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By kempr on May 03, 2022

Department of Defense  
OFFICE OF PREPUBLICATION AND SECURITY REVIEW



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# SHIP TO SHORE CONNECTOR AMPHIBIOUS CRAFT (SSC)

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**December 2021 Selected Acquisition Report (SAR)**



DECEMBER 31, 2021  
DEPARTMENT OF THE NAVY

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## Contents

Common Acronyms and Abbreviations for MDAP .....	2
AcqProgram Manager .....	3
Mission and Description .....	3
Executive Summary .....	4
Program Highlights Since Last Report .....	4
History of Significant Developments Since Program Initiation .....	5
Schedule .....	7
Schedule Events .....	7
Schedule Notes: .....	7
Acronyms and Abbreviations (Schedule Section) .....	9
OPEVAL – Operational Evaluation .....	9
Significant Schedule Risks .....	10
Performance .....	11
Performance Notes: .....	17
Requirements Source: .....	17
Capability Development Document dated June 10, 2010 .....	17
Acronyms and Abbreviations (Performance Section) .....	17
Acquisition Budget Estimate .....	19
Total Acquisition Cost .....	19
Total End Item Quantity .....	19
Risk and Sensitivity Analysis .....	19
Unit Cost .....	20
Current Baseline Compared with Current Estimate .....	20
Original Baseline Compared with Current Estimate .....	20
Unit Cost Notes: .....	20
Original Baseline PAUC NMC Breach Explanation: .....	20
Original Baseline APUC NMC Breach Explanation: .....	20
Contracts .....	21
Contract Notes: .....	21
Technologies and Systems Engineering .....	23
Significant Technical Risks .....	23
Deliveries and Expenditures .....	24
Low Rate Initial Production (LRIP) .....	25
LRIP Note: .....	25
Operating and Support Costs .....	26
Total Program O&S Cost Compared with Baseline .....	26
Annual O&S Cost BY 2011 \$M .....	26
Cost Estimate Source .....	26
O&S Cost Notes .....	26

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**Common Acronyms and Abbreviations for MDAP**

Acq O&M – Acquisition-Related Operations and Maintenance  
ACAT - Acquisition Category  
ADM - Acquisition Decision Memorandum  
AB - 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 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 Reduction  
U.S. - United States  
USD(A&S) - Under Secretary of Defense (Acquisition and Sustainment)  
USD(AT&L) - Under Secretary of Defense (Acquisition, Technology and Logistics)

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## Program Manager

**Name:** CAPT. Jason Grabelle

**Date Assigned:** February 18, 2022

**Address:** Program Executive Office, Ships  
Amphibious Assault & Connectors Program Office  
1333 Isaac Hull Avenue  
Washington, DC 20376-2401

**Phone:** 202-781-3166

**Email:** Jason.grabelle.mil@us.navy.mil

## 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.

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## Executive Summary

### *Program Highlights Since Last Report*

The Ship to Shore Connector (SSC) program achieved significant milestones and program advancements in CY 2020-2021.

In February 2020, the SSC Program delivered its first of class craft, the SSC Test and Training Craft (Craft 100). Landing Craft Air Cushion (LCAC) 101, the first fleet asset, was delivered to the Navy in August 2020. Following delivery of LCAC 101, both Craft 100 and LCAC 101 transited from Textron to Naval Warfare Center Panama City in September 2020.

In 2021, LCACs 102 and 103 successfully completed testing at Textron and were delivered to the Navy, in June and December respectively. Subsequent craft under construction, LCACs 104 - 117, show reduced overall man hours and expedited outfitting in earlier stages of construction.

Post Delivery Test and Trials (PDT&T), using Craft 100 and LCAC 101, commenced in October 2020. PDT&T is ongoing and LCAC 102 and 103 were incorporated into PDT&T after delivery events.

The SSC program continues to mature and make progress as seen in the resolution of key technical issues regarding satisfactory testing of the gearbox re-design and the installation of the reinforced propeller blade solution to mitigate issues that arose during operations in CY 2019. A joint Industry-Navy technical team has developed both a reinforced solution and a redesigned alternate solution. On craft testing of the reinforced solution was completed in June 2021. Reinforced blades have been installed on Craft 100 and LCACs 101-103 and will be installed on all craft prior to delivery to the Navy. Design issues with the main gearbox have been addressed. With the retrofit of the final gearbox design completed on Craft 100 in July 2021, all delivered craft have the final gearbox installed.

