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Department of Defense
OFFICE OF PREPUBLICATION AND SECURITY REVIEW

Selected Acquisition Report (SAR)



Trident II (D-5) Sea-Launched Ballistic Missile UGM 133A (Trident II Missile)

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

Trident II (D-5) Sea-Launched Ballistic Missile UGM 133A

DoD Component

Navy

Responsible Office

Program Manager

Name: VADM Johnny Wolfe

Phone: 202-451-3000

Email:

SP00@SSP.NAVY.MIL

Mission and Description

The TRIDENT II (D5) Sea-Launched Ballistic Missile UGM 133A (TRIDENT II (D5) missile) developed an improved Submarine Launched Ballistic Missile with greater accuracy and payload capability at equivalent ranges as compared to the TRIDENT I (C4) system. TRIDENT II (D5) enhances United States (U.S.) strategic deterrence by providing a survivable sea-based system capable of engaging the full spectrum of potential targets. It enhances the U.S. position in strategic arms negotiation by providing a weapon system with performance and payload flexibility to accommodate various treaty initiatives. The TRIDENT II (D5) missile's increased payload allows the deterrent mission to be achieved with fewer submarines.

Executive Summary

Trident II Missile

Program Highlights Since Last Report

Significant Accomplishments: In the area of rocket motors and post boost control system gas generators, the TRIDENT II (D5) missile program has maintained the solid rocket motor (SRM) unit cost from FY 2014 PB as the Navy continues low-rate production of boost motors with Lockheed Martin (LM) and Northrop Grumman. The current industrial base for SRM production is experiencing a level of demand strain not seen in decades, adding substantial capacity risks to a key element of the national strategic defense industry. In order to improve and modernize the industrial base for large and small SRM production, a risk reduction investment plan has been developed and reflected in the requested FY 2024 PB funding profile in Operating and Support Costs.

The PM continues to monitor the disparity between the OSD approved and industry realized inflation indices to monitor its effects to the strategic weapon systems' operational engineering support. With cradle to grave responsibility, a broad range of engineering knowledge and unique skill sets must be maintained to support the Navy's and the Nation's primary strategic deterrent system. In June 2022, the program conducted D5 Life Extension (D5LE) Commanders Evaluation Test (CET) #4. This was the last CET to score and evaluate the accuracy and effectiveness of the D5LE Missile. In FY 2023 the program returns to Follow-on Commanders Evaluation Tests.

Significant Issues: There are no significant software-related issues with the program at this time.

History of Significant Developments Since Program Initiation

History of Significant Developments Since Program Initiation	
Date	Significant Development Description
Feb - 2021	The program completed the third operational flight test (Commander Evaluation Test 3) of the TRIDENT II D5 Life Extended Missile.
Sep - 2019	The program completed the second operational flight test (Commander Evaluation Test 2) of the TRIDENT II D5 Life Extended Missile.
Jun - 2018	Program completed the first operational flight test (Commander Evaluation Test 1) of the TRIDENT II (D5) LE missile, four months ahead of schedule.
Apr - 2018	EHW#2 at SWFPAC received its Authority to Operate, as scheduled. This facility is critical to meeting workload demands of the Pacific fleet.
Feb - 2017	Initial Fleet Introduction of the fully configured D5 LE missile which involved all four missile electronics packages and the Guidance LE subsystem with the outload of the USS MARYLAND (SSBN 738).
Nov - 2015	DASO flight operation with a fully configured D5 LE missile involving all four of the missile electronics packages and the Guidance LE subsystem.
Jun - 2014	USS WEST VIRGINIA (SSBN 736) completed DASO with two successful D5 LE flight operations involving both the LE missile electronics packages and the Guidance LE subsystem.
Sep - 2011	TRIDENT II (D5) missile submitted a revised acquisition program baseline approved by the Assistant Secretary of the Navy (Research, Development & Acquisition). The significant changes in this APB were a revised D5 LE funding profile, the addition of the Explosive Handling Wharf (EHW) #2 at the Strategic Weapons Facility, Pacific (SWFPAC), and Joint Fuze sustainment efforts.
Jan - 2011	TRIDENT II (D5) LE completed its system Critical Design Review.
Jun - 2002	Approval of APB reflecting service life extension of the TRIDENT II (D5) submarine from 30-44 years as directed by PDM II of 15 December 2021. Inventory Objective is now 540 missiles.

