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By kempr on Apr 28, 2022

Department of Defense
OFFICE OF PREPUBLICATION AND SECURITY REVIEW



VIRGINIA CLASS PROGRAM (SSN 774)

December 2021 Selected Acquisition Report (SAR)



DECEMBER 31, 2021
DEPARTMENT OF THE NAVY

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Common Acronyms and Abbreviations

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(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

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Mission and Description

The VIRGINIA Class (SSN 774) Submarine Program is bringing forward a critical national security asset designed to flexibly address the unique multi-mission requirements of the post-Cold War era. Capable of performing traditional submarine missions, operating in the littoral battle space, and adapting to future requirements, VIRGINIA Class Submarines will operate well into the Twenty-First Century. Replacing the fleet of SSN 688 Class submarines, the VIRGINIA Class Submarine is characterized by stealth, enhanced features for special operations forces, and cost-effective Command, Control, Communication and Intelligence capability. With an array of armament including the MK48 Advanced Capability torpedo and cruise missile vertical launch capability, the VIRGINIA Class Submarine maintains total undersea superiority at an affordable cost.

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Executive Summary

Program Highlights Since Last Report

The VIRGINIA Class Submarine Program is at Full Rate Production (FRP). A total of 21 VIRGINIA Class Submarines have been delivered with 17 more under contract.

The President's Budget request for FY 2023 funds two VIRGINIA Class Submarines in Fiscal Year 2023.

Since the last report, the program reported an increase in the Program Acquisition Unit Cost (PAUC) and Average Procurement Unit Cost (APUC) for the VIRGINIA Class Submarine program, which exceeded the original 1995 baseline estimate by at least 30 percent. The increase since establishment of the original 1995 baseline is attributed to platform evolutions over the past 26 years to continue to pace the threat, most recently with development of the VIRGINIA Payload Module and other advanced undersea capabilities.

In accordance with subsection (c) of Section 2433, the Program Manager provided reasonable cause documentation stating that the program would re-breach the Nunn McCurdy significant cost growth threshold for PAUC and APUC. The documentation showed that the VIRGINIA Class Submarine program PAUC increased by 30.6 percent and the APUC increased by 30.5 percent.

The VIRGINIA Class program has undertaken a range of measures to manage cost performance and production stability. Relative to the current February 2017 baseline, PAUC and APUC had increased by only 1.1 percent and 0.8 percent, respectively.

The VIRGINIA Class Block V multiyear procurement contract, as modified with an additional option ship last year, currently contains 10 submarines (10 Submarines (9 with VIRGINIA Payload Module). The Block V contract, a \$22.2-billion fixed-price incentive fee contract for FY 2019 - 2023, now reflects a total contract value to \$24.1 billion.

Recent significant developments in the VIRGINIA Class program include OREGON (SSN 793) delivery on February 26, 2022, and MONTANA (SSN 794) delivery on March 12, 2022.

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

History of Significant Developments Since Program Initiation

History of Significant Developments Since Program Initiation	
Date	Significant Development Description
Aug-1992	Milestone 0 for Centurion Submarine, "the first submarine designed with affordability considerations paramount". Conceptualized as a lower cost alternative to SEAWOLF Class.
Aug-1994	Milestone I was approved for the New Attack Submarine (NASN) following two years of extensive review of requirements and rigorous systems definition effort.
Dec-1994	Milestone I APB established.
Jun-1995	The New Attack Submarine Program successfully passed Milestone II with the signing of an ADM.
Jun-1995	A waiver from full-up, system-level live fire testing was approved jointly by USD (A&T&L) and the Director, Operational Test & Evaluation with notification letters