The Navy entered into a follow-on construction contract with Textron in April 2020. This contract is for a total of 15 Craft (LCAC 109-123) appropriated in FY 2017 through FY 2020.

In March 2021, the SSC Program notified Congress of a significant Nunn-McCurdy Breach that the program was facing due to increased craft construction costs resulting from labor and material cost growth, and schedule related challenges on delivery of the lead craft. Following Congressional notification, the Nunn-McCurdy Breach was resolved in the updated Acquisition Program Baseline that was signed in May 2021.

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

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### *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 Capability Development Document (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 Acquisition Program Baseline (APB). Milestone B approval was authorized by the SAE and the program was granted approval to enter into the Engineering and Manufacturing Development phase and was authorized a Low-Rate Initial Production (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 (Craft 100) 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.
February 2020	The SSC T&T Craft (Craft 100) was delivered to the Navy.
April 2020	On April 16, 2020, the Navy awarded a combination \$569M fixed price incentive fee and \$51M firm-fixed price contract to Textron, Inc. for the FY 2017 - 2020 follow-on construction contract of the next 15 craft (LCAC 109-123).

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August 2020	LCAC 101, the first fleet asset, was delivered to the Navy.
October 2020	SSC program officially begins the PDT&T phase.
March 2021	Congress notified of Nunn-McCurdy breach prior to APB Change 3.
May 2021	Approval of APB Change 3 and increase in LRIP quantities. LCAC 102 Acceptance Trials completed.
June 2021	LCAC 102 was delivered to the Navy.
November 2021	Test and Evaluation Master Plan Rev A, Ch-1 was signed by the director, Operational Test & Evaluation.
December 2021	LCAC 103 was delivered to the Navy.

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## Schedule

### Schedule Events

Schedule Events					
Events	Development APB Objective	Current APB Development Objective/Threshold		Current Estimate/Actual	Deviation
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	Jul 2015	
Craft 101 Delivery	Aug 2017	N/A	N/A	N/A	
T&T Craft Delivery	Feb 2017	Feb 2020	Feb 2020	Feb 2020	
OPEVAL/IOT&E	Apr 2018	Jul 2022	Jan 2023	Oct 2022	
IOC	Aug 2020	Dec 2022	Jun 2023	Jun 2023	
FRP Decision	Sep 2018	Jan 2028	Jul 2028	Jan 2028	

#### Schedule Notes:

The **T&T Craft Delivery** current estimate changed from Jan 2020 to Feb 2020 to reflect the actual delivery date.

The **OPEVAL/IOT&E** current estimate changed from Nov 2021 to Oct 2022 due to expected completion date of Post Delivery Test and Trials (PDT&T).

The **IOC** current estimate changed from Jan 2022 to Jun 2023 due to updated post shakedown availability dates for LCAC 101 – 106.

The **FRP Decision** current estimate changed from Apr 2022 to Jan 2028 due to an approved Acquisition Program Baseline (APB) Change 3 signed in May 2021.

SHIP	HULL #	DELIVERY	Obligation Work Limiting Date
LCAC	101	2020-08	2023-04
LCAC	102	2021-06	2022-10
LCAC	103	2021-12	2022-12
LCAC	104	2022-06	2023-06
LCAC	105	2022-10	2023-09
LCAC	106	2022-09	2023-09