Dec - 2001	Program Decision Memorandum (PDM) II directed the TRIDENT II (D5) missile extend its service life from 30 to 44 years. Funding for this effort would support additional acquisition necessary to continue production of missile critical components, acquire additional missiles to support flight testing during the extended life and to replace missile electronics and guidance systems in all TRIDENT II (D5) missiles.
Dec - 1999	All TRIDENT II (D5) new build submarines had completed strategic loadout and had deployed.
Jan - 1999	FY 2000 PB contained funding in FY 2005 for the commencement of the TRIDENT II (D5) Missile Life Extension (LE) program.
Apr - 1998	The TRIDENT II (D5) Missile inventory objective was reduced from 434 missiles to 425 by reducing the flight tests as a result of a new determination that flight test data from Demonstration and Shakedown Operations (DASOs) may be combined with Follow-On CINC Evaluation Test data to determine reliability and safety.
Mar - 1995	The TRIDENT II (D5) Missile procurement program was revised to support a force level of 14 TRIDENT II submarines based on the conclusions of the NPR. Four Pacific TRIDENT submarines would be backfit to the TRIDENT II configuration beginning in FY 2000. New builds will complete with 10 TRIDENT II configured submarines. The new inventory objective of 434 missiles reflects the requirement to outload 14 submarines and a further reduction in the numbers of missiles to support the flight test program. New APB was approved.
Jan - 1994	FY 1995 PB further reduced the missile procurement inventory objective to 389 missiles based on revision of several planning factors.
Jan - 1993	FY 1994 PB reduced both the annual procurement rate of missiles and the missile inventory objective to 428 missiles to support the outload and a reduced missile flight test program of 10 TRIDENT II submarines (no backfits). Annual procurement quantities reduced from 66 to 24 in FY 1994 and 12 per year in FY 1998 and thereafter. Reduced flight tests led to the reduced inventory objective and reduced force structure. This force structure was based upon the outcome of the Defense Nuclear Posture Review (NPR) and was in accordance with Presidential Decision Directive/NSC-30 of September 21, 1994. The program decision was based upon the deferral of the decision on the D5 Backfit Program until POM 1996. Pending that decision, the backfit efforts were removed from the TRIDENT II (D5) Missile program.
Jan - 1991	FY 1992 PB reduced the missile procurement inventory objective to 779 missiles to support the outload and the missile flight test program of 18 TRIDENT II submarines (10 new builds/8 backfits).
Mar - 1990	TRIDENT II (D5) weapon system achieved IOC with the outload and deployment of USS TENNESSEE (Ship, Submersible, Ballistic, Navy (SSBN) 734).
Jul - 1987	Milestone III - Program based upon a missile procurement inventory objective of 815 missiles to support the outload and missile flight test program of 21 TRIDENT II submarines (13 new builds/8 backfit).
Oct - 1983	Milestone II - Inventory Objective: R&D Missiles - 30; Production Missiles - 715.
Mar - 1980	The Secretary of the Navy announces the intention to proceed with an Advanced Development Program for a Submarine Launched Ballistic Missile Modernization program.

Schedule**Trident II Missile**

Events	Milestone Baseline Objective	Current Baseline Objective/Threshold		Current Estimate/Actual	Deviation
First Development Flight Test Complete	Jan 1987	Jan 1987	Jul 1987	Jan 1987	
Second Guidance Only Flight Test (DASO-24) (2) Complete		Aug 2012	Feb 2013	Apr 2013	
Commence Advanced Dev Phase (2) Complete	Oct 1980	Oct 1980	Apr 1981	Oct 1980	
Milestone II (Commence FSD) Complete	Oct 1983	Oct 1983	Apr 1984	Oct 1983	
Milestone III (Production Approval)/ Award Initial Missile Production Complete	Apr 1987	Apr 1987	Oct 1987	Apr 1987	
First Guidance Only Flight Test (DASO-23) (2) Complete		Feb 2012	Aug 2012	Feb 2012	
Milestone I (Initiate Concept Definition) Complete	Oct 1977	Oct 1977	Apr 1978	Oct 1977	
First Missile Electronics Flight Test (PTM-1/DASO-25) Complete		Sep 2013	Mar 2014	Apr 2013	
IOC (may be less than full msl outload) Complete	Dec 1989	Dec 1989	Jun 1990	Mar 1990	
IFI for FCEA/Interlocks (1) Complete		Apr 2017	Oct 2017	Feb 2017	
D5 LE System CDR (1) Complete		Feb 2011	Aug 2011	Jan 2011	
EHW#2 at Bangor IOC (2) Complete		Oct 2017	Apr 2018	Apr 2018	
First Operational Flight Test (CET) (1) Complete		Oct 2018	Apr 2019	Jun 2018	

Notes**Deviation Explanation**

No deviations for this

Performance

Trident II Missile

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

Requirement Reference

Chief of Naval Operations Letter Serial (211D/S693003) of December 23, 1976 TRIDENT II (D-5) Strategic Weapons System Decision Coordinating Paper, 1987. Presidential Decision Directive/NSC-30, September 21, 1994

Deviation Explanation

No deviations for this program/subprogram

Notes

Classified Parameters available in the Classified Annex.

Acquisition Budget Estimate

Trident II Missile

Total Acquisition Cost

		Milestone APB	Current Baseline		Budget Estimate PB 2024		
Category	Base Year	Objective (BY\$M)	Objective (BY\$M)	Threshold (BY\$M)	BY\$M	TY\$M	Deviation
RDT&E	1983	8,414.8	8,783.9	9,662.3	8,791	10,153.9	
Procurement	1983	17,155.2	18,406.7	20,247.4	18,609.1	31,704.3	
MILCON	1983	373.7	757.6	833.4	653.8	1,041.7	
Acq. O&M	1983	0	0		0	0	
Total		25,943.7	27,948.2		28,053.9	42,899.9	
PAUC	1983	45.676	49.819	54.801	50.007	76.470	
APUC	1983	31.769	34.534	37.987	34.914	59.483	