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	sent to Congressional Defense Committees on June 29, 1995.
Apr-1996	Contract award for the New Attack Submarine Command, Control, Communications and Intelligence (C3I) System was executed to Lockheed Martin Federal Systems.
May-1996	The Integrated Process and Product Development (IPPD) 1996 Design/Build Contract with Electric Boat (EB) Corporation was definitized.
Oct-1997	The revised APB (Change 1 to the Development Baseline of June 30, 1995) was signed to reflect the co-construction teaming arrangement between EB and Newport News Shipbuilding (NNS) as mandated in the FY 1998 NDAA and Defense Appropriations Act.
Sep-1998	The IPPD 96 Design Build contract with EB was modified to include construction of the first four VIRGINIA Class Submarines.
Jan-2001	Systems testing and integration started on the first Command and Control Systems Module (CCSM) at the Off-hull Assembly and Test Site (COATS). The COATS facility is used to test VIRGINIA Class CCSM units prior to shipyard delivery.
Aug-2003	In pursuit of the lowest possible future program costs, the Navy awarded the Block II construction contract with clauses to transition to a multi-year contract in FY 2004.
Jan-2004	The transition to multi-year procurement for hulls six through ten was completed in January 2004 following approval by Congress in the FY 2004 NDAA and Defense Appropriations and Act.
Oct-2004	Lead Ship delivery (USS VIRGINIA SSN 774). Delivery occurred within the original baseline schedule threshold set ten years earlier, in 1994.
Jun-2006	USS TEXAS, which was essentially the second lead ship of the class, was the first submarine delivered at Northrop Grumman, Newport News in nearly ten years.
Mar-2007	The program achieved IOC although USS VIRGINIA first deployed operationally in the fall of 2005 in support of the Global War on Terror.
Dec-2008	The Navy awarded the Block III construction contract to General Dynamics Electric Boat and Northrop Grumman Newport News for the construction of eight VIRGINIA Class submarines from FY 2009 through FY 2013.
Sep-2010	The program achieved Milestone III. The ADM was signed by the USD (AT&L) and included a declaration of Full Operational Capability and authorization of Full Rate Production.
Oct-2010	The program accelerated to Full Rate Production of two ships per year.
Jan-2012	The initial Concept Design for the Virginia Payload Module (VPM) was completed.
Apr-2014	The Navy signed a Block IV Construction Contract to build ten VIRGINIA Class Submarines with General Dynamics Electric Boat and Huntington Ingalls Industries-Newport News. Under the five-year agreement, Electric Boat and Newport News Shipbuilding would jointly build two ships per year from FY 2014 - FY 2018.
Feb-2017	On February 13, 2017, an APB was signed by the acting Assistant Secretary of the Navy (Research, Development & Acquisition) reflecting an increase in the number of submarines from 30 to 48. The baseline update includes the VPM and Acoustic

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	Superiority (AS) on Block V and follow ships.
Dec-2019	The Navy signed a Block V Construction Contract on December 02, 2019 with General Dynamics Electric Boat and Huntington Ingalls Industries-Newport News for 9 VIRGINIA Class Submarines (8 with VPM) and a priced option for a 10th submarine. In accordance with the NDAA of FY 2019, the contract also includes unpriced options to procure a VIRGINIA Class Submarine in FY 2022 and FY 2023.
Mar-2021	The FY 2021 NDAA and Defense Appropriations Act added a 2nd submarine in FY21, which the Navy awarded on March 19, 2021, increasing the total Block V contract to 10 submarines.

