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Department of Defense  
OFFICE OF PREPUBLICATION AND SECURITY REVIEW

## **Selected Acquisition Report (SAR)**



## **SSN 774 Virginia Class Submarine (SSN 774)**

**FY 2024 President's Budget**

**Defense Acquisition Visibility Environment  
(DAVE)**

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## Common Acronyms and Abbreviations

\$B - Billions of Dollars  
\$K - Thousands of Dollars  
\$M - Millions of Dollars  
ACAT - Acquisition Category  
Acq O&M - Acquisition-Related Operations and Maintenance  
ADM - Acquisition Decision Memorandum  
APB - Acquisition Program Baseline  
APPN - Appropriation  
APUC - Average Procurement Unit Cost  
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  
FMS - Foreign Military Sales  
FOC - Full Operational Capability  
FRP - Full Rate Production  
FY - Fiscal Year  
FYDP - Future Years Defense Program  
ICE - Independent Cost Estimate  
Inc - Increment  
IOC - Initial Operational Capability  
JROC - Joint Requirements Oversight Council  
KPP - Key Performance Parameter  
LRIP - Low Rate Initial Production  
MDA - Milestone Decision Authority  
MDAP - Major Defense Acquisition Program  
MILCON - Military Construction  
N/A - Not Applicable  
O&M - Operations and Maintenance  
O&S - Operating and Support  
ORD - Operational Requirements Document  
OSD - Office of the Secretary of Defense  
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

U.S. - United States

UCR - Unit Cost Reporting

USD(A&S) - Under Secretary of Defense (Acquisition and Sustainment)

USD(AT&L) - Under Secretary of Defense (Acquisition, Technology and Logistics)

## Program Information

### Program Name

SSN 774 Virginia Class Submarine

### DoD Component

Navy

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## Responsible Office

### Program Manager

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**Phone:** 202-781-1294; DSN 326-1294

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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, dominating the littoral battle space and adapting to future requirements, the VIRGINIA Class Submarine satisfies any assigned role well into the Twenty-First Century. Replacing the fleet of SSN 688 Class submarines, the VIRGINIA Class Submarine is characterized by state-of-the-art 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.

## Executive Summary

SSN 774

### Program Highlights Since Last Report

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

Two new construction deliveries are planned in 2023: HYMAN G. RICKOVER (SSN 795) in May 2023 and NEW JERSEY (SSN 796) in September 2023. Additionally, USS VERMONT (SSN 792) and USS MONTANA (SSN 794) are projected to complete their post-shakedown availabilities and re-deliver to the Fleet this year.

The President's Budget request for FY 2024 funds two VIRGINIA Class Submarines in FY 2024, continuing procurement at a rate of two per year, sending a steady and stable demand signal to the industrial base. Additionally the FY 2024 budget request includes Advance Procurement (AP) funding for the FY 2025 and FY 2026 planned Block VI submarine procurements, Economic Order Quantity (EOQ) for the FY2025-2029 planned Block VI submarine procurements, and completion of prior year shipbuilding funds (cost-to-complete) for the Government-responsible portion of cost overruns associated with FY 2015, FY 2016, and FY2017 submarines.

Delivery dates have been updated for the following ships based on actual performance:

- HYMAN G. RICKOVER (SSN 795) projected to deliver in May 2023 (was Feb 2023 in PB23)
- NEW JERSEY (SSN 796) projected to delivery in September 2023 (was Jan 2024 in PB23)
- UTAH (SSN 801) projected to deliver in September 2026 (was Jan 2026 in PB23)

Overall, VCS construction performance continues to be challenged to meet Fleet force structure requirements. The Navy is working closely with shipbuilders to stabilize and improve performance in the industrial base and at the shipbuilders. This effort is enabled by continued investments throughout the submarine industrial base to provide stability to achieve COLUMBIA Class (CLB) and VCS procurements.

This report reflects a Schedule Milestone breach for VIRGINIA Payload Module (VPM) Initial Operational Capability (IOC) due to delivery delays on SSN 803, the first VPM hull.