Appropriation Category Deviation Explanations

PAUC Deviation Explanation

APUC Deviation Explanation

Budget Notes

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

Total End Item Quantity

Quantity Category	Current APB Quantity	Current Estimate Quantity
Development	28	28
Procurement	533	533
O&M-Acquired		0

Quantity Notes

None

Unit Cost**Trident II Missile**

Current UCR Baseline and Current Estimate (Base-Year Dollars)			
Category (\$M) Base Year:1983	Current UCR Baseline	Current Estimate	% Change

Program Acquisition Unit Cost

Cost	27,948.2	28,116.6	
Quantity	561	561	
Unit Cost	49.819	50.119	.60%

Average Procurement Unit Cost

Cost	18,406.7	18,668.3	
Quantity	533	533	1.42%
Unit Cost	34.534	35.025	

Original UCR Baseline and Current Estimate (Base-Year Dollars)			
Category (\$M) Base Year:1983	Original UCR Baseline	Current Estimate	% Change

Program Acquisition Unit Cost

Cost	25,943.7	28,116.6	
Quantity	568	561	
Unit Cost	45.676	50.119	9.73%

Average Procurement Unit Cost

Cost	17,155.2	18,668.3	
Quantity	540	533	10.25%
Unit Cost	31.769	35.025	

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**

None

Impacts of Performance Changes on Unit Cost

None

Actions Taken or Proposed to Control Future Cost Growth

None

Risk and Sensitivity Analysis**Trident II Missile****Risk and Sensitivity Analysis**

Current Procurement Cost(December - 2022)

Revised Original Estimate (June - 2002)

Current Baseline Estimate (September - 2011)

The TRIDENT II (D5) Missile has reached its original design life goal and, like any other aging weapon system, will require increased maintenance and repair to sustain a safe, reliable, and accurate SWS and an adequate industrial base and workforce expertise to ensure that this system will be available as the initial payload for the follow-on SSBN 826 COLUMBIA Class submarine.

Schedule Risk		
Technical Risks		
Current	December 21, 2021	Disparity between OSD approved and industry realized inflation indices has an effect on the strategic weapons systems' operational engineering support and the ability to maintain a broad range of engineering knowledge and skill sets required to support the strategic weapon system.
Current	December 21, 2021	Industrial base concerns in regards to solid rocket motor manufacturers and their suppliers. The current industrial base for SRM production is experiencing a level of demand strain not seen in decades, adding substantial capacity risks to a key element of the national strategic defense industry. In order to improve and modernize the industrial base for large and small SRM production, a risk reduction investment plan has been developed and reflected in the requested FY 2024 PB funding profile in Operating and Support Costs.

Low Rate Initial Production

Trident II Missile

Item	Initial LRIP Decision	Current Total LRIP
Approval Date	10/30/1983	
Approved Quantity	21	
Reference		
Start Year	1983	
End Year	1987	

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

Notes

Contracts & Efforts

Contract Data	
Contract Number	N00030-19-C-0100
Effort Number	
Modification Number	P00027
Award Date	10/01/2019
Definitization Date	09/28/2019
Order Number	
CAGE Code/CAGE Legal Name	7X6A9/Lockheed Martin Space
Contract Title	FY20 Production and Deployed Systems Support (P&DSS)
Contract Address	Titusville, FL,
Contracting Office	
Supported Phase	Sustainment
Contract Strategy	
Contract Type	Other
Modification Date	
Work Start Date	
Technical Data Rights	
Work Completed	85.81%

Contracts/Effort Price, Quantity, and Performance (TY\$M)		
Initial Target Price	Current Target Price	
\$611.6	\$1,238.6	
Initial Ceiling Price	Current Ceiling Price	
\$611.6	\$605.8	
Contractor EAC	PM EAC	
\$1,105.9	\$1,120	
Initial Quantity	Current Quantity	Delivered Quantity
BAC	BCWP	ACWP
\$1,117.5	\$958.9	\$937.4

BCWS	Cost Variance	Schedule Variance
\$992.8	\$21.5	-\$33.9

Contract Notes:

The FY 2020 P&DSS contract specifies a ceiling price that applies to the Fixed Price Incentive Production CLINs. Initial Target Price and Current Target Price represent the total contract values. Ceiling Prices reflect the value of the Fixed Price CLINs, which are the only CLINs with ceilings. Therefore, Ceiling Prices will be lower than Target Price for this contract.

Factors Contributing to Cost Variance and Projected Effects on Program Costs

The favorable cost variance is due to: 1) a lower quantity of Raw Stock, Plant Stock, and Common Minor Material (CMM) procurements than originally planned; and 2) reduced support being required at the Strategic Weapon Facilities. The cumulative cost variance remains favorable and is expected to be sufficient to achieve schedule recovery.

Factors Contributing to Schedule Variance and Projected Effects on Program Schedule

The unfavorable schedule variance is primarily due to: 1) material/equipment delays related to First Stage Chamber; 2) delays at multiple fixed price suppliers; 3) suppliers prioritizing deliveries of prior fiscal years; and 4) hardware ordering and receiving issues driven by supply chain logistics. These schedule delays are expected to be managed within program resources.