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LCAC	107	2023-03	2024-05
LCAC	108	2023-06	2024-05
LCAC	109	2023-08	2024-11
LCAC	110	2023-12	2024-11
LCAC	111	2024-02	2025-04
LCAC	112	2024-05	2025-04
LCAC	113	2024-07	2025-08
LCAC	114	2024-09	2025-08
LCAC	115	2024-11	2025-11
LCAC	116	2024-12	2025-11
LCAC	117	2025-02	2026-04
LCAC	118	2025-04	2026-04
LCAC	119	2025-06	2026-07
LCAC	120	2025-08	2026-07
LCAC	121	2025-09	2026-08
LCAC	122	2025-11	2026-10
LCAC	123	2025-12	2027-02
LCAC	124	2026-03	2027-02
LCAC	125	2026-05	2027-07
LCAC	126	2026-07	2027-07
LCAC	127	2026-10	2027-11
LCAC	128	2026-12	2027-11
LCAC	129	2027-02	2028-04
LCAC	130	2027-05	2028-04
LCAC	131	2027-07	2028-08
LCAC	132	2027-09	2029-08
LCAC	133	2028-03	2029-08
LCAC	134	2028-09	2029-08
LCAC	135	2029-03	2030-08
LCAC	136	2029-09	2030-08
LCAC	137	2030-03	2031-08
LCAC	138	2030-09	2031-08
LCAC	139	2031-03	2032-08
LCAC	140	2031-08	2032-08
LCAC	141	2032-02	2033-08
LCAC	142	2032-08	2033-08
LCAC	143	2033-02	2034-07
LCAC	144	2033-08	2034-07
LCAC	145	2034-02	2035-07
LCAC	146	2034-08	2035-07
LCAC	147	2035-02	2036-07

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LCAC	148	2035-08	2036-07
LCAC	149	2036-02	2037-07
LCAC	150	2036-08	2037-07
LCAC	151	2037-01	2038-07
LCAC	152	2037-07	2038-07
LCAC	153	2038-01	2039-07
LCAC	154	2038-07	2039-07
LCAC	155	2039-01	2040-06
LCAC	156	2039-07	2040-06
LCAC	157	2040-01	2041-06
LCAC	158	2040-07	2041-06
LCAC	159	2041-01	2042-06
LCAC	160	2041-07	2042-06
LCAC	161	2042-01	2043-06
LCAC	162	2042-07	2043-06
LCAC	163	2042-12	2044-06
LCAC	164	2043-06	2044-06
LCAC	165	2043-12	2045-06
LCAC	166	2044-06	2045-06
LCAC	167	2044-12	2046-05
LCAC	168	2045-06	2046-05
LCAC	169	2045-12	2047-05
LCAC	170	2046-06	2047-05
LCAC	171	2046-12	2048-05
LCAC	172	2047-06	2048-05

**Acronyms and Abbreviations (Schedule Section)**

DD&amp;C – Detail Design and Construction

FRP – Full Rate Production

IOT&amp;E – Initial Operational Test and Evaluation

OA – Operational Assessment

OE – Option Exercise

OPEVAL – Operational Evaluation

T&amp;T – Test and Training

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**Significant Schedule Risks**

Significant Schedule Risks
Current Estimate (December 2021)
1. Initial Operational Capability (IOC): If IOC prerequisites are not accomplished, then the program will not meet approved APB milestone. MITIGATION: 1) Delivery of LCAC 101-106, 2) PDT&T completion, 3) Initial Operational Test & Evaluation completion.



## Performance

Performance Characteristics				
Development APB Objective	Current APB Development Objective/Threshold	Demonstrated Performance (Include Date of Demonstration)	Current Estimate/Actual	Deviation
<b>Payload Capacity</b>				
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 62.5 short tons over the threshold range in the threshold temperature operating range and threshold sea state.		The SSC will be capable of transporting 74 short tons over the threshold range in the threshold temperature operating range and threshold sea state.
<b>Interoperability</b>				
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, LPD17, 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 *1, (2) SSCs in LSD-49 and LPD-17 classes, and (3) SSCs in LHD-1 class;		The SSC will 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 will permit embarkation of (4) SSCs in LSD-41 class *1, (2) SSCs in LSD-49 and LPD-17