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

### History of Significant Developments Since Program Initiation

Date	Significant Development Description
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.
Dec 2019	The Navy signed a Block V Construction Contract on December 2, 2019 with General Dynamics Electric Boat and Huntington Ingalls Industries-Newport News for nine VIRGINIA Class Submarines (eight with VPM) and a priced option for a tenth 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.

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 Superiority (AS) on Block V and follow ships.
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.
Jan 2012	The initial Concept Design for the Virginia Payload Module (VPM) was completed.
Oct 2010	The program accelerated to Full Rate Production of two ships per year.
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.
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.
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.
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.
Oct 2004	Lead Ship delivery (USS VIRGINIA SSN 774). Delivery occurred within the original baseline schedule threshold set ten years earlier, in 1994.
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.
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 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.
Sep 1998	The IPPD 96 Design Build contract with EB was modified to include construction of the first four VIRGINIA Class Submarines.
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.
May 1996	The Integrated Process and Product Development (IPPD) 1996 Design/Build Contract with Electric Boat (EB) Corporation was definitized.
Apr 1996	Contract award for the New Attack Submarine Command, Control, Communications and Intelligence (C3I) System was executed to Lockheed Martin Federal Systems.
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 sent to Congressional Defense Committees on June 29, 1995.
Jun 1995	The New Attack Submarine Program successfully passed Milestone II with the signing of an ADM.
Dec 1994	Milestone I APB established.
Aug 1994	Milestone I was approved for the New Attack Submarine (NSSN) following two years of extensive review of requirements and rigorous systems definition effort.
Aug 1992	Milestone 0 for Centurion Submarine, the first submarine designed with affordability considerations paramount. Conceptualized as a lower cost alternative to SEAWOLF Class.



## Schedule

### SSN 774

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

Events	Milestone Baseline Objective	Current Baseline Objective/Threshold		Current Estimate/Actual	Deviation
IOC (VPM capable hulls)	N/A	Sep 2026	Sep 2028	N/A	Note 2
Related Programs-NSSN COMMAND AND CONTROL SYSTEM-C&CS Module delivered to ship	May 2002	May 2002	Nov 2002	May 2002	
Related Programs-NSSN COMMAND AND CONTROL SYSTEM-LBTS Integration and Test Complete	Apr 2002	Apr 2002	Oct 2002	Apr 2002	
Related Programs-NSSN COMMAND AND CONTROL SYSTEM-GFE C&CS Delivered to Shipyard (2)	Dec 2000	Dec 2000	Jun 2001	Dec 2000	
Related Programs-NSSN COMMAND AND CONTROL SYSTEM-C&CS Module Start Fabrication (2)	Jun 1999	Jun 1999	Dec 1999	Jun 1999	
Related Programs-NSSN COMMAND AND CONTROL SYSTEM-FY 1995 Open Architecture Demo Complete	Oct 1995	Oct 1995	Apr 1996	Sep 1995	
Depot Shipyard Support Complete	Aug 2015	Aug 2015	Feb 2016	Jun 2013	
Milestone III Complete	Jul 2010	Jul 2010	Jan 2011	Sep 2010	
Initial Operational Test & Evaluation-Complete	Sep 2008	Sep 2008	Mar 2009	Mar 2009	
Initial Operational Test & Evaluation-Start	Feb 2008	Feb 2008	Aug 2008	Jan 2008	
IOC (Lead Ship) Complete	Nov 2006	Nov 2006	May 2007	Mar 2007	
Intermediate Support (by IOC) Complete	Jan 2006	Jan 2006	Jul 2006	Jun 2006	
LFT&E Shock Tests	Jun 2006	Jun 2006	Dec 2006	N/A	Note 1
Lead Ship Delivery (2) Complete	Jun 2004	Jun 2004	Dec 2004	Oct 2004	
Organizational Support (by Fast Cruise) Complete	Apr 2004	Apr 2004	Oct 2004	Apr 2004	
Program Review (LRIP) (2) Complete	Sep 1997	Sep 1997	Mar 1998	Jan 1997	
New Attack Submarine Integrated Product and Process Development Contract Award Complete	Oct 1995	Oct 1995	Apr 1996	Jan 1996	
Milestone II Complete	Jun 1995	Jun 1995	Dec 1995	Jun 1995	