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Schedule

Schedule Events

Schedule Events					
Events	Production APB Objective	Current APB Production Objective/Threshold		Current Estimate/Actual	Deviation
Milestone 0	Aug 1992	Aug 1992	Feb 1993	Aug 1992	
Milestone I	Aug 1994	Aug 1994	Feb 1995	Aug 1994	
Milestone II	Jun 1995	Jun 1995	Dec 1995	Jun 1995	
New Attack Submarine Integrated Product and Process Development Contract Award	Oct 1995	Oct 1995	Apr 1996	Jan 1996	
Program Review (LRIP)	Sep 1997	Sep 1997	Mar 1998	Jan 1997	
Organizational Support (by Fast Cruise)	Apr 2004	Apr 2004	Oct 2004	Apr 2004	
Lead Ship Delivery	Jun 2004	Jun 2004	Dec 2004	Oct 2004	
LFT&E Shock Tests	Jun 2006	Jun 2006	Dec 2006	N/A	Note 1
Intermediate Support (by IOC)	Jan 2006	Jan 2006	Jul 2006	Jun 2006	
IOC (Lead Ship)	Nov 2006	Nov 2006	May 2007	Mar 2007	
Initial Operational Test and Evaluation					
Start	Feb 2008	Feb 2008	Aug 2008	Jan 2008	
Complete	Sep 2008	Sep 2008	Mar 2009	Mar 2009	
Milestone III	Jul 2010	Jul 2010	Jan 2011	Sep 2010	
Depot Shipyard Support	Aug 2015	Aug 2015	Feb 2016	Jun 2013	
Related Programs NSSN COMMAND AND CONTROL SYSTEM					
FY 1995 Open Architecture Demo Complete	Oct 1995	Oct 1995	Apr 1996	Sep 1995	
C&CS Module Start Fabrication	Jun 1999	Jun 1999	Dec 1999	Jun 1999	
GFE C&CS Delivered to Shipyard	Dec 2000	Dec 2000	Jun 2001	Dec 2000	
LBTS Integration and Test Complete	Apr 2002	Apr 2002	Oct 2002	Apr 2002	
C&CS Module delivered	May 2002	May 2002	Nov 2002	May 2002	

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to ship					
IOC (VPM capable hulls)	N/A	Sep 2026	Sep 2028		Note 2

Acronyms

LFT&E – Live Fire Test and Evaluation
 NSSN – New Attack Submarine
 C&CS – Command and Control System
 GFE – Government Furnished Equipment
 LBTS – Land Based Test Site
 VPM – VIRGINIA Payload Module
 PCU – Pre-Commissioning Unit

Schedule Notes:

1. On December 04, 2006, the USD(AT&L) notified Congress of the decision to eliminate the VIRGINIA Class Ship Shock Test from the Live Fire Test and Evaluation portion of the VIRGINIA Class Test and Evaluation Master Plan.

2. PM is assessing VPM IOC based on revised projected delivery date for SSN 803

Projected delivery and OWLD dates for ships under construction:

FY14-2 - SSN 793 – PCU OREGON – Delivered: Feb 2022, OWLD: Jan 2023
 FY15-1 - SSN 794 – PCU MONTANA – Delivery: Mar 2022, OWLD: Feb 2023
 FY15-2 - SSN 795 – PCU HYMAN G. RICKOVER – Delivery: Feb 2023, OWLD: Jan 2024
 FY16-1 - SSN 796 – PCU NEW JERSEY – Delivery: Jan 2024, OWLD: Dec 2024
 FY16-2 - SSN 797 – PCU IOWA – Delivery: Jun 2024, OWLD: May 2025
 FY17-1 - SSN 798 – PCU MASSACHUSETTS – Delivery: Nov 2024, OWLD: Oct 2025
 FY17-2 - SSN 799 – PCU IDAHO – Delivery: Mar 2025, OWLD: Feb 2026
 FY18-1 - SSN 800 – PCU ARKANSAS – Delivery: Dec 2025, OWLD: Nov 2026
 FY18-2 - SSN 801 – PCU UTAH – Delivery: Jan 2026, OWLD: Dec 2026
 FY19-1 - SSN 802 – PCU OKLAHOMA – Delivery: May 2027, OWLD: Apr 2028
 FY19-2 - SSN 803 – PCU ARIZONA – Delivery: Nov 2028, OWLD: Oct 2029
 FY20-1 - SSN 804 – PCU BARB – Delivery: Mar 2029, OWLD: Feb 2030
 FY20-2 - SSN 805 – PCU TANG – Delivery: Jul 2029, OWLD: Jun 2030

Performance

Performance Notes:

Classified performance information is provided in the classified annex to this submission.