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Performance Characteristics					
Development APB Objective	Current APB Development Objective/Threshold		Demonstrated Performance (include Date of Demonstration)	Current Estimate/Actual	Deviation
	<p>and, enter/exit well decks of amphibious ships while on cushion or in displacement mode (wet well only). SSC shall embark on board the planned MLP, without ship alterations, as designed and built for the LCAC. SSC shall be able to operate with existing ships services, including the planned MLP, in place for the LCAC including ship's power, fueling/defueling stations, compressed air, potable and washdown water, lighting, navigational aids, footprint for spare / consumable pack-up kits *2 *3, and night vision systems. 1-3. See APB for footnotes.</p>			<p>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 will embark on board the planned MLP, without ship alterations, as designed and built for the LCAC. SSC will 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. The SSC will be able to enter and exit allied amphibious ships Mistral</p>	

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Performance Characteristics					
Development APB Objective	Current APB Development Objective/Threshold		Demonstrated Performance (include Date of Demonstration)	Current Estimate/Actual	Deviation
				(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	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	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		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	

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Performance Characteristics					
Development APB Objective	Current APB Development Objective/Threshold		Demonstrated Performance (include Date of Demonstration)	Current Estimate/Actual	Deviation
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	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.	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 IATO or ATO by the DAA. 5) Supportability		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 IATO or ATO by the DAA. 5) Supportability	

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Performance Characteristics					
Development APB Objective	Current APB Development Objective/Threshold		Demonstrated Performance (include Date of Demonstration)	Current Estimate/Actual	Deviation
include SAASM, Spectrum and JTRS requirements. See appendix A of the CDD for additional details on the NR-KPP.		requirements to include SAASM, Spectrum and JTRS requirements. See appendix A of the CDD for additional details on the NR-KPP.		requirements to include SAASM, Spectrum and JTRS requirements. See appendix A of the CDD for additional details on the NR-KPP.	
<b>Force Protection</b>					
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.		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.	

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Performance Characteristics				
Development APB Objective	Current APB Development Objective/Threshold	Demonstrated Performance (include Date of Demonstration)	Current Estimate/Actual	Deviation
<b>Survivability (Sea-Worthiness)</b>				
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.	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. 8/1/2014	T=O The SSC will 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.
<b>Manpower</b>				
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).		The SSC will be fully operable, to include conducting on load/offload operations, with a crew of no more than five (5).
<b>Materiel Availability (Am)</b>				
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.		The SSC will have a Materiel Availability of 59.9 percent.
<b>Inland Accessibility</b>				

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Performance Characteristics					
Development APB Objective	Current APB Development Objective/Threshold		Demonstrated Performance (include Date of Demonstration)	Current Estimate/Actual	Deviation
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.	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.		The SSC will be capable of operating over the high water mark. This includes movement over ice, mud, rivers, swamps, and marshes. While moving inland, the SSC will be able to negotiate obstacles found in the complex operational environment (natural and man-made). The SSC will be able to operate over a beach high water mark, rocks, rubble, obstacles and walls up to 4 feet high, grass, reeds and dunes.	

**Performance Notes:**

The Materiel Availability (Am) current estimate was updated based on collection of actual craft performance data during initial testing and operation.

**Requirements Source:** Capability Development Document dated June 10, 2010

**Acronyms and Abbreviations (Performance Section)**

- APB – Acquisition Program Baseline
- 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

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IP - Internet Protocol  
IT - Information Technology  
JTRS - Joint Tactical Radio System  
LCAC - Landing Craft Air Cushion  
LHD – Amphibious Assault Ship (Multi-Purpose)  
LPD – Landing Platform Dock  
LSD – Landing Ship Dock  
MK – Mark  
MLP - Mobile Landing Platform  
mm - Millimeter  
NR-KPP - Net Ready Key Performance Parameter  
O - Objective  
SAASM - Selective Availability Anti-Spoofing Module  
SSC – Ship-to-Shore Connector  
SWH - Significant Wave Height  
T - Threshold  
TV - Technical View  
USN - United States Navy

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## Acquisition Budget Estimate

### Total Acquisition Cost

Category	Base Year	Development APB	APB Name (Current) (05/06/2021)		Budget Estimate PB 2023		Deviation
		Objective (BY\$)	Objective (BY\$)	Threshold (BY\$)	BY\$	TY\$	
RDT&E	2011	552.7	576.4	634.0	551.2	577.2	
Procurement	2011	3354.4	4062.5	4468.8	4176.9	6121.0	
MILCON	2011	18.5	14.3	15.7	14.3	17.3	
Acq. O&M	2011	0.0	0.0	0.0	0.0	0.0	
<b>Total</b>		<b>3925.6</b>	<b>4653.2</b>	<b>N/A</b>	<b>4742.4</b>	<b>6715.5</b>	
PAUC	2011	53.775	63.742	70.116	64.964	91.993	
APUC	2011	47.245	56.424	62.066	58.013	85.014	