Milestone I Complete	Aug 1994	Aug 1994	Feb 1995	Aug 1994	
Milestone 0 Complete	Aug 1992	Aug 1992	Feb 1993	Aug 1992	

### 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:

FY15-1 - SSN 794 – SSN MONTANA – Delivered: Mar 2022, OWLD: Jan 2024  
 FY15-2 - SSN 795 – HYMAN G. RICKOVER – Delivery: May 2023, OWLD: Dec 2024  
 FY16-1 - SSN 796 – NEW JERSEY – Delivery: Sep 2023, OWLD: Dec 2024  
 FY16-2 - SSN 797 – IOWA – Delivery: Jun 2024, OWLD: Jun 2025  
 FY17-1 - SSN 798 – MASSACHUSETTS – Delivery: Nov 2024, OWLD: Nov 2025  
 FY17-2 - SSN 799 – IDAHO – Delivery: Mar 2025, OWLD: Feb 2026  
 FY18-1 - SSN 800 – ARKANSAS – Delivery: Dec 2025, OWLD: Nov 2026  
 FY18-2 - SSN 801 – UTAH – Delivery: Sep 2026, OWLD: Aug 2027  
 FY19-1 - SSN 802 – OKLAHOMA – Delivery: May 2027, OWLD: Apr 2028  
 FY19-2 - SSN 803 – ARIZONA – Delivery: Nov 2028, OWLD: Oct 2029  
 FY20-1 - SSN 804 – BARB – Delivery: Mar 2029, OWLD: Feb 2030  
 FY20-2 - SSN 805 – TANG – Delivery: Jul 2029, OWLD: Jun 2030  
 FY21-1 - SSN 806 – WAHOO – Delivery: Feb 2030, OWLD: Jan 2031  
 FY21-2 - SSN 807 – SILVERSIDES – Delivery: Feb 2031, OWLD: Jan 2032  
 FY22-1 - SSN 808 – JOHN H. DALTON – Delivery: Dec 2030, OWLD: Nov 2031  
 FY22-2 - SSN 809 – TBD – Delivery: Oct 2031, OWLD: Sep 2032  
 FY23-1 - SSN 810 – TBD – Delivery: Dec 2031, OWLD: Nov 2032  
 FY23-2 - SSN 811 – TBD – Delivery: Jul 2032, OWLD: Jun 2033

### Deviation Explanation

## Performance

SSN 774

Performance Characteristics				
Milestone Baseline	Current Baseline Objective/Threshold	Demonstrated Performance	Current Estimate/Actual	Deviation

### Requirement Reference

Validated:

ORD Rev A, Change 2 dated October 27, 2009 and CDD for VIRGINIA Class Submarine Strike dated 17 December 2013

### Deviation Explanation

No deviations for this program/subprogram

### Notes

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

## Acquisition Budget Estimate

SSN 774

### Total Acquisition Cost

Category	Base Year	Milestone III 2010 APB	Current Baseline		Budget Estimate PB 2024		Deviation
		Objective (BY\$M)	Objective (BY\$M)	Threshold (BY\$M)	BY\$M	TY\$M	
RDT&E	1995	5,420.4	6,498.8	7,018.9	7,120.8	9,483.6	
Procurement	1995	58,933.2	87,455.7	97,035.7	90,750.6	172,715.7	
MILCON	1995	0	348.8	383.7	691.3	1,441.4	<b>Yes</b>
Acq. O&M	1995	0	0	0			
<b>Total</b>		<b>64,353.6</b>	<b>94,303.3</b>		<b>98,562.7</b>	<b>183,640.7</b>	
PAUC	1995	2,145.120	1,964.652	2,175.798	1,932.602	3,600.798	
APUC	1995	1,964.440	1,821.994	2021.578	1,779.424	3,386.582	

### Appropriation Category Deviation Explanations

**MILCON** Updates to MILCON are attributable to refined cost estimates in support of various pier related changes, channel and turning basin changes, numerous locations requiring power upgrades, and additional Submarine Storage, Maintenance, and Operation Facilities (SSMOF) requirements as homeport locations are required to continue supporting both VIRGINIA (including VPM equipped hulls) and LOS ANGELES Class SSNs.

