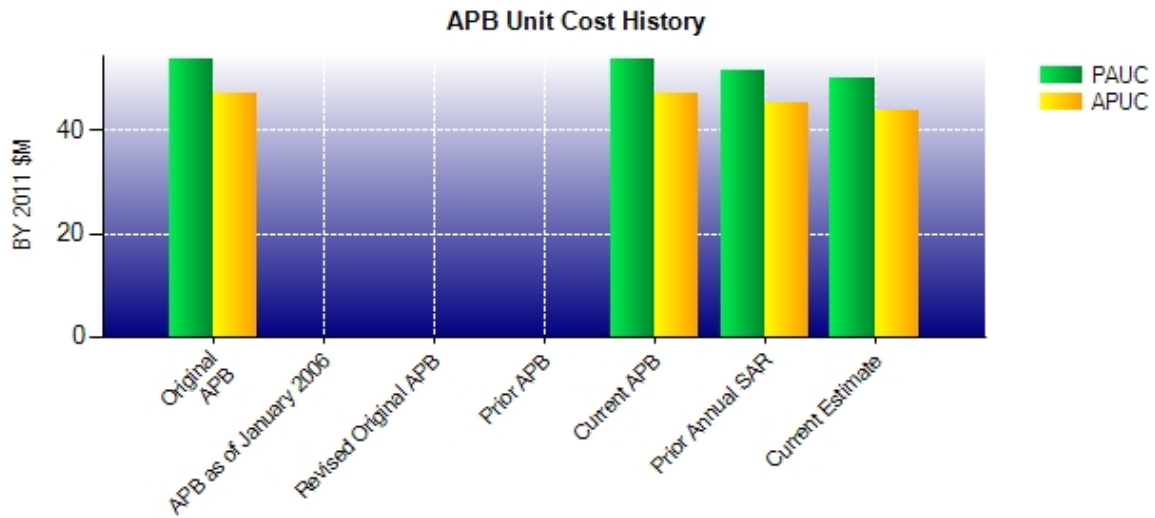
Unit Cost

Unit Cost Report

| Item | BY 2011 \$M | BY 2011 \$M | % Change |
|--------------------------------------|-------------------------------------|---------------------------------|----------|
| | Current UCR Baseline (Jul 2012 APB) | Current Estimate (Dec 2015 SAR) | |
| Program Acquisition Unit Cost | | | |
| Cost | 3925.6 | 3662.2 | |
| Quantity | 73 | 73 | |
| Unit Cost | 53.775 | 50.167 | -6.71 |
| Average Procurement Unit Cost | | | |
| Cost | 3354.4 | 3153.3 | |
| Quantity | 71 | 72 | |
| Unit Cost | 47.245 | 43.796 | -7.30 |

| Item | BY 2011 \$M | BY 2011 \$M | % Change |
|--------------------------------------|--------------------------------------|---------------------------------|----------|
| | Original UCR Baseline (Jul 2012 APB) | Current Estimate (Dec 2015 SAR) | |
| Program Acquisition Unit Cost | | | |
| Cost | 3925.6 | 3662.2 | |
| Quantity | 73 | 73 | |
| Unit Cost | 53.775 | 50.167 | -6.71 |
| Average Procurement Unit Cost | | | |
| Cost | 3354.4 | 3153.3 | |
| Quantity | 71 | 72 | |
| Unit Cost | 47.245 | 43.796 | -7.30 |

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 | N/A | N/A | N/A | N/A | N/A |
| Current APB | Jul 2012 | 53.775 | 47.245 | 64.810 | 58.275 |
| Prior Annual SAR | Dec 2014 | 51.810 | 45.518 | 64.336 | 57.964 |
| Current Estimate | Dec 2015 | 50.167 | 43.796 | 62.485 | 56.038 |

SAR Unit Cost History

| Current SAR Baseline to Current Estimate (TY \$M) | | | | | | | | | |
|---|---------|--------|--------|-------|--------|-------|--------|--------|-----------------------|
| Initial PAUC Development Estimate | Changes | | | | | | | | PAUC Current Estimate |
| | Econ | Qty | Sch | Eng | Est | Oth | Spt | Total | |
| 64.810 | 2.405 | -0.020 | -0.290 | 0.000 | -4.221 | 0.000 | -0.199 | -2.325 | 62.485 |

| 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 | 2.454 | -0.297 | -0.294 | 0.000 | -3.899 | 0.000 | -0.201 | -2.237 | 56.038 |

| 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 2020 |
| Total Cost (TY \$M) | N/A | 4731.1 | N/A | 4561.4 |
| Total Quantity | N/A | 73 | N/A | 73 |
| PAUC | N/A | 64.810 | N/A | 62.485 |

