



Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-178



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

As of FY 2016 President's Budget

Defense Acquisition Management
Information Retrieval
(DAMIR)

Table of Contents

Common Acronyms and Abbreviations for MDAP Programs	3
Program Information	5
Responsible Office	5
References	5
Mission and Description	6
Executive Summary	7
Threshold Breaches	8
Schedule	9
Performance	11
Track to Budget	12
Cost and Funding	14
Low Rate Initial Production	28
Foreign Military Sales	29
Nuclear Costs	29
Unit Cost	30
Cost Variance	33
Contracts	36
Deliveries and Expenditures	44
Operating and Support Cost	45

Common Acronyms and Abbreviations for MDAP Programs

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

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

Program Information

Program Name

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

DoD Component

Navy

Responsible Office

VADM Terry Benedict
Strategic Systems Programs
1250-10th Street, SE
Suite 3600; Washington Navy Yard
Washington, DC 20374-5127

Phone: 202-433-7001

Fax: 202-433-5326

DSN Phone: 288-7001

DSN Fax: 288-5326

Date

Assigned: May 7, 2010

SP00@SSP.NAVY.MIL

References

SAR Baseline (Production Estimate)

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated July 15, 1987

Approved APB

Navy Acquisition Executive (NAE) Approved Acquisition Program Baseline (APB) dated September 10, 2011

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 that accommodates various treaty initiatives. The TRIDENT II (D5) missile's increased payload allows the deterrent mission to be achieved with fewer submarines.

Executive Summary

The PM continues to ensure that reliability maintenance and surveillance efforts will allow the missile life to match that of the submarine.

Procurement funding for TRIDENT II (D5) missile includes program and production support costs (including flight test instrumentation and additional reentry system hardware) and the D5 Life Extension (LE) program. Strategic Systems Programs is executing in accordance with the production continuity procurement strategy approved by the Congress and the DoD.

TRIDENT II (D5) missile is executing to the revised APB that was approved and signed by the Assistant Secretary of the Navy for Research, Development & Acquisition on September 10, 2011. Demonstration and Shakedown Operation-24 occurred in April 2013; the delay was a result of the maintenance availability of the USS Pennsylvania (SSBN 735) and was not attributable to the TRIDENT II (D5) missile LE program.

On June 2, 2014, SSP completed the USS WEST VIRGINIA's Demonstration and Shakedown Operation with two successful D5 LE flight operations involving both the LE missile electronics packages and the Guidance LE subsystem. These two flight tests were critical milestones as D5 LE remains on track for initial fleet introduction in FY 2017. The operation was the first flight test for the Missile Interlocks and Flight Control Electronics Assembly LE packages and the third flight of the Guidance LE subsystem.

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 unit cost from FY 2014 PB, however, the Navy is actively engaged with Lockheed Martin and Alliant Techsystems to aggressively lower their respective overheads as the industrial base begins to shrink. The Navy is cautiously watching the industrial base as the decreasing demand is expected to continue and will accelerate downward as both the Air Force and the National Aeronautics and Space Administration (NASA) reduce their procurements over the next several years, increasing the risk of future unit costs. NASA is expected to make a decision whether to switch from solid to liquid propulsion systems for the next generation Space Launch Vehicles in 2016. If NASA were to decide upon the liquid propulsion options, costs could significantly increase for the TRIDENT II (D5) missile. The current budget maintains buying 12 rocket motor sets per year through FY 2017 and increases to 14 sets in FY 2018 in order to address age out concerns. Due to the high rate of TRIDENT II (D5) missile production in the early years of the program, a significant portion of the inventory will age out in the near term driving the quantities to increase in FY 2018.

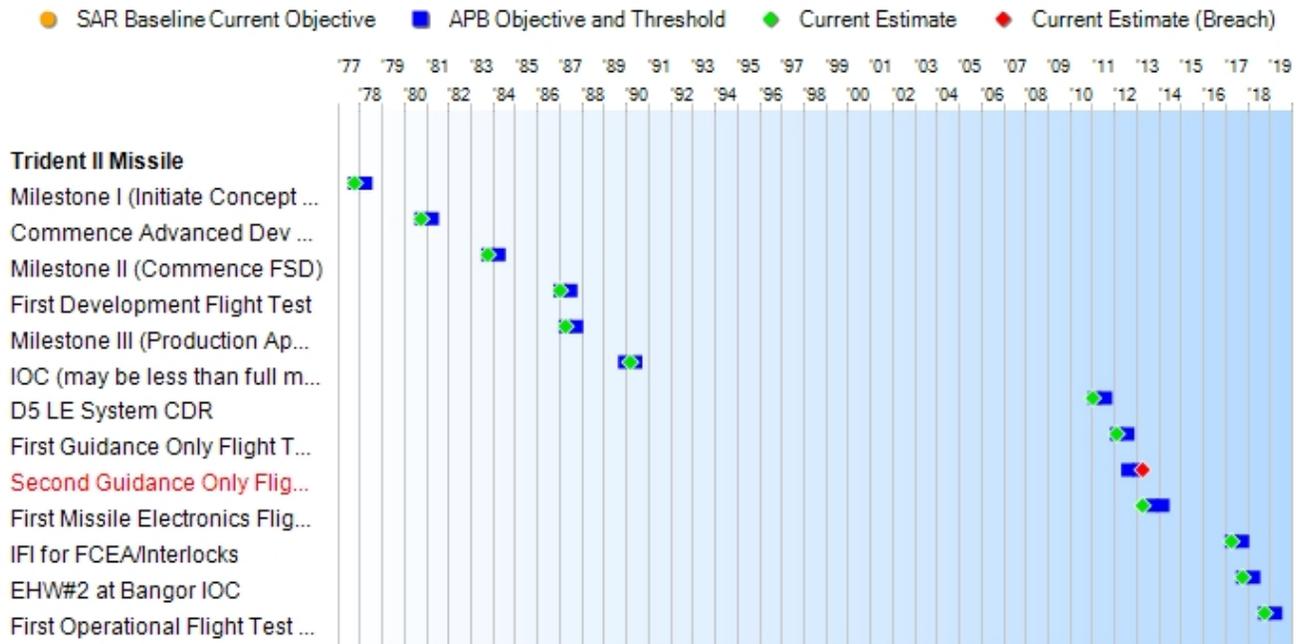
There are no significant software-related issues with this program at this time.