### PAUC Deviation Explanation

### APUC Deviation Explanation

### Budget Notes

Budget Estimates use the PB 2024 Budget submission. Increases in MILCON reflect additional requirements beyond the 2017 APB. An APB update is in process.

### Total End Item Quantity

Quantity Category	Current APB Quantity	Current Estimate Quantity
Development	0	
Procurement	48	51
O&M-Acquired		

### Quantity Notes

**Unit Cost**

SSN 774

**Current UCR Baseline and Current Estimate (Base-Year Dollars)**

Category (\$M) Base Year:1995	Current UCR Baseline	Current Estimate	% Change
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**Program Acquisition Unit Cost**

Cost	94,303.3	98,562.7	
Quantity	48	51	
Unit Cost	1964.652	1932.602	-1.63%

**Average Procurement Unit Cost**

Cost	87,455.7	90,750.6	
Quantity	48	51	
Unit Cost	1821.994	1779.424	-2.34%

**Original UCR Baseline and Current Estimate (Base-Year Dollars)**

Category (\$M) Base Year:1995	Original UCR Baseline	Current Estimate	% Change
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**Program Acquisition Unit Cost**

Cost	45,633.1	98,562.7	
Quantity	30	51	
Unit Cost	1521.103	1932.602	27.05%

**Average Procurement Unit Cost**

Cost	42,228.1	90,750.6	
Quantity	30	51	
Unit Cost	1407.603	1779.424	26.42%

**Cost Growth Details****Current Baseline PAUC Breach Explanation****Current Baseline APUC Breach Explanation****Original Baseline PAUC Breach Explanation****Original Baseline APUC Breach Explanation****Impacts of Schedule Changes on Unit Cost****Impacts of Performance Changes on Unit Cost****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
- Minimize design changes to Block VI technical baseline, only targeting safety of ship, obsolescence and cost avoidance
- 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.

**Risk and Sensitivity Analysis**

**SSN 774**

Risk and Sensitivity Analysis		
Current Procurement Cost(December - 2022)		
FY 2024 includes Completion of Prior Year Shipbuilding Programs (cost to complete) funds for the Block IV FY2015 SSN 795 (\$43.4M), FY 2016 SSN 796/SSN 797 (\$100.1M), and FY 2017 SSN 798 (\$24.7M) to finance the Government responsible portion of the shipbuilding construction contract overrun.		
Original Baseline Estimate (June - 1995)		
The original baseline estimate for the program is from the MSII decision of June 1995.		
Current Baseline Estimate (February - 2017)		
The Assistant Secretary of the Navy(Research, Development & Acquisition) endorsed the Navy’s SCP and certified that the FYDP fully funded the Navy’s SCP. Risk: In preparing the SCP, the NCCA identified three cost drivers: labor hour learning, the realization of Cost Reduction Initiatives savings, and the realization of MYP savings. This analysis determined that these were the variables whose changes would create the greatest changes in cost.		

Schedule Risk		
Technical Risks		

**Low Rate Initial Production**

SSN 774

Item	Initial LRIP Decision	Current Total LRIP
Approval Date	06/30/1995	06/30/1995
Approved Quantity	14	14
Reference	MSII ADM	MSII ADM
Start Year	1998	1998
End Year	2007	2011

**Rationale if quantity exceeds 10% of the total number of articles to be procured:**

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.