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 | -0.3 | +169.4 | +0.2 | +169.3 |
| Quantity | -38.4 | +36.9 | -- | -1.5 |
| Schedule | -- | -35.8 | -- | -35.8 |
| Engineering | -- | -- | -- | -- |
| Estimating | -31.8 | -132.2 | -0.2 | -164.2 |
| Other | -- | -- | -- | -- |
| Support | -- | -2.4 | -- | -2.4 |
| Subtotal | -70.5 | +35.9 | -- | -34.6 |
| Current Changes | | | | |
| Economic | -0.9 | +7.3 | -0.1 | +6.3 |
| Quantity | -- | -- | -- | -- |
| Schedule | -- | +14.6 | -- | +14.6 |
| Engineering | -- | -- | -- | -- |
| Estimating | +10.2 | -148.5 | -5.6 | -143.9 |
| Other | -- | -- | -- | -- |
| Support | -- | -12.1 | -- | -12.1 |
| Subtotal | +9.3 | -138.7 | -5.7 | -135.1 |
| Total Changes | -61.2 | -102.8 | -5.7 | -169.7 |
| CE - Cost Variance | 510.7 | 4034.7 | 16.0 | 4561.4 |
| CE - Cost & Funding | 510.7 | 4034.7 | 16.0 | 4561.4 |

| 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 | -30.5 | -104.8 | -0.1 | -135.4 |
| Other | -- | -- | -- | -- |
| Support | -- | -1.0 | -- | -1.0 |
| Subtotal | -66.3 | -77.1 | -0.1 | -143.5 |
| Current Changes | | | | |
| Economic | -- | -- | -- | -- |
| Quantity | -- | -- | -- | -- |
| Schedule | -- | -- | -- | -- |
| Engineering | -- | -- | -- | -- |
| Estimating | +9.0 | -113.8 | -4.9 | -109.7 |
| Other | -- | -- | -- | -- |
| Support | -- | -10.2 | -- | -10.2 |
| Subtotal | +9.0 | -124.0 | -4.9 | -119.9 |
| Total Changes | -57.3 | -201.1 | -5.0 | -263.4 |
| CE - Cost Variance | 495.4 | 3153.3 | 13.5 | 3662.2 |
| CE - Cost & Funding | 495.4 | 3153.3 | 13.5 | 3662.2 |

Previous Estimate: December 2014

| RDT&E | \$M | |
|--|-------------|-------------|
| Current Change Explanations | Base Year | Then Year |
| Revised escalation indices. (Economic) | N/A | -0.9 |
| Revised estimate aligns to Department of the Navy Milestone C SCP. (Estimating) | +7.7 | +8.8 |
| Revised estimate to reflect execution year realignments. (Estimating) | -1.1 | -1.2 |
| Revised estimate for Navy Working Capital Fund (NWCF) rate adjustments. (Estimating) | +1.6 | +1.8 |
| Adjustment for current and prior escalation. (Estimating) | +0.8 | +0.8 |
| RDT&E Subtotal | +9.0 | +9.3 |

| Procurement | \$M | |
|--|---------------|---------------|
| Current Change Explanations | Base Year | Then Year |
| Revised escalation indices. (Economic) | N/A | +7.3 |
| Stretch-out of procurement buy profile from FY 2016 thru FY 2024 to align with PB 2017. (Schedule) | 0.0 | +14.6 |
| Revised estimate to align procurement with Department of the Navy Milestone C SCP and PB 2017 (Ship Construction Navy). (Estimating) | -85.4 | -113.7 |
| Revised estimate for NWCF rate adjustments. (Estimating) | -27.1 | -34.1 |
| Revised estimate to align with Department of the Navy Milestone C SCP (OPN). (Estimating) | -0.5 | +0.3 |
| Adjustment for current and prior escalation. (Estimating) | -0.8 | -1.0 |
| Decrease in Initial Spares to align the procurement with the Department of the Navy Milestone C SCP and the PB 2017. (Support) | -10.2 | -12.1 |
| Procurement Subtotal | -124.0 | -138.7 |

| MILCON | \$M | |
|---|-------------|-------------|
| Current Change Explanations | Base Year | Then Year |
| Revised escalation indices. (Economic) | N/A | -0.1 |
| Revised estimate to align to Department of the Navy Milestone C SCP. (Estimating) | -4.9 | -5.6 |
| MILCON Subtotal | -4.9 | -5.7 |