Threshold Breaches

APB Breaches		Explanation of Breach	
Schedule	<input checked="" type="checkbox"/>	The schedule breach was previously reported in the December 2012 and 2013 SARs. The Second Guidance Only Flight Test Demonstration/Demonstration Shakedown Operation-24 was achieved in April 2013. Therefore, no APB will be submitted to clear this breach.	
Performance	<input type="checkbox"/>		
Cost	RDT&E		<input type="checkbox"/>
	Procurement		<input type="checkbox"/>
	MILCON		<input type="checkbox"/>
	Acq O&M		<input type="checkbox"/>
O&S Cost	<input type="checkbox"/>		
Unit Cost	PAUC		<input type="checkbox"/>
	APUC	<input type="checkbox"/>	

Nunn-McCurdy Breaches		
Current UCR Baseline		
	PAUC	None
	APUC	None
Original UCR Baseline		
	PAUC	None
	APUC	None

Schedule



Schedule Events				
Events	SAR Baseline Production Estimate	Current APB Production Objective/Threshold	Current Estimate	
Milestone I (Initiate Concept Definition)	Oct 1977	Oct 1977	Apr 1978	Oct 1977
Commence Advanced Dev Phase	Oct 1980	Oct 1980	Apr 1981	Oct 1980
Milestone II (Commence FSD)	Oct 1983	Oct 1983	Apr 1984	Oct 1983
First Development Flight Test	Jan 1987	Jan 1987	Jul 1987	Jan 1987
Milestone III (Production Approval)/ Award Initial Missile Production	Apr 1987	Apr 1987	Oct 1987	Apr 1987
IOC (may be less than full msl outload)	Dec 1989	Dec 1989	Jun 1990	Mar 1990
D5 LE System CDR	N/A	Feb 2011	Aug 2011	Jan 2011
First Guidance Only Flight Test (DASO-23)	N/A	Feb 2012	Aug 2012	Feb 2012
Second Guidance Only Flight Test (DASO-24)	N/A	Aug 2012	Feb 2013	Apr 2013¹
First Missile Electronics Flight Test (PTM-1/DASO-25)	N/A	Sep 2013	Mar 2014	Apr 2013
IFI for FCEA/Interlocks	N/A	Apr 2017	Oct 2017	Apr 2017
EHW#2 at Bangor IOC	N/A	Oct 2017	Apr 2018	Oct 2017
First Operational Flight Test (CET)	N/A	Oct 2018	Apr 2019	Oct 2018

¹ APB Breach

Change Explanations

None

Acronyms and Abbreviations

CDR - Critical Design Review
CET - Commander Evaluation Test
DASO - Demonstration and Shakedown Operation
Dev - Development
EHW - Explosive Handling Wharf
FCEA - Flight Control Electronics Assembly
FSD - Full Scale Development
IFI - Initial Fleet Introduction
msl - missile
PTM - Proofing Test Missile

Performance

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

Track to Budget

General Notes

The funding profile for Proc (Weapons Proc, Navy (WPN)) does not match that found in the FY 2016 PB controls for WPN after FY 2011. Beginning in FY 2012, WPN funding is shared between Acquisition and O&S costs in the SAR and, hence, the O&S costs are not reflected in the TRIDENT II (D5) missile acquisition.

RDT&E

Appn	BA	PE	
Navy	1319 07	0101221N	
	Project	Name	
	0951	JOINT WARHEAD FUZE SUSTAINMENT PROGRAM	
Navy	1319 04	0603371N	
	Project	Name	
	0951	TRIDENT II/TRIDENT II	(Sunk)
Navy	1319 04	0604327N	
	Project	Name	
	9611	HARD AND DEEPLY BURIED TARGET DEFEAT SYSTEM/Advanced Conventional Strike Capability Demonstration	(Sunk)
Navy	1319 04	0604363N	
	Project	Name	
	0951	TRIDENT II/TRIDENT II	(Sunk)

Procurement

Appn	BA	PE	
Navy	1507 01	0101228N	
	Line Item	Name	
	1150	TRIDENT II (D-5) Missile	(Sunk)
	1250	TRIDENT MODS	(Shared)

Notes

The funding profile for Proc (Weapons Proc, Navy (WPN)) does not match that found in the FY 2016 PB controls for WPN after FY 2011. Beginning in FY 2012, WPN funding is shared between Acquisition and O&S costs in the SAR and, hence, the O&S costs are not reflected in the TRIDENT II (D5) missile acquisition.