**Notes**



Contract Data	
Contract Number	N00024-12-C-2115 (SSN 795)
Effort Number	4
Modification Number	
Award Date	04/28/2014
Definitization Date	04/28/2014
Order Number	
CAGE Code/CAGE Legal Name	General Dynamics, EB/General Dynamics, EB Corporation
Contract Title	Block IV
Contract Address	
Contracting Office	
Supported Phase	Production
Contract Strategy	
Contract Type	Firm-Fixed-Price
Modification Date	
Work Start Date	
Technical Data Rights	
Work Completed	

Contracts/Effort Price, Quantity, and Performance (TY\$M)		
Initial Target Price	Current Target Price	
\$1,686.1	\$1,699.3	
Initial Ceiling Price	Current Ceiling Price	
\$1,830.3	\$1,847.8	
Contractor EAC	PM EAC	
Initial Quantity	Current Quantity	Delivered Quantity
1	1	0
BAC	BCWP	ACWP
BCWS	Cost Variance	Schedule Variance

**Contract Notes:**

**Factors Contributing to Cost Variance and Projected Effects on Program Costs**

**Factors Contributing to Schedule Variance and Projected Effects on Program Schedule**

Contract Data	
Contract Number	N00024-12-C-2115 (SSN 796)
Effort Number	5
Modification Number	
Award Date	04/28/2014
Definitization Date	04/28/2014
Order Number	
CAGE Code/CAGE Legal Name	/General Dynamics, EB Corporation
Contract Title	Block IV
Contract Address	
Contracting Office	
Supported Phase	Production
Contract Strategy	
Contract Type	Firm-Fixed-Price
Modification Date	
Work Start Date	
Technical Data Rights	
Work Completed	

Contracts/Effort Price, Quantity, and Performance (TY\$M)		
Initial Target Price	Current Target Price	
\$1,761.3	\$1,761.7	
Initial Ceiling Price	Current Ceiling Price	
\$1,903.6	\$1,909.1	
Contractor EAC	PM EAC	
Initial Quantity	Current Quantity	Delivered Quantity
1	1	0
BAC	BCWP	ACWP
BCWS	Cost Variance	Schedule Variance

**Contract Notes:**

**Factors Contributing to Cost Variance and Projected Effects on Program Costs**

**Factors Contributing to Schedule Variance and Projected Effects on Program Schedule**

**Contracts & Efforts**

Contract Data	
Contract Number	N00024-12-C-2115 (SSN 797)
Effort Number	6
Modification Number	
Award Date	04/28/2014
Definitization Date	04/28/2014
Order Number	
CAGE Code/CAGE Legal Name	General Dynamics/General Dynamics, EB Corporation
Contract Title	Block IV
Contract Address	
Contracting Office	
Supported Phase	Production
Contract Strategy	
Contract Type	Firm-Fixed-Price
Modification Date	
Work Start Date	
Technical Data Rights	
Work Completed	

Contracts/Effort Price, Quantity, and Performance (TY\$M)		
Initial Target Price	Current Target Price	
\$1,735.1	\$1,728.6	
Initial Ceiling Price	Current Ceiling Price	
\$1,881.7	\$1,888.4	
Contractor EAC	PM EAC	
Initial Quantity	Current Quantity	Delivered Quantity
1	1	0
BAC	BCWP	ACWP

BCWS	Cost Variance	Schedule Variance

**Contract Notes:**

**Factors Contributing to Cost Variance and Projected Effects on Program Costs**

**Factors Contributing to Schedule Variance and Projected Effects on Program Schedule**

Contract Data	
Contract Number	N00024-12-C-2115 (SSN 798)
Effort Number	7
Modification Number	
Award Date	04/28/2014
Definitization Date	04/28/2014
Order Number	
CAGE Code/CAGE Legal Name	General Dynamics/General Dynamics, EB Corporation
Contract Title	Block IV
Contract Address	
Contracting Office	
Supported Phase	Production
Contract Strategy	
Contract Type	Firm-Fixed-Price
Modification Date	
Work Start Date	
Technical Data Rights	
Work Completed	

Contracts/Effort Price, Quantity, and Performance (TY\$M)		
Initial Target Price	Current Target Price	
\$1,783	\$1,781.3	
Initial Ceiling Price	Current Ceiling Price	
\$1,930.4	\$1,935.5	
Contractor EAC	PM EAC	
Initial Quantity	Current Quantity	Delivered Quantity
BAC	BCWP	ACWP
BCWS	Cost Variance	Schedule Variance