Contracts

Contract Identification

Appropriation: RDT&E
Contract Name: SSC Detail Design & Construction
Contractor: Textron, Inc
Contractor Location: 19401 Chef Menteur Hwy
 New Orleans, LA 70129-2565
Contract Number: N00024-12-C-2401
Contract Type: Fixed Price Incentive(Firm Target) (FPIF)
Award Date: July 06, 2012
Definitization Date: July 06, 2012

Contract Price

| Initial Contract Price (\$M) | | | Current Contract Price (\$M) | | | Estimated Price At Completion (\$M) | |
|------------------------------|---------|-----|------------------------------|---------|-----|-------------------------------------|-----------------|
| Target | Ceiling | Qty | Target | Ceiling | Qty | Contractor | Program Manager |
| 199.9 | 226.4 | 1 | 332.3 | 373.4 | 4 | 367.3 | 367.3 |

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to exercising contract options for the construction of three additional Landing Craft Air Cushions (LCAC) and for engineering changes.

Contract Variance

| Item | Cost Variance | Schedule Variance |
|---|---------------|-------------------|
| Cumulative Variances To Date (1/2/2016) | -32.4 | -34.9 |
| Previous Cumulative Variances | -15.8 | -14.5 |
| Net Change | -16.6 | -20.4 |

Cost and Schedule Variance Explanations

The unfavorable net change in the cost variance is due to increased Textron non-recurring Level of Effort labor due to higher than anticipated manufacturing overhead rates and unanticipated efforts in vendors liaison, Earned Value, and Configuration Management. It is also due to increased discrete Engineering labor as a result of increased design complexity in various areas and to increased Textron Manufacturing and Touch labor associated with rework and Robotic welder issues.

The unfavorable net change in the schedule variance is due to delayed American Bureau of Shipbuilding - Naval Vessel Rules Certification & Full Authority Digital Engine Control environmental testing causing Rolls Royce main engine delivery delays and Integrated Logistics Support baseline activities scheduled unrealistically early.

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 | 4561.4 | Years Appropriated | 11 |
| Expended to Date | 359.9 | Percent Years Appropriated | 47.83% |
| Percent Expended | 7.89% | Appropriated to Date | 859.5 |
| Total Funding Years | 23 | Percent Appropriated | 18.84% |

The above data is current as of February 09, 2016.

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 |

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 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 | 1.524 | 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 | 4.614 | 4.310 |

| Item | Total O&S Cost \$M | | | |
|------------------|---|---------|------------------|-------------------|
| | SSC | | Current Estimate | LCAC (Antecedent) |
| | Current Development APB Objective/Threshold | | | |
| Base Year | 10171.3 | 11188.4 | 10106.0 | 94370.0 |
| Then Year | 18058.9 | N/A | 15657.0 | N/A |

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 2014 SAR | 10154.0 | |
| Programmatic/Planning Factors | 0.0 | |
| Cost Estimating Methodology | -48.0 | Two factors changes the overall cost estimate at MS C: 1) Systems Engineering and Program Management support at warfare centers funded. 2) MS C estimate included a policy change to include previously non-DoD cost elements, health benefits for retirees under 65 as well as health care for active duty and active duty families. |
| Cost Data Update | 0.0 | |
| Labor Rate | 0.0 | |
| Energy Rate | 0.0 | |
| Technical Input | 0.0 | |
| Other | 0.0 | |
| Total Changes | -48.0 | |
| Current Estimate | 10106.0 | |

Disposal Estimate Details

Date of Estimate: May 19, 2015
Source of Estimate: SCP
Disposal/Demilitarization Total Cost (BY 2011 \$M): Total costs for disposal of all Craft are 14.2

The SSC disposal cost estimate is based on the actual disposal costs of the ten LCAC disposed of to date.