MILCON

Appn	BA	PE	
Navy	1205 01	0202576N	
	Project	Name	
		Facilities Restoration and MOD- Grounds	(Shared) (Sunk)

Navy	1205	01	0203176N
	Project	Name	
		Facilities Restoration and MOD- Fleet Ops (Shared) (Sunk)	
Navy	1205	01	0212176N
	Project	Name	
	68436990	Fleet Ballistic Missile	
Navy	1205	01	0212576N
	Project	Name	
		Facilities New Footprint (Shared) (Sunk)	
Navy	1205	01	0703676N
	Project	Name	
		Facility Restoration and MOD - Maint and Prod (Shared) (Sunk)	
Navy	1205	01	0712876N
	Project	Name	
	60495822	Facilities - New Footprint- Main and Production	
Navy	1205	01	0805976N
	Project	Name	
		Facility Restoration and MOD - Training (Shared) (Sunk)	

Cost and Funding

Cost Summary

Total Acquisition Cost							
Appropriation	BY 1983 \$M			BY 1983 \$M	TY \$M		
	SAR Baseline Production Estimate	Current APB Production Objective/Threshold		Current Estimate	SAR Baseline Production Estimate	Current APB Production Objective	Current Estimate
RDT&E	8434.9	8783.9	9662.3	8814.8	9453.2	10126.0	10206.5
Procurement	17588.5	18406.7	20247.4	18210.6	25396.9	30643.5	30464.1
Flyaway	--	--	--	14012.2	--	--	23542.2
Recurring	--	--	--	14012.2	--	--	23542.2
Non Recurring	--	--	--	0.0	--	--	0.0
Support	--	--	--	4198.4	--	--	6921.9
Other Support	--	--	--	4174.8	--	--	6886.5
Initial Spares	--	--	--	23.6	--	--	35.4
MILCON	532.9	757.6	833.4	633.4	668.4	1220.3	987.7
Acq O&M	0.0	0.0	--	0.0	0.0	0.0	0.0
Total	26556.3	27948.2	N/A	27658.8	35518.5	41989.8	41658.3

Confidence Level

Confidence Level of cost estimate for current APB: 50%

TRIDENT II D-5 is currently in the process of reconciling the program office estimate with our Internal Independent Cost Estimate (IICE). Costs are being compared at the point estimate which is approximately 17 to 18% and are making a comparison at the 50% estimate. The plan is to have this reconciliation completed in the near future.

Total Quantity			
Quantity	SAR Baseline Production Estimate	Current APB Production	Current Estimate
RDT&E		30	28
Procurement		815	533
Total		845	561

Cost and Funding

Funding Summary

Appropriation Summary									
FY 2016 President's Budget / December 2014 SAR (TY\$ M)									
Appropriation	Prior	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	To Complete	Total
RDT&E	9647.9	85.0	95.4	113.9	110.6	65.0	66.4	22.3	10206.5
Procurement	25557.1	657.3	613.1	655.6	629.2	672.8	718.0	961.0	30464.1
MILCON	837.6	83.8	0.0	0.0	0.0	66.3	0.0	0.0	987.7
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2016 Total	36042.6	826.1	708.5	769.5	739.8	804.1	784.4	983.3	41658.3
PB 2015 Total	36041.4	828.5	716.2	784.0	751.7	834.8	569.6	1145.4	41671.6
Delta	1.2	-2.4	-7.7	-14.5	-11.9	-30.7	214.8	-162.1	-13.3

Quantity Summary										
FY 2016 President's Budget / December 2014 SAR (TY\$ M)										
Quantity	Undistributed	Prior	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	To Complete	Total
Development	28	0	0	0	0	0	0	0	0	28
Production	0	533	0	0	0	0	0	0	0	533
PB 2016 Total	28	533	0	0	0	0	0	0	0	561
PB 2015 Total	28	533	0	0	0	0	0	0	0	561
Delta	0	0	0	0	0	0	0	0	0	0