### Total End Item Quantity

Quantity Category	Current APB Quantity	Current Estimate Quantity
Development	1	1
Procurement	72	72

### Risk and Sensitivity Analysis

Risks and Sensitivity Analysis	
<b>Current Baseline Estimate (December 2021)</b>	
1.	APB Change 3 was approved in May 2021. Changes were made to the cost estimate to support this program is built upon a product-oriented work breakdown structure based on historical actual cost information to the maximum extent possible, including assumptions that reflect a Program of Record for 72 craft and an acquisition strategy that reflects economies of scale and production efficiencies in order to promote program cost savings dated September 25, 2020.
<b>Original Baseline Estimate (July 2012)</b>	
	NONE
<b>Revised Original Estimate (N/A)</b>	
	NONE
<b>Current Procurement Cost (December 2021)</b>	
1.	The Current Procurement Cost remains the APB Change 3.

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## Unit Cost

### *Current Baseline Compared with Current Estimate*

Category (BY\$M)	Current APB	Current Estimate	% Change	NMC Breach
<b>PAUC</b>				
Cost	4653.2	4742.4		
Quantity	73	73		
Unit Cost	63.742	64.964	1.92	
<b>APUC</b>				
Cost	4062.5	4176.9		
Quantity	72	72		
Unit Cost	56.424	58.013	2.82	

### *Original Baseline Compared with Current Estimate*

Category (BY\$M)	Original APB	Current Estimate	% Change	NMC Breach
<b>PAUC</b>				
Cost	3925.6	4742.4		
Quantity	73	73		
Unit Cost	53.775	64.964	20.81	
<b>APUC</b>				
Cost	3354.4	4176.9		
Quantity	72	72		
Unit Cost	47.245	58.013	22.79	

#### **Unit Cost Notes:**

##### **Original Baseline PAUC NMC Breach Explanation:**

In March 2021, the SSC Program notified Congress of a significant Nunn-McCurdy Breach that the program was facing due to increased craft construction costs resulting from labor and material cost growth, and schedule related challenges on delivery of the lead craft. Following Congressional notification, the Nunn-McCurdy Breach was resolved in the updated Acquisition Program Baseline that was signed in May 2021.

##### **Original Baseline APUC NMC Breach Explanation:**

In March 2021, the SSC Program notified Congress of a significant Nunn-McCurdy Breach that the program was facing due to increased craft construction costs resulting from labor and material cost growth, and schedule related challenges on delivery of the lead craft. Following Congressional notification, the Nunn-McCurdy Breach was resolved in the updated Acquisition Program Baseline that was signed in May 2021.

## Contracts

Contract Data (\$TYM)		
Contract Number	N00024-12-C-2401	
Effort Number	1	
Modification Number	P000143	
Award Date	07/06/2012	
Definitization Date	07/06/2012	
Order Number		
CAGE Code/CAGE Legal Name	50079	
Contract Title	SSC Detail Design & Construction	
Contract Address	19401 Chef Menteur Highway, New Orleans LA 70129-2565	
Contracts/Effort Price, Quantity, and Performance (\$M)		
Initial Target Price	Current Target Price	
199.9	571.1	
Initial Ceiling Price	Current Ceiling Price	
226.4	571.1	
Contract's EAC	PM's EAC	
Initial Quantity	Current Quantity	Delivered Quantity
1	9	4
BAC	BCWP	ACWP
BCWS	Cost Variance	Schedule Variance

### Contract Notes:

In accordance with Section 830(a)(2) of the FY 2020 National Defense Authorization Act, which requires a Selected Acquisition Report (SAR) to be submitted "in unclassified form without any designation relating to dissemination control" this SAR section has omitted information that is Controlled Unclassified Information (CUI).