Contract Data	
Contract Number	N00030-20-C-0100
Effort Number	
Modification Number	P00024
Award Date	10/01/2020
Definitization Date	10/01/2020
Order Number	
CAGE Code/CAGE Legal Name	7X6A9/Lockheed Martin Space
Contract Title	FY21 Production and Deployed Systems Support (P&DSS)
Contract Address	Titusville, FL
Contracting Office	
Supported Phase	Sustainment
Contract Strategy	
Contract Type	Other
Modification Date	
Work Start Date	
Technical Data Rights	
Work Completed	67.26%

Contracts/Effort Price, Quantity, and Performance (TY\$M)		
Initial Target Price	Current Target Price	
\$657.7	\$1,232.6	
Initial Ceiling Price	Current Ceiling Price	
\$617.9	\$617.9	
Contractor EAC	PM EAC	
\$1,104.7	\$1,110	
Initial Quantity	Current Quantity	Delivered Quantity
BAC	BCWP	ACWP
\$1,109.2	\$746.1	\$719
BCWS	Cost Variance	Schedule Variance

\$764	\$27.1	-\$17.9
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Contract Notes:

The FY 2021 P&DSS contract specifies a ceiling price that applies to the Fixed Price Incentive Production CLINs. Initial Target Price and Current Target Price represent the total contract values. Ceiling Prices reflect the value of the Fixed Price CLINs, which are the only CLINs with ceilings. Therefore, Ceiling Prices will be lower than Target Price for this contract. This submission corrects the award date in the previous submission.

Factors Contributing to Cost Variance and Projected Effects on Program Costs

The favorable cost variance is due to: 1) less extensive subcontract program management and parts/materials support labor than originally planned; 2) a lower quantity of raw/plant stock and common minor material purchases occurring than planned; 3) delayed subcontractor invoices; 4) delayed actual cost from suppliers; and 5) material delays associated with supply chain logistics. The cumulative cost variance remains favorable and is expected to be sufficient to achieve schedule recovery.

Factors Contributing to Schedule Variance and Projected Effects on Program Schedule

The unfavorable schedule variance is primarily due to: 1) material and equipment delays; 2) multiple suppliers having delivery delays; 3) a project receiving a stop work order to allow for a change of direction; and 4) a subcontractor being delayed in being put on purchase order. These schedule delays are expected to be managed within program resources.

Contract Data	
Contract Number	N00030-21-C-0100
Effort Number	
Modification Number	P00018
Award Date	08/10/2021
Definitization Date	10/01/2021
Order Number	
CAGE Code/CAGE Legal Name	7X6A9/Lockheed Martin Space
Contract Title	FY22 Production and Deployed Systems Support (P&DSS)
Contract Address	Titusville, FL,
Contracting Office	
Supported Phase	Sustainment
Contract Strategy	
Contract Type	Other
Modification Date	
Work Start Date	
Technical Data Rights	
Work Completed	57.16%

Contracts/Effort Price, Quantity, and Performance (TY\$M)		
Initial Target Price	Current Target Price	
\$1,157	\$1,182.3	
Initial Ceiling Price	Current Ceiling Price	
\$527.4	\$527.4	
Contractor EAC	PM EAC	
\$1,059.8	\$1,063	
Initial Quantity	Current Quantity	Delivered Quantity
BAC	BCWP	ACWP
\$1,061.2	\$606.6	\$586.8
BCWS	Cost Variance	Schedule Variance

\$609.5	\$19.8	-\$2.9
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Contract Notes:

The FY 2022 P&DSS contract specifies a ceiling price that applies to the Fixed Price Incentive Production CLINs. Initial Target Price and Current Target Price represent the total contract values. Ceiling Prices reflect the value of the Fixed Price CLINs, which are the only CLINs with ceilings. Therefore, Ceiling Prices will be lower than Target Price for this contract. THIS IS THE FIRST SUBMISSION FOR THIS EFFORT.

Factors Contributing to Cost Variance and Projected Effects on Program Costs

The favorable cost variance is due to: 1) favorable labor volume due to personnel changes; 2) a focus on prior contracts, causing a slower than anticipated ramp up; and 3) delayed ramp up of Test and Qualification efforts. The cumulative cost variance remains favorable and is expected to be sufficient to achieve schedule recovery.

Factors Contributing to Schedule Variance and Projected Effects on Program Schedule

The unfavorable schedule variance is primarily due to: 1) significant labor attrition related to COVID-19 vaccine mandates; 2) building availability delaying completion of FY21 processing; 3) work reprioritization in the early phase of the contract; and 4) equipment and test failures for which mitigations are underway or accomplished. These schedule delays are expected to be managed within program resources.