**Contract Notes:**

**Factors Contributing to Cost Variance and Projected Effects on Program Costs**

**Factors Contributing to Schedule Variance and Projected Effects on Program Schedule**



Contract Data	
Contract Number	N00024-12-C-2115 (SSN 799)
Effort Number	8
Modification Number	
Award Date	04/28/2014
Definitization Date	04/28/2014
Order Number	
CAGE Code/CAGE Legal Name	General Dynamics/General Dynamics, EB Corporation
Contract Title	Block IV
Contract Address	
Contracting Office	
Supported Phase	Production
Contract Strategy	
Contract Type	Firm-Fixed-Price
Modification Date	
Work Start Date	
Technical Data Rights	
Work Completed	

Contracts/Effort Price, Quantity, and Performance (TY\$M)		
Initial Target Price	Current Target Price	
\$1,748.9	\$1,734.8	
Initial Ceiling Price	Current Ceiling Price	
\$1,903.1	\$1,906.8	
Contractor EAC	PM EAC	
Initial Quantity	Current Quantity	Delivered Quantity
1	1	0
BAC	BCWP	ACWP
BCWS	Cost Variance	Schedule Variance

**Contract Notes:**

**Factors Contributing to Cost Variance and Projected Effects on Program Costs**

**Factors Contributing to Schedule Variance and Projected Effects on Program Schedule**

Contract Data	
Contract Number	N00024-12-C-2115 (SSN 800)
Effort Number	9
Modification Number	
Award Date	04/28/2014
Definitization Date	04/28/2014
Order Number	
CAGE Code/CAGE Legal Name	General Dynamics/General Dynamics, EB Corporation
Contract Title	Block IV
Contract Address	
Contracting Office	
Supported Phase	Production
Contract Strategy	
Contract Type	Firm-Fixed-Price
Modification Date	
Work Start Date	
Technical Data Rights	
Work Completed	

Contracts/Effort Price, Quantity, and Performance (TY\$M)		
Initial Target Price	Current Target Price	
\$1,820.5	\$1,807.6	
Initial Ceiling Price	Current Ceiling Price	
\$1,972.2	\$1,972.8	
Contractor EAC	PM EAC	
Initial Quantity	Current Quantity	Delivered Quantity
1	1	0
BAC	BCWP	ACWP
BCWS	Cost Variance	Schedule Variance

**Contract Notes:**

**Factors Contributing to Cost Variance and Projected Effects on Program Costs**

**Factors Contributing to Schedule Variance and Projected Effects on Program Schedule**

Contract Data	
Contract Number	N00024-12-C-2115 (SSN 801)
Effort Number	10
Modification Number	
Award Date	04/28/2014
Definitization Date	04/28/2014
Order Number	
CAGE Code/CAGE Legal Name	General Dynamics/General Dynamics, EB Corporation
Contract Title	Block IV
Contract Address	
Contracting Office	
Supported Phase	Production
Contract Strategy	
Contract Type	Firm-Fixed-Price
Modification Date	
Work Start Date	
Technical Data Rights	
Work Completed	

Contracts/Effort Price, Quantity, and Performance (TY\$M)		
Initial Target Price	Current Target Price	
\$1,776	\$1,754.7	
Initial Ceiling Price	Current Ceiling Price	
\$1,932.4	\$1,926.2	
Contractor EAC	PM EAC	
Initial Quantity	Current Quantity	Delivered Quantity
1	1	0
BAC	BCWP	ACWP
BCWS	Cost Variance	Schedule Variance