Cost and Funding

Annual Funding By Appropriation

Annual Funding							
1319 RDT&E Research, Development, Test, and Evaluation, Navy							
Fiscal Year	Quantity	TY \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
1978	--	--	--	--	--	--	5.0
1979	--	--	--	--	--	--	5.0
1980	--	--	--	--	--	--	25.6
1981	--	--	--	--	--	--	96.7
1982	--	--	--	--	--	--	198.4
1983	--	--	--	--	--	--	351.0
1984	--	--	--	--	--	--	1447.3
1985	--	--	--	--	--	--	1982.6
1986	--	--	--	--	--	--	1942.3
1987	--	--	--	--	--	--	1565.3
1988	--	--	--	--	--	--	1029.7
1989	--	--	--	--	--	--	546.5
1990	--	--	--	--	--	--	169.5
1991	--	--	--	--	--	--	43.0
1992	--	--	--	--	--	--	2.2
1993	--	--	--	--	--	--	0.4
1994	--	--	--	--	--	--	--
1995	--	--	--	--	--	--	0.5
1996	--	--	--	--	--	--	0.3
1997	--	--	--	--	--	--	--
1998	--	--	--	--	--	--	--
1999	--	--	--	--	--	--	--
2000	--	--	--	--	--	--	--
2001	--	--	--	--	--	--	--
2002	--	--	--	--	--	--	--
2003	--	--	--	--	--	--	--
2004	--	--	--	--	--	--	--
2005	--	--	--	--	--	--	--
2006	--	--	--	--	--	--	--
2007	--	--	--	--	--	--	19.4
2008	--	--	--	--	--	--	--
2009	--	--	--	--	--	--	--
2010	--	--	--	--	--	--	14.0
2011	--	--	--	--	--	--	21.7
2012	--	--	--	--	--	--	41.5

2013	--	--	--	--	--	--	56.2
2014	--	--	--	--	--	--	83.8
2015	--	--	--	--	--	--	85.0
2016	--	--	--	--	--	--	95.4
2017	--	--	--	--	--	--	113.9
2018	--	--	--	--	--	--	110.6
2019	--	--	--	--	--	--	65.0
2020	--	--	--	--	--	--	66.4
2021	--	--	--	--	--	--	22.3
Subtotal	28	--	--	--	--	--	10206.5

Annual Funding 1319 RDT&E Research, Development, Test, and Evaluation, Navy							
Fiscal Year	Quantity	BY 1983 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
1978	--	--	--	--	--	--	7.2
1979	--	--	--	--	--	--	6.5
1980	--	--	--	--	--	--	30.1
1981	--	--	--	--	--	--	104.2
1982	--	--	--	--	--	--	203.1
1983	--	--	--	--	--	--	343.9
1984	--	--	--	--	--	--	1368.5
1985	--	--	--	--	--	--	1818.1
1986	--	--	--	--	--	--	1731.2
1987	--	--	--	--	--	--	1355.1
1988	--	--	--	--	--	--	862.6
1989	--	--	--	--	--	--	439.3
1990	--	--	--	--	--	--	130.9
1991	--	--	--	--	--	--	32.1
1992	--	--	--	--	--	--	1.6
1993	--	--	--	--	--	--	0.3
1994	--	--	--	--	--	--	--
1995	--	--	--	--	--	--	0.3
1996	--	--	--	--	--	--	0.2
1997	--	--	--	--	--	--	--
1998	--	--	--	--	--	--	--
1999	--	--	--	--	--	--	--
2000	--	--	--	--	--	--	--
2001	--	--	--	--	--	--	--
2002	--	--	--	--	--	--	--
2003	--	--	--	--	--	--	--
2004	--	--	--	--	--	--	--
2005	--	--	--	--	--	--	--
2006	--	--	--	--	--	--	--
2007	--	--	--	--	--	--	10.7
2008	--	--	--	--	--	--	--
2009	--	--	--	--	--	--	--
2010	--	--	--	--	--	--	7.4
2011	--	--	--	--	--	--	11.2
2012	--	--	--	--	--	--	21.0
2013	--	--	--	--	--	--	28.1
2014	--	--	--	--	--	--	41.4
2015	--	--	--	--	--	--	41.4
2016	--	--	--	--	--	--	45.6
2017	--	--	--	--	--	--	53.5

2018	--	--	--	--	--	--	50.9
2019	--	--	--	--	--	--	29.3
2020	--	--	--	--	--	--	29.4
2021	--	--	--	--	--	--	9.7
Subtotal	28	--	--	--	--	--	8814.8

Annual Funding 1507 Procurement Weapons Procurement, Navy							
Fiscal Year	Quantity	TY \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
1985	--	--	--	--	--	160.8	160.8
1986	--	--	--	--	--	508.4	508.4
1987	21	1051.6	--	--	1051.6	295.2	1346.8
1988	66	1710.0	--	--	1710.0	323.5	2033.5
1989	66	1586.8	--	--	1586.8	252.2	1839.0
1990	41	1114.2	--	--	1114.2	286.4	1400.6
1991	52	1242.9	--	--	1242.9	269.5	1512.4
1992	28	817.6	--	--	817.6	279.3	1096.9
1993	21	719.6	--	--	719.6	258.5	978.1
1994	24	989.2	--	--	989.2	111.5	1100.7
1995	18	606.5	--	--	606.5	58.9	665.4
1996	6	186.5	--	--	186.5	324.2	510.7
1997	7	209.1	--	--	209.1	108.1	317.2
1998	5	150.8	--	--	150.8	117.7	268.5
1999	5	189.3	--	--	189.3	126.4	315.7
2000	12	362.7	--	--	362.7	122.7	485.4
2001	12	355.2	--	--	355.2	81.9	437.1
2002	12	378.8	--	--	378.8	154.0	532.8
2003	12	553.5	--	--	553.5	19.5	573.0
2004	12	640.0	--	--	640.0	0.9	640.9
2005	5	612.9	--	--	612.9	102.4	715.3
2006	--	708.9	--	--	708.9	196.3	905.2
2007	--	766.7	--	--	766.7	147.4	914.1
2008	12	862.6	--	--	862.6	179.2	1041.8
2009	24	889.2	--	--	889.2	178.9	1068.1
2010	24	867.8	--	--	867.8	184.4	1052.2
2011	24	935.7	--	--	935.7	177.5	1113.2
2012	24	624.6	--	--	624.6	131.8	756.4
2013	--	420.6	--	--	420.6	180.7	601.3
2014	--	463.1	--	--	463.1	202.5	665.6
2015	--	454.0	--	--	454.0	203.3	657.3
2016	--	406.9	--	--	406.9	206.2	613.1
2017	--	423.1	--	--	423.1	232.5	655.6
2018	--	402.5	--	--	402.5	226.7	629.2
2019	--	458.1	--	--	458.1	214.7	672.8
2020	--	508.2	--	--	508.2	209.8	718.0
2021	--	351.7	--	--	351.7	88.0	439.7
2022	--	333.6	--	--	333.6	--	333.6
2023	--	150.0	--	--	150.0	--	150.0
2024	--	37.7	--	--	37.7	--	37.7