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Contract Data (\$TYM)		
Contract Number	N00024-17-C-2480	
Effort Number	1	
Modification Number	P00036	
Award Date	09/01/2017	
Definitization Date	04/16/2020	
Order Number		
CAGE Code/CAGE Legal Name	50079	
Contract Title	Ship to Shore Connector Follow On Production	
Contract Address	19401 Chef Menteur Highway New Orleans LA 70126	
Contracts/Effort Price, Quantity, and Performance (\$M)		
Initial Target Price	Current Target Price	
3.5	768.9	
Initial Ceiling Price	Current Ceiling Price	
7.0	891.3	
Contract's EAC	PM's EAC	
Initial Quantity	Current Quantity	Delivered Quantity
1	14	0
BAC	BCWP	ACWP
BCWS	Cost Variance	Schedule Variance

**Contract Notes:**

The difference between the Initial contract Price Target and the Current Contract Price Target is due to Incremental acquisition of 14 Ship to shore Connector craft.

In accordance with Section 830(a)(2) of the FY 2020 National Defense Authorization Act, which requires a Selected Acquisition Report (SAR) to be submitted "in unclassified form without any designation relating to dissemination control" this SAR section has omitted information that is Controlled Unclassified Information (CUI).

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## Technologies and Systems Engineering

### *Significant Technical Risks*

Significant Technical Risks	
Current Estimate (December 2021)	
1.	Cushion Vane. If the cushion vane system doesn't operate properly under all conditions, then operations will be restricted for certain maneuvers. MITIGATION: 1) Solution installed on 100-102.

## Deliveries and Expenditures

Deliveries				
Delivered to Date	Planned to Date	Actual to Date	Total Quantity	Percent Delivered
Development	0	1	1	100.00%
Production	0	3	72	4.17%
Total Program Quantity Delivered	0	4	73	5.48%

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

Total Acquisition Cost: 6715.8  
 Expended to Date: 1444.3  
 Percent Expended: 21.51%  
 Total Funding Years: 29  
 Years Appropriated: 18  
 Percent Years Appropriated: 62%  
 Appropriated to Date: 3783.24  
 Percent Appropriated: 56%

The above data is current as of April 18, 2022.

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## Low Rate Initial Production (LRIP)

Item	Initial LRIP Decision	Current Total LRIP
<b>Approval Date</b>	7/5/2012	5/6/2021
<b>Approved Quantity</b>	13	50
<b>Reference</b>	Milestone B ADM	APB Change 3
<b>Start Year</b>	2013	2013
<b>End Year</b>	2021	2028

**Rationale if Current Total LRIP Quantity exceeds 10% of the total Procurement quantities:**

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 2031.

**LRIP Note:**

The Service Acquisition Executive authorized an increase in LRIP quantities to 50 in order to cover fluctuating procurement quantities.

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## Operating and Support Costs

### Total Program O&S Cost Compared with Baseline

	Current APB Objective (BY\$)	Current APB Threshold (BY\$)	Current Estimate (BY\$)	Current Estimate (TY\$)	Deviation
Total O&S (\$Millions)	10171.3	11188.4	10106.0	15657.0	

### Annual O&S Cost BY 2011 \$M

Category (BY\$ Million)	SSC Average Annual Cost Per Ship
Unit-Level Manpower	1.524
Unit Operations	.454
Maintenance	1.090
Sustaining Support	.463
Continued System Improvements	.265
Other	.819
Total O&S	4.615

**Cost Estimate Source:** Service Cost Position dated May 21, 2015

#### O&S Cost Notes:

- a. Disposal/Demilitarization Cost Estimate and Source of Estimate:
  - i. Date of Estimate: **May 21, 2015**
  - ii. Source of Estimate: **Service Cost Position**
  - iii. Disposal Total Cost (BY \$M): **14.0**
- b. Sustainment Strategy:
  - i. 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.
- c. For Each Acquired System or System Variant:
  - i. Quantity to Sustain: **73.0**
  - ii. First Operational Fiscal Year: **2022**
  - iii. Final Operational Fiscal Year: **2064**
  - iv. Unit Expected Service Life: **30.0**

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