Contract Data	
Contract Number	N00030-17-C-0100
Effort Number	
Modification Number	P00044
Award Date	07/31/2017
Definitization Date	10/01/2017
Order Number	
CAGE Code/CAGE Legal Name	06887/Lockheed Martin Space
Contract Title	FY18 Production and Deployed Systems Support (P&DSS)
Contract Address	Sunnyvale, CA
Contracting Office	
Supported Phase	Sustainment
Contract Strategy	
Contract Type	Other
Modification Date	
Work Start Date	
Technical Data Rights	
Work Completed	94.76%

Contracts/Effort Price, Quantity, and Performance (TY\$M)		
Initial Target Price	Current Target Price	
\$418.7	\$1,528.6	
Initial Ceiling Price	Current Ceiling Price	
\$578.5	\$578.5	
Contractor EAC	PM EAC	
\$1,379	\$1,390	
Initial Quantity	Current Quantity	Delivered Quantity
BAC	BCWP	ACWP
\$1,363.1	\$1,291.7	\$1,291.8
BCWS	Cost Variance	Schedule Variance

\$1,315	-\$0.1	-\$23.3
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Contract Notes:

The FY 2018 P&DSS contract specifies a ceiling price that applies to the Fixed Price Incentive Production CLINs. Initial Target Price and Current Target Price represent the total contract values. Ceiling Prices reflect the value of the Fixed Price CLINs, which are the only CLINs with ceilings. Therefore, Ceiling Prices will be lower than Target Price for this contract. THIS IS THE FINAL REPORT FOR THIS CONTRACT.

Factors Contributing to Cost Variance and Projected Effects on Program Costs

The unfavorable net change in the cost variance is due to: 1) material costs; and 2) increased labor costs due to Forward Pricing Rate Agreement (FPRA) rate changes as a result of Proposal Pricing Rates & Disclosures. This cost variance is expected to be managed within program resources.

Factors Contributing to Schedule Variance and Projected Effects on Program Schedule

The unfavorable net change in the schedule variance is due to: 1) delays in the First Stage Rocket Motor Chamber processing; 2) equipment replacement due to a vendor exiting the business sector; and 3) a portion of work being held pending completion of restructuring related to vendor qualification. All delays are being actively managed and expected to be resolved within program resources.

Contract Data	
Contract Number	N00030-18-C-0100
Effort Number	
Modification Number	P00028
Award Date	08/08/2018
Definitization Date	09/28/2018
Order Number	
CAGE Code/CAGE Legal Name	06887/Lockheed Martin Space
Contract Title	FY19 Production and Deployed Systems Support (P&DSS)
Contract Address	Sunnyvale, CA
Contracting Office	
Supported Phase	Sustainment
Contract Strategy	
Contract Type	Other
Modification Date	
Work Start Date	
Technical Data Rights	
Work Completed	94.04%

Contracts/Effort Price, Quantity, and Performance (TY\$M)		
Initial Target Price	Current Target Price	
\$747.6	\$760.6	
Initial Ceiling Price	Current Ceiling Price	
\$597.8	\$601.6	
Contractor EAC	PM EAC	
\$682.4	\$688	
Initial Quantity	Current Quantity	Delivered Quantity
BAC	BCWP	ACWP
\$677.5	\$637.1	\$639
BCWS	Cost Variance	Schedule Variance

\$653.8	-\$1.9	-\$16.7
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Contract Notes:

The FY 2019 P&DSS contract specifies a ceiling price that applies to the Fixed Price Incentive Production CLINs. Initial Target Price and Current Target Price represent the total contract values. Ceiling Prices reflect the value of the Fixed Price CLINs, which are the only CLINs with ceilings. Therefore, Ceiling Prices will be lower than Target Price for this contract. THIS IS THE FINAL SUBMISSION FOR THIS EFFORT.

Factors Contributing to Cost Variance and Projected Effects on Program Costs

The unfavorable cost variance is driven by: 1) equipment issues related to First Stage and Second Stage Motors; 2) unplanned effort required to effectively onboard new employees; and 3) Material Review Board delays related to updating obsolescent tooling, and new machinery acquisition. This cost variance is expected to be managed within program resources.

Factors Contributing to Schedule Variance and Projected Effects on Program Schedule

The unfavorable schedule variance is due to: 1) supplier delays related to Avionics; 2) focus on completing prior fiscal year contracts; 3) facility downtime related to infrastructure repairs; 4) delayed Service Life Evaluation subcontractor testing; 5) delays in the Servo Actuator Assembly Proof Pressure EDU (Engineering Development Unit); and 6) a delay in orders for the Missile Data Center and Optics materials. These schedule delays are expected to be managed within program resources.

Contract Data	
Contract Number	N00030-16-C-0008
Effort Number	
Modification Number	P00005
Award Date	02/02/2016
Definitization Date	02/02/2016
Order Number	
CAGE Code/CAGE Legal Name	Q92260/Charles Stark Draper Laboratory
Contract Title	FY 16 Guidance SPALT
Contract Address	Cambridge, MA
Contracting Office	
Supported Phase	Sustainment
Contract Strategy	
Contract Type	Other
Modification Date	
Work Start Date	
Technical Data Rights	
Work Completed	90.58%

Contracts/Effort Price, Quantity, and Performance (TY\$M)		
Initial Target Price	Current Target Price	
\$163.6	\$163.6	
Initial Ceiling Price	Current Ceiling Price	
\$41.1	\$41.1	
Contractor EAC	PM EAC	
\$156.4	\$156.4	
Initial Quantity	Current Quantity	Delivered Quantity
BAC	BCWP	ACWP
\$155	\$140.4	\$142.1
BCWS	Cost Variance	Schedule Variance

\$142.2	-\$1.7	-\$1.8
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Contract Notes:

The FY 2016 Guidance SPALT contract specifies a ceiling price that applies to the Fixed Price Incentive Production CLIN only (Item 0001). The remainder of the contract does not have a ceiling price. THIS IS THE FINAL SUBMISSION FOR THIS EFFORT.