Subtotal	533	23542.2	--	--	23542.2	6921.9	30464.1
----------	-----	---------	----	----	---------	--------	---------

Annual Funding 1507 Procurement Weapons Procurement, Navy							
Fiscal Year	Quantity	BY 1983 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
1985	--	--	--	--	--	137.7	137.7
1986	--	--	--	--	--	420.7	420.7
1987	21	839.8	--	--	839.8	235.8	1075.6
1988	66	1314.1	--	--	1314.1	248.6	1562.7
1989	66	1173.3	--	--	1173.3	186.5	1359.8
1990	41	796.4	--	--	796.4	204.7	1001.1
1991	52	866.5	--	--	866.5	187.8	1054.3
1992	28	555.9	--	--	555.9	189.9	745.8
1993	21	480.5	--	--	480.5	172.6	653.1
1994	24	647.8	--	--	647.8	73.0	720.8
1995	18	390.9	--	--	390.9	38.0	428.9
1996	6	118.7	--	--	118.7	206.5	325.2
1997	7	131.8	--	--	131.8	68.2	200.0
1998	5	94.0	--	--	94.0	73.3	167.3
1999	5	116.5	--	--	116.5	77.8	194.3
2000	12	220.2	--	--	220.2	74.6	294.8
2001	12	213.0	--	--	213.0	49.1	262.1
2002	12	224.7	--	--	224.7	91.4	316.1
2003	12	321.8	--	--	321.8	11.3	333.1
2004	12	361.3	--	--	361.3	0.5	361.8
2005	5	336.7	--	--	336.7	56.3	393.0
2006	--	379.9	--	--	379.9	105.2	485.1
2007	--	402.2	--	--	402.2	77.3	479.5
2008	12	445.4	--	--	445.4	92.5	537.9
2009	24	452.6	--	--	452.6	91.1	543.7
2010	24	434.3	--	--	434.3	92.2	526.5
2011	24	459.3	--	--	459.3	87.1	546.4
2012	24	301.8	--	--	301.8	63.7	365.5
2013	--	200.1	--	--	200.1	86.0	286.1
2014	--	216.9	--	--	216.9	94.9	311.8
2015	--	209.1	--	--	209.1	93.6	302.7
2016	--	184.0	--	--	184.0	93.3	277.3
2017	--	187.7	--	--	187.7	103.2	290.9
2018	--	175.1	--	--	175.1	98.6	273.7
2019	--	195.4	--	--	195.4	91.6	287.0
2020	--	212.5	--	--	212.5	87.7	300.2
2021	--	144.2	--	--	144.2	36.1	180.3
2022	--	134.1	--	--	134.1	--	134.1
2023	--	59.1	--	--	59.1	--	59.1
2024	--	14.6	--	--	14.6	--	14.6

Subtotal	533	14012.2	--	--	14012.2	4198.4	18210.6
----------	-----	---------	----	----	---------	--------	---------

Cost Quantity Information		
1507 Procurement Weapons Procurement, Navy		
Fiscal Year	Quantity	End Item Recurring Flyaway (Aligned With Quantity) BY 1983 \$M
1985	--	--
1986	--	--
1987	21	737.5
1988	66	1068.2
1989	66	927.3
1990	41	796.4
1991	52	901.9
1992	28	541.8
1993	21	480.5
1994	24	647.8
1995	18	390.9
1996	6	118.7
1997	7	131.9
1998	5	94.0
1999	5	116.5
2000	12	220.4
2001	12	213.1
2002	12	224.7
2003	12	321.8
2004	12	779.6
2005	5	827.3
2006	--	--
2007	--	--
2008	12	628.9
2009	24	1015.2
2010	24	1163.1
2011	24	997.5
2012	24	667.2
2013	--	--
2014	--	--
2015	--	--
2016	--	--
2017	--	--
2018	--	--
2019	--	--
2020	--	--
2021	--	--
2022	--	--
2023	--	--