**Contract Notes:**

**Factors Contributing to Cost Variance and Projected Effects on Program Costs**

**Factors Contributing to Schedule Variance and Projected Effects on Program Schedule**

Contract Data	
Contract Number	N00024-17-C-2100 (SSN 802)
Effort Number	1
Modification Number	
Award Date	12/02/2019
Definitization Date	12/02/2019
Order Number	
CAGE Code/CAGE Legal Name	General Dynamics/General Dynamics, EB Corporation
Contract Title	Block V
Contract Address	
Contracting Office	
Supported Phase	Production
Contract Strategy	
Contract Type	Firm-Fixed-Price
Modification Date	
Work Start Date	
Technical Data Rights	
Work Completed	

Contracts/Effort Price, Quantity, and Performance (TY\$M)		
Initial Target Price	Current Target Price	
\$2,018.6	\$2,033.8	
Initial Ceiling Price	Current Ceiling Price	
\$2,240.5	\$2,233.1	
Contractor EAC	PM EAC	
Initial Quantity	Current Quantity	Delivered Quantity
1	1	0
BAC	BCWP	ACWP
BCWS	Cost Variance	Schedule Variance

**Contract Notes:**

**Factors Contributing to Cost Variance and Projected Effects on Program Costs**

**Factors Contributing to Schedule Variance and Projected Effects on Program Schedule**



Contract Data	
Contract Number	N00024-17-C-2100 (SSN 803)
Effort Number	2
Modification Number	
Award Date	12/02/2019
Definitization Date	12/02/2019
Order Number	
CAGE Code/CAGE Legal Name	General Dynamics/General Dynamics, EB Corporation
Contract Title	Block V
Contract Address	
Contracting Office	
Supported Phase	Production
Contract Strategy	
Contract Type	Firm-Fixed-Price
Modification Date	
Work Start Date	
Technical Data Rights	
Work Completed	

Contracts/Effort Price, Quantity, and Performance (TY\$M)		
Initial Target Price	Current Target Price	
\$2,427.5	\$2,465	
Initial Ceiling Price	Current Ceiling Price	
\$2,753.4	\$2,745.5	
Contractor EAC	PM EAC	
Initial Quantity	Current Quantity	Delivered Quantity
1	1	0
BAC	BCWP	ACWP
BCWS	Cost Variance	Schedule Variance

**Contract Notes:**

**Factors Contributing to Cost Variance and Projected Effects on Program Costs**

**Factors Contributing to Schedule Variance and Projected Effects on Program Schedule**

Contract Data	
Contract Number	N00024-17-C-2100 (SSN 804)
Effort Number	3
Modification Number	
Award Date	12/02/2019
Definitization Date	12/02/2019
Order Number	
CAGE Code/CAGE Legal Name	General Dynamics/General Dynamics, EB Corporation
Contract Title	Block V
Contract Address	Groton, CT
Contracting Office	
Supported Phase	Production
Contract Strategy	
Contract Type	Firm-Fixed-Price
Modification Date	
Work Start Date	
Technical Data Rights	
Work Completed	

Contracts/Effort Price, Quantity, and Performance (TY\$M)		
Initial Target Price	Current Target Price	
\$2,669.3	\$2,710.7	
Initial Ceiling Price	Current Ceiling Price	
\$3,019.4	\$3,023.1	
Contractor EAC	PM EAC	
Initial Quantity	Current Quantity	Delivered Quantity
BAC	BCWP	ACWP
BCWS	Cost Variance	Schedule Variance

**Contract Notes:**

**Factors Contributing to Cost Variance and Projected Effects on Program Costs**

**Factors Contributing to Schedule Variance and Projected Effects on Program Schedule**

Contract Data	
Contract Number	N00024-17-C-2100 (SSN 805)
Effort Number	4
Modification Number	
Award Date	12/02/2019
Definitization Date	12/02/2019
Order Number	
CAGE Code/CAGE Legal Name	General Dynamics/General Dynamics, EB Corporation
Contract Title	Block V
Contract Address	Groton, CT
Contracting Office	
Supported Phase	Production
Contract Strategy	
Contract Type	Firm-Fixed-Price
Modification Date	
Work Start Date	
Technical Data Rights	
Work Completed	

Contracts/Effort Price, Quantity, and Performance (TY\$M)		
Initial Target Price	Current Target Price	
Initial Ceiling Price	Current Ceiling Price	
Contractor EAC	PM EAC	
Initial Quantity	Current Quantity	Delivered Quantity
BAC	BCWP	ACWP
BCWS	Cost Variance	Schedule Variance

**Contract Notes:**

This is the first time this contract is being reported.