Factors Contributing to Cost Variance and Projected Effects on Program Costs

The unfavorable net change in the cumulative cost variance is due to: 1) support hours for program management were more than anticipated and 2) additional resources required to work on instrument production test equipment. This cost variance is expected to be managed within program resources.

Factors Contributing to Schedule Variance and Projected Effects on Program Schedule

The unfavorable net change in the schedule variance is due to: Delay from late delivery on previous annual sensor procurements. All schedule delays are expected to be managed within program resources.

Contract Data	
Contract Number	N00030-17-C-0008
Effort Number	
Modification Number	P00011
Award Date	02/01/2017
Definitization Date	01/26/2017
Order Number	
CAGE Code/CAGE Legal Name	Q92260/Charles Stark Draper Laboratory
Contract Title	FY 17 Guidance SPALT
Contract Address	Cambridge, MA
Contracting Office	
Supported Phase	Sustainment
Contract Strategy	
Contract Type	Other
Modification Date	
Work Start Date	
Technical Data Rights	
Work Completed	94.15%

Contracts/Effort Price, Quantity, and Performance (TY\$M)		
Initial Target Price	Current Target Price	
\$53.5	\$370.2	
Initial Ceiling Price	Current Ceiling Price	
\$61.7	\$287.8	
Contractor EAC	PM EAC	
\$351.2	\$355.5	
Initial Quantity	Current Quantity	Delivered Quantity
BAC	BCWP	ACWP
\$348.6	\$328.2	\$329.7
BCWS	Cost Variance	Schedule Variance

\$333.7	-\$1.5	-\$5.5
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Contract Notes:

The FY 2017 Guidance SPALT contract specifies a ceiling price that applies to the Fixed Price Incentive Production CLINs only (Item 0001, 0002, 0006, and 0007). The remainder of the contract is comprised of option CLINs that do not have a ceiling price.

THIS IS THE FINAL SUBMISSION FOR THIS EFFORT

Factors Contributing to Cost Variance and Projected Effects on Program Costs

The unfavorable cumulative cost variance is due to: 1) a greater than planned engineering and quality and management support due to subcontractor delivery delays; 2) an FFRP rate package causing an increase in reportable actuals, and 3) production subassemblies being transferred from previous contracts in this effort. All other costs are expected to be managed within program resources.

Factors Contributing to Schedule Variance and Projected Effects on Program Schedule

The unfavorable schedule variance is due to: 1) Delays to production efforts on previous contracts have cascaded to the current contracted deliveries; 2) a previous Stop Work Order during delivery of previous effort's procured units to re-qualify new hardware, unfavorably shifted the forecasted delivery schedule for the current units; 3) delayed vendor long lead material receipts on previous contracts has led to receipt delays on the current effort. All schedule delays are expected to be managed within program resources.

Contract Data	
Contract Number	N00030-19-C-0008
Effort Number	
Modification Number	P00007
Award Date	02/25/2019
Definitization Date	02/25/2019
Order Number	
CAGE Code/CAGE Legal Name	Q92260/Charles Stark Draper Laboratory
Contract Title	FY 19 Guidance SPALT
Contract Address	Cambridge, MA
Contracting Office	
Supported Phase	Sustainment
Contract Strategy	
Contract Type	Other
Modification Date	
Work Start Date	
Technical Data Rights	
Work Completed	76.83%

Contracts/Effort Price, Quantity, and Performance (TY\$M)		
Initial Target Price	Current Target Price	
\$391.8	\$391.8	
Initial Ceiling Price	Current Ceiling Price	
\$231.2	\$451.3	
Contractor EAC	PM EAC	
\$351.5	\$356	
Initial Quantity	Current Quantity	Delivered Quantity
BAC	BCWP	ACWP
\$354.4	\$272.3	\$265.2
BCWS	Cost Variance	Schedule Variance

\$289.8	\$7.1	-\$17.5
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Contract Notes:

The FY 2019 Guidance SPALT contract specifies a ceiling price that applies to the Fixed Price Incentive Production CLINs only (Item 0001 and 0002).

Factors Contributing to Cost Variance and Projected Effects on Program Costs

The favorable cumulative cost variance is due to: 1) less labor utilized than originally baselined; 2) GFM availability netted less GEUs, and 3) replan resulted in increasing favorable variance. All other costs are expected to be managed within program resources.

Factors Contributing to Schedule Variance and Projected Effects on Program Schedule

The unfavorable schedule variance is due to: 1) delays both with sourcing and delivering raw material; and 2) global supply chain disruptions, and 3) initial subcontract delays. All schedule delays are expected to be managed within program resources.