	2024	--	--
	Subtotal	533	14012.2

Annual Funding 1205 MILCON Military Construction, Navy and Marine Corps	
Fiscal Year	TY \$M
	Total Program
1984	79.3
1985	82.4
1986	126.3
1987	21.0
1988	18.1
1989	15.4
1990	7.6
1991	70.5
1992	--
1993	--
1994	--
1995	--
1996	--
1997	--
1998	--
1999	--
2000	5.7
2001	1.1
2002	4.2
2003	7.2
2004	--
2005	--
2006	2.8
2007	--
2008	28.7
2009	--
2010	--
2011	--
2012	78.0
2013	264.4
2014	24.9
2015	83.8
2016	--
2017	--
2018	--
2019	66.3
Subtotal	987.7

Annual Funding 1205 MILCON Military Construction, Navy and Marine Corps	
Fiscal Year	BY 1983 \$M
	Total Program
1984	72.8
1985	73.4
1986	109.3
1987	17.6
1988	14.6
1989	12.0
1990	5.7
1991	51.3
1992	--
1993	--
1994	--
1995	--
1996	--
1997	--
1998	--
1999	--
2000	3.6
2001	0.7
2002	2.6
2003	4.3
2004	--
2005	--
2006	1.6
2007	--
2008	15.4
2009	--
2010	--
2011	--
2012	38.7
2013	129.2
2014	12.0
2015	39.6
2016	--
2017	--
2018	--
2019	29.0
Subtotal	633.4

Low Rate Initial Production

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

Foreign Military Sales

None

Nuclear Costs

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

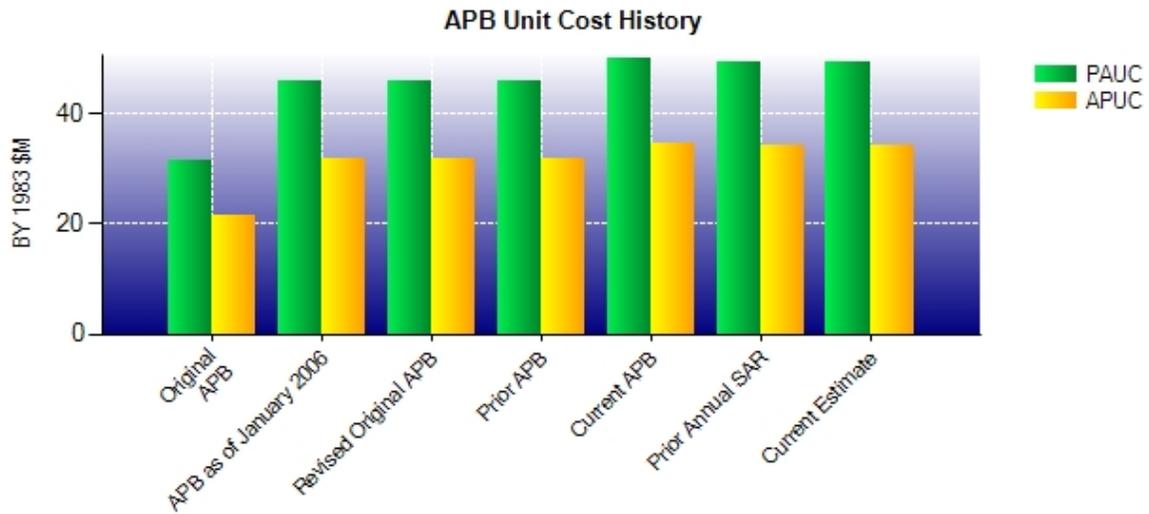
Unit Cost

Unit Cost Report

Item	BY 1983 \$M	BY 1983 \$M	% Change
	Current UCR Baseline (Sep 2011 APB)	Current Estimate (Dec 2014 SAR)	
Program Acquisition Unit Cost			
Cost	27948.2	27658.8	
Quantity	561	561	
Item	49.819	49.303	-1.04
Average Procurement Unit Cost			
Cost	18406.7	18210.6	
Quantity	533	533	
Unit Cost	34.534	34.166	-1.07

Item	BY 1983 \$M	BY 1983 \$M	% Change
	Revised Original UCR Baseline (Jun 2002 APB)	Current Estimate (Dec 2014 SAR)	
Program Acquisition Unit Cost			
Cost	25943.7	27658.8	
Quantity	568	561	
Unit Cost	45.676	49.303	+7.94
Average Procurement Unit Cost			
Cost	17155.2	18210.6	
Quantity	540	533	
Unit Cost	31.769	34.166	+7.55

Unit Cost History



Item	Date	BY 1983 \$M		TY \$M	
		PAUC	APUC	PAUC	APUC
Original APB	Jul 1987	31.428	21.581	42.034	31.162
APB as of January 2006	Jun 2002	45.676	31.769	66.098	51.266
Revised Original APB	Jun 2002	45.676	31.769	66.098	51.266
Prior APB	Jun 2002	45.676	31.769	66.098	51.266
Current APB	Sep 2011	49.819	34.534	74.848	57.492
Prior Annual SAR	Dec 2013	49.264	34.151	74.281	57.219
Current Estimate	Dec 2014	49.303	34.166	74.257	57.156

SAR Unit Cost History

Current SAR Baseline to Current Estimate (TY \$M)									
Initial PAUC Production Estimate	Changes								PAUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
42.034	-0.673	9.302	3.381	0.180	15.404	0.000	4.629	32.223	74.257