**Factors Contributing to Cost Variance and Projected Effects on Program Costs**

**Factors Contributing to Schedule Variance and Projected Effects on Program Schedule**

### External Government Activities

Activity Title		Government Entity	Supported Phase
CAGE		Work Start Date	
City		State/Province:	
Notes			

## Deliveries and Expenditures

SSN 774

Deliveries				
Delivered to Date	Planned to Date	Actual to Date	Total Quantity	Percent Delivered
Development				
Production	26	21	51	41.18%
<hr/>				
Total Program Quantity Delivered	26	21		

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

Years Appropriated to date: 33

Total Years Appropriated Funding (Current Baseline): 48

Percent Years Appropriated: 68.75%

Then-Year Funding Appropriated as Percentage of Total Acquisition Estimate: 0.00%

Then-Year Funding Expended as Percentage of Total Acquisition Estimate: 0.00%

Total Acquisition Cost: 183,640.7

Deliveries & Expenditures Notes:



## Operating and Support Costs

SSN 774

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### *O&S Cost Breakdown:*

Category (BY\$ Million)	SSN 774 Q1 FY21
Unit-Level Manpower	10,996.2
Unit Operations	1,344.8
Maintenance	33,139.1
Sustaining Support	777.7
Continued System Improvements	11,645.6
Other	
<b>Total</b>	<b>57,903.4</b>

**Cost Estimate Source:** CCP dated November 04, 2016

**O&S Cost Notes:**

Total Program O&S Cost Compared with Baseline					
	Current Baseline				
	Objective (BY\$M)	Threshold (BY\$M)	Current Estimate (BY\$M)	Current Estimate (TY\$M)	Deviation
<b>Total O&amp;S</b>	60,744.3	66,818.7	57,903.4	160,906.3	

Total Program O&S Cost Compared with Baseline					
	Current Baseline				
	Objective (BY\$M)	Threshold (BY\$M)	Current Estimate (BY\$M)	Current Estimate (TY\$M)	Deviation
<b>Total O&amp;S</b>	60,744.3	66,818.7	57,903.4	160,906.3	

O&S Cost Deviation Explanation					

O&S Cost Deviation Explanation					

***Operating and Support Costs - Disposal and Unitized Costs***

SSN 774

**Annual Unitized O&S Cost Definition and Calculation Relative to Total O&S Cost:**

Sustainment Factors	System Name: SSN 774	Antecedent System Name: LOS ANGELES CLASS
Quantity to Sustain	48	
Unit of Measure	Total Quantity	
Unit Expected Service Life	33	

**Base Year:**

Annual Unitized O&S Cost by Category Base Year \$ Unit:(\$M)	System Name: SSN 774	Antecedent System Name: LOS ANGELES CLASS
Unit-Level Manpower	6.9	5.5
Unit Operations	0.8	0.7
Maintenance	20.9	15.0
Sustaining Support	0.5	1.0
Continued System Improvements	7.4	4.2
Other	0.0	0.0
Total O&S	36.6	26.4

**Disposal/Demilitarization Cost Estimate**

(Base Year \$Millions)	System Name: SSN 774	Antecedent System Name: LOS ANGELES CLASS
Total Disposal	2,840.9	

**Cost Estimate Source - Disposal**

Type:	Component Cost Position
Approval Authority and Date:	ASN (FMC) 11/04/2016
Note:	
The Navy is updating the O&S estimates which will be included in an APB update.	
Disposal Cost Notes:	
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.

#### Additional O&S Estimate Assumptions:

#### Sustainment Strategy:

The baseline sustainment strategy of 48 SSN 774 VIRGINIA Class submarine is structured to achieve 13 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 improve maintenance performance.

The Navy is updating the O&S estimates which will be included in an APB update.

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.