Contract Data	
Contract Number	N00030-21-C-0008
Effort Number	
Modification Number	P00001
Award Date	02/26/2021
Definitization Date	02/26/2021
Order Number	
CAGE Code/CAGE Legal Name	Q92260/Charles Stark Draper Laboratory
Contract Title	FY21 Guidance SPALT
Contract Address	Cambridge, MA
Contracting Office	
Supported Phase	Sustainment
Contract Strategy	
Contract Type	Other
Modification Date	
Work Start Date	
Technical Data Rights	
Work Completed	16.52%

Contracts/Effort Price, Quantity, and Performance (TY\$M)		
Initial Target Price	Current Target Price	
\$191.9	\$199.1	
Initial Ceiling Price	Current Ceiling Price	
Contractor EAC	PM EAC	
\$176.8	\$174.1	
Initial Quantity	Current Quantity	Delivered Quantity
BAC	BCWP	ACWP
\$176.8	\$29.2	\$27.7
BCWS	Cost Variance	Schedule Variance

\$34	\$1.5	-\$4.8
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Contract Notes:

The FY 2021 Guidance SPALT contract is comprised of CLINs that do not have a ceiling price. THIS IS THE FIRST SUBMISSION FOR THIS EFFORT.

Factors Contributing to Cost Variance and Projected Effects on Program Costs

The favorable cumulative cost variance is due to less support needed than originally baselined at this stage of contract execution. All other costs are expected to be managed within program resources.

Factors Contributing to Schedule Variance and Projected Effects on Program Schedule

The unfavorable schedule variance is due to delays in both suppliers and deliveries. All schedule delays are expected to be managed within program resources.

External Government Activities

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

Deliveries and Expenditures

Trident II Missile

Deliveries				
Delivered to Date	Planned to Date	Actual to Date	Total Quantity	Percent Delivered
Development	28	28	28	100.00%
Production	533	533	533	100.00%
Total Program Quantity Delivered	561	561	561	100.00%

Expended and Appropriated (TY \$M)				
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Years Appropriated to date: 46

Total Years Appropriated Funding (Current Baseline): 48

Percent Years Appropriated: 95.83%

Then-Year Funding Appropriated as Percentage of Total Acquisition Estimate: 98.25%

Then-Year Funding Expended as Percentage of Total Acquisition Estimate: 93.13%

Total Acquisition Cost: 42,899.92

Deliveries & Expenditures Notes:

The deliveries identified in this section are for the TRIDENT II (D5) missile equipment sections. While the TRIDENT II (D5) Missile program is over 90% delivered and expended, it has been decided by the Assistant Secretary of the Navy (Research, Development and Acquisition) the current APB is to remain open as the TRIDENT II (D5) missile will be sustained throughout the entire life of the OHIO Class submarine, and will also be the initial payload for the Ship, Submersible, Ballistic, Nuclear (SSBN) 826 COLUMBIA Class submarine.

Operating and Support Costs

Trident II Missile

O&S Cost Breakdown:

Category (BY\$ Million)	Trident II Missile
Unit-Level Manpower	
Unit Operations	
Maintenance	.2
Sustaining Support	1.1
Continued System Improvements	
Other	.0
Total	1.4

Cost Estimate Source: POE dated February 05, 2020

O&S Cost Notes:

The TRIDENT II (D5) missile Strategic Weapon System (SWS) achieved Milestone I in October 1977; Milestone II in October 1983; and Milestone III in April 1987. At that time, program life cycle cost estimates and service cost positions (SCP) were not required. At the request of the Assistant Secretary of the Navy (Research, Development & Acquisition) (ASN RD&A), Strategic Systems Programs (SSP) submitted an Internal Independent Cost Estimate (ICE) for only the acquisition portion of the TRIDENT II (D5) Life Extension Program, therefore no O&S cost estimate is available. ASN (RD&A) has determined the current APB is to remain open to support the SSBN 826 COLUMBIA Class submarine.

Total Program O&S Cost Compared with Baseline

	Current Baseline		Current Estimate (BY\$M)	Current Estimate (TY\$M)	Deviation
	Objective (BY\$M)	Threshold (BY\$M)			
Total O&S			1.4		

Note:

O&S Cost Notes:

a. Disposal/Demilitarization Cost Estimate and Source of Estimate: Disposal Estimate: 183 (BY 1983 \$M) / Source of Estimate: Program Office Estimate (POE) O&S Costs for TRIDENT II (D5) missile include 1st, 2nd, and 3rd stage rocket motor disposal. At this time, these are the only disposal/demilitarization costs anticipated for the TRIDENT II (D5) missile. Any further disposal/demilitarization costs will be determined once final decisions have been made in regards to the SSBN 826 COLUMBIA Class program. The costs displayed in this section reflect infrastructure costs required for maintaining a disposal program.

b. Sustainment Strategy: With the collaboration of SSP and its industry partners, life cycle sustainment is the basic premise of the TRIDENT II (D5) missile program and its life extension. The strategy is to reduce O&S costs, provide a full range of logistics support, maintain critical reliability and accuracy requirements and implement the Shipboard Systems Modernization Program (SSMP) refresh schedule. A total of 533 TRIDENT II (D5) missiles have been procured for this program that will support the OHIO-Class submarine through FY 2042. The TRIDENT II (D5) missile will be the initial SWS for the Ship, Submersible, Ballistic, Nuclear (SSBN) 826 COLUMBIA Class submarine. The TRIDENT II (D5) missile SWS is completing its 33rd year of deployment and has reached its original design life goal. Like any other aging weapon system, increased maintenance and repair will be required to sustain a safe, reliable, and accurate SWS. SSP's Cradle to Grave responsibility requires a broad range of engineering knowledge and unique skill sets to support the Navy's primary nuclear deterrent system. As such, engineering support spanning all phases of the weapon system life cycle is provided by one organization (SSP).