Current SAR Baseline to Current Estimate (TY \$M)									
Initial APUC Production Estimate	Changes								APUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
31.162	-0.652	3.971	3.215	0.175	14.413	0.000	4.872	25.994	57.156

SAR Baseline History				
Item	SAR Planning Estimate	SAR Development Estimate	SAR Production Estimate	Current Estimate
Milestone I	N/A	Oct 1977	Oct 1977	Oct 1977
Milestone II	N/A	Oct 1983	Oct 1983	Oct 1983
Milestone III	N/A	Mar 1987	Apr 1987	Apr 1987
IOC	N/A	Dec 1989	Dec 1989	Mar 1990
Total Cost (TY \$M)	N/A	37645.1	35518.5	41658.3
Total Quantity	N/A	740	845	561
PAUC	N/A	50.872	42.034	74.257

Cost Variance

Summary TY \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Production Estimate)	9453.2	25396.9	668.4	35518.5
Previous Changes				
Economic	-26.5	-302.3	+7.2	-321.6
Quantity	-48.0	-6671.1	--	-6719.1
Schedule	+75.3	+1713.6	+108.0	+1896.9
Engineering	-0.8	+93.1	+8.5	+100.8
Estimating	+714.4	+7632.0	+214.2	+8560.6
Other	--	--	--	--
Support	--	+2635.5	--	+2635.5
Subtotal	+714.4	+5100.8	+337.9	+6153.1
Current Changes				
Economic	-8.1	-45.0	-2.7	-55.8
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	+47.0	+49.9	-15.9	+81.0
Other	--	--	--	--
Support	--	-38.5	--	-38.5
Subtotal	+38.9	-33.6	-18.6	-13.3
Total Changes	+753.3	+5067.2	+319.3	+6139.8
CE - Cost Variance	10206.5	30464.1	987.7	41658.3
CE - Cost & Funding	10206.5	30464.1	987.7	41658.3

Summary BY 1983 \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Production Estimate)	8434.9	17588.5	532.9	26556.3
Previous Changes				
Economic	--	--	--	--
Quantity	-40.0	-3930.8	--	-3970.8
Schedule	+32.7	-32.2	+35.1	+35.6
Engineering	+1.3	+50.4	+4.2	+55.9
Estimating	+365.1	+3430.9	+68.0	+3864.0
Other	--	--	--	--
Support	--	+1095.9	--	+1095.9
Subtotal	+359.1	+614.2	+107.3	+1080.6
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	+20.8	+22.7	-6.8	+36.7
Other	--	--	--	--
Support	--	-14.8	--	-14.8
Subtotal	+20.8	+7.9	-6.8	+21.9
Total Changes	+379.9	+622.1	+100.5	+1102.5
CE - Cost Variance	8814.8	18210.6	633.4	27658.8
CE - Cost & Funding	8814.8	18210.6	633.4	27658.8

Previous Estimate: December 2013

RDT&E	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-8.1
Adjustment for current and prior escalation. (Estimating)	+0.8	+1.6
As a result of last year's Mk5A First Production Unit delay from December 2018 to December 2019 the program was re-baselined accordingly. (Estimating)	+20.0	+45.4
RDT&E Subtotal	+20.8	+38.9

Procurement	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-45.0
Adjustment for current and prior escalation. (Estimating)	+3.3	+6.5
Increase in Guidance Strategic Programs Alteration Kit component procurement for additional sensors required to meet inventory objectives and support the life of the program. (Estimating)	+19.4	+43.4
Decrease in Support due to a funding realignment to O&S efforts for the refresh and replacement of legacy support equipment necessary to support the life of the program. (Support)	-15.9	-41.4
Adjustment for current and prior escalation. (Support)	+1.1	+2.9
Procurement Subtotal	+7.9	-33.6

MILCON	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-2.7
Revised project estimates. (Estimating)	-7.8	-17.9
Adjustment for current and prior escalation. (Estimating)	+1.0	+2.0
MILCON Subtotal	-6.8	-18.6

Contracts

Contract Identification

Appropriation: Procurement
Contract Name: Guidance FY11 Omnibus
Contractor: Charles Stark Draper Laboratory
Contractor Location: 55 Technology Square
 Cambridge, MA 02139
Contract Number: N00030-11-C-0005
Contract Type: Cost Plus Incentive Fee (CPIF)
Award Date: December 28, 2010
Definitization Date: December 28, 2010

Contract Price

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
142.9	N/A	N/A	476.6	N/A	N/A	476.6	476.6

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to contract modifications which exercised the FY 2012, FY 2013, and FY 2014 option CLINs.

Contract Variance

Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (12/31/2014)	+5.7	-1.5
Previous Cumulative Variances	+5.1	-1.4
Net Change	+0.6	-0.1

Cost and Schedule Variance Explanations

The favorable net change in the cost variance is due to less than planned Program Management support activities performed by the contractor in FY 2013.

The unfavorable net change in the schedule variance is due to 1) Interferometric Fiber Optic Gyroscope Integrated Optics Chip studies; and 2) Alternate design Pendulous Integrating Gyroscopic Accelerometer plan and action and milestones and Information Assurance alignment.