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Acquisition Budget Estimate

Total Acquisition Cost

Category	Base Year	SAR Baseline Production Estimate	Production APB (Current) (02/13/2017)		Budget Estimate PB 2023		Deviation
		Objective (BY\$)	Objective (BY\$)	Threshold (BY\$)	BY\$	TY\$	
RDT&E	1995	5420.4	6498.8	7018.9	7135.9	9346.1	+9.8%
Procurement	1995	58933.2	87455.7	97035.7	86754.8	157048.4	-0.8%
MILCON	1995		348.8	383.7	125.6	226.3	-64.0%
Acq. O&M							
Total		64353.6	94303.3				
PAUC	1995	1521.1	1964.7		1958.7		-0.3%
APUC	1995	1407.6	1822.0		1807.4		-0.8%

Total End Item Quantity

Quantity Category	Current APB Quantity	Current Estimate Quantity
Development	0	0
Procurement	48	48

Budget Notes:

Budget Estimates use the PB 2023 Budget submission. BY\$ are calculated using the FY 2023 inflation factors.

Risk and Sensitivity Analysis

Risks and Sensitivity Analysis	
Current Procurement Cost (December 2021)	
1.	FY 2023 includes Completion of Prior Year Shipbuilding Programs (cost-to-complete) funds for the completion of mission essential activities and procurement of Electronics, HM&E, and Other Cost items for the FY 2021 (SSN 807) Block V SSN (\$200.0M). Cost-to-complete funds are also for the Block IV FY 2015 SSN 795 (\$46.1M) and FY 2016 SSN 796 (\$58.6M) to finance the government responsible portion of the shipbuilding contract overrun.
Original Baseline Estimate (June 1995)	
1.	The original baseline estimate for the program is from the MSII decision of June 1995.
Revised Original Estimate (N/A)	
None	
Current Baseline Estimate (February 2017)	
1.	The Assistant Secretary of the Navy (Research, Development & Acquisition) endorsed the Navy's Service Cost Position (SCP) and certified that the FYDP fully funded the Navy's SCP. Risk: In preparing the SCP, the Naval Center for Cost Analysis (NCCA) identified three cost drivers: labor hour learning, the realization of Cost Reduction Initiatives savings, and the realization of Multi-Year Procurement (MYP) savings. This analysis determined that these were the variables whose changes would create the greatest changes in cost.

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Unit Cost

Current Baseline Compared with Current Estimate

Category (\$M)	Current APB	Current Estimate	% Change	NMC Breach
PAUC				
Cost	94303.3	94016.2	-	-
Quantity	48	48	-	-
Unit Cost	1964.652	1958.7	-0.3%	no
APUC				
Cost	87455.7	86754.8	-	-
Quantity	48	48	-	-
Unit Cost	1821.994	1807.4	-0.8%	no

Original Baseline Compared with Current Estimate

Category (\$M)	Current APB	Current Estimate	% Change	NMC Breach
PAUC				
Cost	45633.1	94016.2	-	-
Quantity	48	48	-	-
Unit Cost	1521.103	1958.7	+28.8%	no
APUC				
Cost	42228.1	86754.8	-	-
Quantity	48	48	-	-
Unit Cost	1407.603	1807.4	+28.4%	no

Unit Cost Notes:

Budget Estimates use the PB 2023 Budget submission. BY\$ are calculated using the FY 2023 inflation factors.

Original Baseline PAUC and APUC NMC Breach Explanation:

Congressional Notification was made in November 2021 with respect to a re-breach of program unit cost against the original APB established in 1995. The re-breach was at the Significant Nunn-McCurdy level, (>30%). The program reported a re-breach of 30.6% for PAUC and 30.5% for APUC.

The program is evolving to stay ahead of the threat with additional capabilities and other updates outlined in the Tactical Submarine Evolution Plan. The APB was updated February 13, 2017 (current APB). Since the 2017 APB, additional RDT&E funds for platform design and development have been added to the program, culminating in a re-breach of PAUC and APUC to the original APB. PAUC and APUC increases were 1.1% and 0.8% to the current APB.