Operational Engineering Support is required for the establishment of a closed loop system which includes the following:

1) collecting data from the Fleet; 2) measuring weapons system performance; 3) analyzing the data collected to identify performance deficiencies; 4) investigating problems identified; 5) developing solutions to resolve the deficiencies and problems; and 6) implementing corrective actions to the Fleet. The SSP life cycle budget maintains the industrial base and expertise in the workforce and ensures those skill sets will be available for the follow-on SSBN 826 COLUMBIA Class submarine.

c. Antecedent System(s) O&S Costs: The TRIDENT II (D5) weapon system replaced the TRIDENT I (C4) weapon system. O&S costs and assumptions for the TRIDENT I (C4) system are not available. While the TRIDENT II (D5) Missile program procured 533 WPN missiles there will never be a time when SSP will support a total of 533 missiles in a given year. This is due to the flight test program as every year a certain number of missiles are tested for reliability and accuracy. Annual O&S Costs are broken down into these categories:

Maintenance: Provides for the repair, overhaul, and missile processing of the TRIDENT II (D5) Missile's SWS at the Strategic Weapons Facilities (SWFs).

Sustaining Support: Provides for the sustainment of the TRIDENT II (D5) Missile's SWS to include Shipboard Modernization Program, replacement of aging rocket motors, tooling and test equipment, modifications required for treaty obligations, SWS training at the SWFs, and salaries and benefits for the SSP employees.

Indirect Support: Provides for real property maintenance including funding for recurring maintenance, major repair projects, and minor construction in support of the Fleet Ballistic Missiles and TRIDENT II (D5) facilities.

The last year of funding for these efforts was FY 2003.

O&S Cost Deviation Explanation

Operating and Support Costs - Disposal and Unitized Costs**Trident II Missile****Annual Unitized O&S Cost Definition and Calculation Relative to Total O&S Cost:**

Sustainment Factors	System Name: Trident II Missile	Antecedent System Name:
Quantity to Sustain	533	
Unit of Measure	missiles	
Unit Expected Service Life	2042	

Base Year:

Annual Unitized O&S Cost by Category Base Year \$ Unit:(\$M)	System Name: Trident II Missile	Antecedent System Name:
Unit-Level Manpower		
Unit Operations		
Maintenance	0.2	
Sustaining Support	1.2	
Continued System Improvements		
Other	0.0	
Total O&S	1.4	0.0

Disposal/Demilitarization Cost Estimate

(Base Year \$Millions)	System Name: Trident II Missile	Antecedent System Name:
Total Disposal	191.1	

Cost Estimate Source - Disposal

Type:	Program Office Estimate
Approval Authority and Date:	Director, Cost Assessment & Program Evaluation 02/05/2020
Note:	
<p>The TRIDENT II (D5) missile Strategic Weapon System (SWS) achieved Milestone I in October 1977; Milestone II in October 1983; and Milestone III in April 1987. At that time, program life cycle cost estimates and SCPs were not required. At the request of the Assistant Secretary of the Navy (Research, Development & Acquisition) (ASN RD&A), SSP submitted an Internal ICE for only the acquisition portion of the TRIDENT II (D5) Life Extension Program, therefore no O&S cost estimate is available. ASN (RD&A) has determined the current APB is to remain open to support the SSBN 826 COLUMBIA Class submarine.</p>	
Disposal Cost Notes:	

Disposal/Demilitarization Cost Estimate and Source of Estimate: Disposal Estimate: 191.1 (BY 1983 \$M) / Source of Estimate: POEO&S Costs for TRIDENT II (D5) missile include 1st, 2nd, and 3rd stage rocket motor disposal.

At this time, these are the only disposal/demilitarization costs anticipated for the TRIDENT II (D5) missile. Any further disposal/demilitarization costs will be determined once final decisions have been made in regards to the SSBN 826 COLUMBIA Class program. The costs displayed in this section reflect infrastructure costs required for maintaining a disposal program.

Additional O&S Estimate Assumptions:

None to report

Sustainment Strategy:

With the collaboration of SSP and its industry partners, life cycle sustainment is the basic premise of the TRIDENT II (D5) missile program and its life extension. The strategy is to reduce O&S costs, provide a full range of logistics support, maintain critical reliability and accuracy requirements and implement the Shipboard Systems Integration (SSI) refresh schedule. A total of 533 TRIDENT II (D5) missiles have been procured for this program that will support the OHIO-Class submarine through FY 2042. The TRIDENT II (D5) missile will be the initial SWS for the Ship, Submersible, Ballistic, Nuclear (SSBN) 826 COLUMBIA Class submarine.

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Antecedent Estimate Assumptions:

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Indirect Support: Provides for real property maintenance including funding for recurring maintenance, major repair projects, and minor construction in support of the Fleet Ballistic Missiles and TRIDENT II (D5) facilities.

The last year of funding for these efforts was FY 2003.