Actions Taken or Proposed to Control Future Cost Growth:

VIRGINIA Class Program Initiatives to achieve cost performance include the following:

- Modular design and construction for reduced cost and delivery time - Blocks I/II
- Replaced 12 vertical launch tubes with two payload tubes. Replaced air-backed sphere with Large Aperture Bow Array - Block III
- Design efforts decreased depot maintenance reducing overall life cycle costs per hull - Block IV
- Leverage Multi-Year Procurement (MYP), block-buys to gain benefits from economic order quantity (EOQ) and signal future demand to the various tiers of the industrial base
- Incorporate Capital Expenditure (CAPEX) incentives across Block II, Block III, and Block IV and Construction Readiness Incentives on Block V to improve efficiency/capacity at both shipyards

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- Investing in facilitization for critical suppliers, including purchase and upgrade of equipment and tooling; modernization and expansion of production facilities; and development and qualification of new suppliers
- Investing in workforce development; developing and enforcing new training and testing standards to control quality and support critical skillsets; and implementing corrective actions based on the results of in-depth supplier assessments, audits, and source receiving and inspection data.
- Tracking suppliers on the schedule's critical path, suppliers with past quality concerns, and those with large sub-award values in order to mitigate and avoid risks among critical suppliers.

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Contracts

Contract Data (\$TYM)		
Contract Number	N00024-12-C-2115 (SSN 795)	
Effort Number	4	
Modification Number		
Award Date	April 28, 2014	
Definitization Date	April 28, 2014	
Order Number		
CAGE Code/CAGE Legal Name	General Dynamics, EB Corporation	
Contract Title	Block IV	
Contract Address	75 Eastern Point Road	
Contracts/Effort Price, Quantity, and Performance (\$M)		
Initial Target Price	Current Target Price	
1690.1	1707.5	
Initial Ceiling Price	Current Ceiling Price	
1825.4	1844.0	
Contractor's EAC	PM's EAC	
Initial Quantity	Current Quantity	Delivered Quantity
1	1	0
BAC	BCWP	ACWP
BCWS	Cost Variance	Schedule Variance

Contract Data (\$TYM)		
Contract Number	N00024-12-C-2115 (SSN 796)	
Effort Number	5	
Modification Number		
Award Date	April 28, 2014	
Definitization Date	April 28, 2014	
Order Number		
CAGE Code/CAGE Legal Name	General Dynamics, EB Corporation	
Contract Title	Block IV	
Contract Address	75 Eastern Point Road	
Contracts/Effort Price, Quantity, and Performance (\$M)		
Initial Target Price	Current Target Price	
1755.9	1761.9	
Initial Ceiling Price	Current Ceiling Price	
1899.5	1905.3	
Contractor's EAC	PM's EAC	
Initial Quantity	Current Quantity	Delivered Quantity
1	1	0
BAC	BCWP	ACWP
BCWS	Cost Variance	Schedule Variance

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Contract Data (\$TYM)		
Contract Number	N00024-12-C-2115 (SSN 797)	
Effort Number	6	
Modification Number		
Award Date	April 28, 2014	
Definitization Date	April 28, 2014	
Order Number		
CAGE Code/CAGE Legal Name	General Dynamics, EB Corporation	
Contract Title	Block IV	
Contract Address	75 Eastern Point Road	
Contracts/Effort Price, Quantity, and Performance (\$M)		
Initial Target Price	Current Target Price	
1734.8	1733.0	
Initial Ceiling Price	Current Ceiling Price	
1874.4	1884.7	
Contractor's EAC	PM's EAC	
Initial Quantity	Current Quantity	Delivered Quantity
1	1	0
BAC	BCWP	ACWP
BCWS	Cost Variance	Schedule Variance

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Contract Data (\$TYM)		
Contract Number	N00024-12-C-2115 (SSN 798)	
Effort Number	7	
Modification Number		
Award Date	April 28, 2014	
Definitization Date	April 28, 2014	
Order Number		
CAGE Code/CAGE Legal Name	General Dynamics, EB Corporation	
Contract Title	Block IV	
Contract Address	75 Eastern Point Road	
Contracts/Effort Price, Quantity, and Performance (\$M)		
Initial Target Price	Current Target Price	
1783.0	1778.9	
Initial Ceiling Price	Current Ceiling Price	
1930.4	1934.0	
Contract's EAC	PM's EAC	
Initial Quantity	Current Quantity	Delivered Quantity
1	1	0
BAC	BCWP	ACWP
BCWS	Cost Variance	Schedule Variance

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Contract Data (\$TYM)		
Contract Number	N00024-12-C-2115 (SSN 799)	
Effort Number	8	
Modification Number		
Award Date	April 28, 2014	
Definitization Date	April 28, 2014	
Order Number		
CAGE Code/CAGE Legal Name	General Dynamics, EB Corporation	
Contract Title	Block IV	
Contract Address	75 Eastern Point Road	
Contracts/Effort Price, Quantity, and Performance (\$M)		
Initial Target Price	Current Target Price	
1748.9	1741.5	
Initial Ceiling Price	Current Ceiling Price	
1903.1	1904.3	
Contractor's EAC	PM's EAC	
Initial Quantity	Current Quantity	Delivered Quantity
1	1	0
BAC	BCWP	ACWP
BCWS	Cost Variance	Schedule Variance

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Contract Data (\$TYM)		
Contract Number	N00024-12-C-2115 (SSN 800)	
Effort Number	9	
Modification Number		
Award Date	April 28, 2014	
Definitization Date	April 28, 2014	
Order Number		
CAGE Code/CAGE Legal Name	General Dynamics, EB Corporation	
Contract Title		
Contract Address	75 Eastern Point Road	
Contracts/Effort Price, Quantity, and Performance (\$M)		
Initial Target Price	Current Target Price	
1820.5	1817.5	
Initial Ceiling Price	Current Ceiling Price	
1972.2	1972.4	
Contractor's EAC	PM's EAC	
Initial Quantity	Current Quantity	Delivered Quantity
1	1	0
BAC	BCWP	ACWP
BCWS	Cost Variance	Schedule Variance

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Contract Data (\$TYM)		
Contract Number	N00024-12-C-2115 (SSN 801)	
Effort Number	10	
Modification Number		
Award Date	April 28, 2014	
Definitization Date	April 28, 2014	
Order Number		
CAGE Code/CAGE Legal Name	General Dynamics, EB Corporation	
Contract Title	Block IV	
Contract Address	75 Eastern Point Road	
Contracts/Effort Price, Quantity, and Performance (\$M)		
Initial Target Price	Current Target Price	
1776.0	1774.1	
Initial Ceiling Price	Current Ceiling Price	
1932.4	1925.4	
Contractor's EAC	PM's EAC	
Initial Quantity	Current Quantity	Delivered Quantity
1	1	0
BAC	BCWP	ACWP
BCWS	Cost Variance	Schedule Variance

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Contract Data (\$TYM)		
Contract Number	N00024-17-C-2100 (SSN 802)	
Effort Number	1	
Modification Number		
Award Date	December 02, 2019	
Definitization Date	December 02, 2019	
Order Number		
CAGE Code/CAGE Legal Name	General Dynamics, EB Corporation	
Contract Title	Block V	
Contract Address	75 Eastern Point Road	
Contracts/Effort Price, Quantity, and Performance (\$M)		
Initial Target Price	Current Target Price	
2018.6	2020.2	
Initial Ceiling Price	Current Ceiling Price	
2240.5	2240.5	
Contractor's EAC	PM's EAC	
Initial Quantity	Current Quantity	Delivered Quantity
1	1	0
BAC	BCWP	ACWP
BCWS	Cost Variance	Schedule Variance
Note: This is the first time this contract is being reported.		

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Contract Data (\$TYM)		
Contract Number	N00024-17-C-2100 (SSN 803)	
Effort Number	1	
Modification Number		
Award Date	December 02, 2019	
Definitization Date	December 02, 2019	
Order Number		
CAGE Code/CAGE Legal Name	General Dynamics, EB Corporation	
Contract Title	Block V	
Contract Address	75 Eastern Point Road	
Contracts/Effort Price, Quantity, and Performance (\$M)		
Initial Target Price	Current Target Price	
	2431.5	
Initial Ceiling Price	Current Ceiling Price	
2427.5	2753.4	
Contractor's EAC	PM's EAC	
2753.4		
Initial Quantity	Current Quantity	Delivered Quantity
1	1	0
BAC	BCWP	ACWP
BCWS	Cost Variance	Schedule Variance
Note: This is the first time this contract is being reported.		

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Deliveries and Expenditures

Deliveries				
Delivered to Date	Planned to Date	Actual to Date	Total Quantity	Percent Delivered
Development	0	0	0	0.00%
Production	24	21	48	43.75%
Total Program Quantity Delivered	24	21	48	43.75%

Expended and Appropriated (TY \$M)

Total Acquisition Cost: \$166,861.3
 Expended to Date: \$87,858.9
 Percent Expended: 52.6%
 Total Funding Years: 48
 Years Appropriated: 32
 Percent Years Appropriated: 66.7%
 Appropriated to Date:
 Percent Appropriated:

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

Low Rate Initial Production

Item	Initial LRIP Decision	Current Total LRIP
Approval Date	6/30/1995	6/30/1995
Approved Quantity	14	14
Reference	MS II ADM	MS II ADM
Start Year	1998	1998
End Year	2007	2011

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 due to this being a shipbuilding program for which this is standard practice.

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)	60,744.3	66,818.7	57,903.4	160,906.3	

O&S Cost Breakdown

Allocate O&S estimate by each weapon system (or system variants) acquired by the program) into the CAPE Cost Categories. Add a fresh column for each variant/system.

Category (BY\$ Million)	SSN 774 Average Annual Cost Per Ship	LOS ANGELES CLASS (Antecedent) Average Annual Cost Per Ship
Unit-Level Manpower	6.942	5.450
Unit Operations	0.849	0.700
Maintenance	20.921	15.030
Sustaining Support	0.491	0.990
Continued System Improvements	7.352	4.240
Other	0.000	0.000
Total O&S	36.555	26.410

O&S Cost Notes

a) Disposal/Demilitarization Cost Estimate

Date of Estimate: November 04, 2016

Source of Estimate: SCP

Disposal/Demilitarization Total Cost (BY 1995 \$M): 2,840.9

Total program disposal costs are estimated to be \$8,946.0M TY.

b) Sustainment Strategy

The baseline sustainment strategy of 48 SSN 774 VIRGINIA Class submarine is structured to achieve 14 deployments during the 33 year design life for each of the total force. The first deployment occurs after a Post Shakedown Availability (PSA) conducted at the private industry construction yard. The deployment rate is achieved through maintaining material readiness using maintenance periods including three Extended Drydocking Selected Restricted Availabilities (EDSRAs) and one Depot Maintenance Period (DMP) scheduled and planned according to the required maintenance periods for major equipment and systems. The EDRSAs and DMP are expected to be performed at Navy depot maintenance facilities such as the Naval shipyards. Additional routine maintenance and repair are conducted throughout the submarine's life cycle at the homeport Navy intermediate maintenance facility. Changes to the equipment and system design are considered and implemented on a case by case basis which may increase maintenance periodicities and support an increase to 15 deployments during the life cycle for later submarines of the class.

c)

- i. Quantity to Sustain: 48
- ii. First Operational Fiscal Year: 2004
- iii. Final Operational Fiscal Year: 2065

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- iv. Unit Expected Service Life: 33.0 years

d) Antecedent System(s) O&S Costs

The antecedent system is the SSN 688 LOS ANGELES Class Submarine program. Assembly of an accurate compilation O&S cost estimate for the LOS ANGELES Class using actual cost data going back to 1976 when USS LOS ANGELES was commissioned and then projecting those costs out is problematic based on the availability and detail of the historic data. VIRGINIA Class O&S comparisons with the legacy class are hampered by changes in required attack submarine force size where the LOS ANGELES Class, at one time, had 62 submarines compared to the originally planned class size of 30 VIRGINIA Class submarines.

The source of antecedent data is the Naval Visibility and Management of Operating and Support Cost (VAMOSOC) database for LOS ANGELES Class submarines for the years 1984-2008. This data must be adjusted due to significant differences between the two classes, to achieve a comparable estimate. The LOS ANGELES Class was comprised of 62 ships with major design changes in blocks of ships that had an original planned life of 30 years. Some of these 62 ships were retired at mid-life and, therefore, did not incur normal life of ship maintenance and operating costs.

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