Contract Identification

Appropriation: Procurement
Contract Name: Guidance FY 11 Production
Contractor: Charles Stark Draper Laboratory
Contractor Location: 55 Technology Square
 Cambridge, MA 02139
Contract Number: N00030-11-C-0014
Contract Type: Fixed Price Incentive(Firm Target) (FPIF), Firm Fixed Price (FFP)
Award Date: February 10, 2011
Definitization Date: June 22, 2011

Contract Price							
Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
178.5	181.9	N/A	178.5	181.9	N/A	178.5	178.5

Contract Variance		
Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (12/31/2014)	+1.8	-1.3
Previous Cumulative Variances	+1.3	-0.9
Net Change	+0.5	-0.4

Cost and Schedule Variance Explanations

The favorable net change in the cost variance is due to less than planned program management support activities at the contractor.

The unfavorable net change in the schedule variance is due to High Accuracy Strategic Oscillator Radio Frequency power issues, but the variance is within thresholds.

Notes

Current Contract Ceiling Price contains both the FPIF and FFP efforts. FFP efforts are not included in the variance data reported above.

Contract Identification

Appropriation: Procurement
Contract Name: TRIDENT II FY 11 P&DSS
Contractor: Lockheed Martin Space Systems
Contractor Location: 1111 Lockheed Martin Way
 Sunnyvale, CA 94089
Contract Number: N00030-11-C-0100
Contract Type: Cost Plus Incentive Fee (CPIF), Cost Plus Fixed Fee (CPFF), Fixed Price Incentive(Firm Target) (FPIF)
Award Date: October 01, 2010
Definitization Date: August 16, 2011

Contract Price							
Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
922.6	541.0	N/A	967.1	541.0	N/A	967.1	967.1

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to definitized TRIDENT II (D5) Life Extension production efforts.

Contract Variance		
Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (7/27/2014)	+24.9	-9.5
Previous Cumulative Variances	+29.7	-13.6
Net Change	-4.8	+4.1

Cost and Schedule Variance Explanations

The unfavorable net change in the cost variance is due to 1) Delivery of materials and parts which were previously late in receipt; 2) Previous schedule delays led to some facility efforts extended beyond the projections; and 3) Costs expended to recover schedule for delivery of Test Missile Kit (TMK) Destruct Interlock/Destruct Acceleration Switch (DI/DAS) units.

The favorable net change in the schedule variance is due to 1) Schedule recovery for Portable Air Compressor supplier units being delivered; 2) Completion of several proofing tasks for the Post Boost Control System Gas Generator at the Strategic Weapons Facility, Atlantic; and 3) Schedule recovery for the manufacturing of TMK DI/DAS units.

Notes

The FY 2011 P&DSS contract specifies a ceiling price that applies to the Fixed Price Incentive Production CLIN only (Item 0001).

The last date that data was received for this contract was July 27, 2014. At that time, the reporting thresholds were exceeded.

This contract is more than 90% complete; therefore, this is the final report for this contract.

Contract Identification

Appropriation: Procurement
Contract Name: Guidance FY12 Production
Contractor: Charles Stark Draper Laboratory
Contractor Location: 55 Technology Square
 Cambridge, MA 02139
Contract Number: N00030-12-C-0005
Contract Type: Fixed Price Incentive(Firm Target) (FPIF), Firm Fixed Price (FFP)
Award Date: May 04, 2012
Definitization Date: May 04, 2012

Contract Price							
Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
236.7	241.5	652	236.7	241.5	651	236.7	236.7

Contract Variance		
Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (12/31/2014)	-1.1	-7.4
Previous Cumulative Variances	+1.5	-2.4
Net Change	-2.6	-5.0

Cost and Schedule Variance Explanations

The unfavorable net change in the cost variance is due to manufacturing start-up challenges and increased oversight and management support.

The unfavorable net change in the schedule variance is due to 1) Life of Type buys delayed; 2) delay in final performance billing milestone due to backplane redesign; and 3) Application Specific Integrated Circuit assembly delivery delays.

Contract Identification

Appropriation: Procurement
Contract Name: TRIDENT II FY12 P&DSS
Contractor: Lockheed Martin Space Systems
Contractor Location: 1111 Lockheed Martin Way
 Sunnyvale, CA 94089
Contract Number: N00030-12-C-0100
Contract Type: Cost Plus Incentive Fee (CPIF), Cost Plus Fixed Fee (CPFF), Fixed Price Incentive(Firm Target) (FPIF)
Award Date: October 01, 2011
Definitization Date: December 16, 2011

Contract Price							
Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
334.7	590.7	N/A	1134.8	590.7	N/A	1134.8	1134.8

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to contract definitization and the exercising of options.

Contract Variance			
Item	Cost Variance		Schedule Variance
Cumulative Variances To Date (12/31/2014)	+34.1		-13.5
Previous Cumulative Variances	+33.1		-12.2
Net Change	+1.0		-1.3

Cost and Schedule Variance Explanations

The favorable net change in the cost variance is due to 1) Factory Management Team services and Test Missile Kit efforts diverted to support higher priorities on D5 Life Extension (LE); 2) Missile Body acquisition low dollar value material has not been delivered as planned, which have minimal impact on inventory; 3) Performance efficiencies and minimal missile issues and repairs required to date at Strategic Weapons Facility, Pacific; and 4) Production services for advanced procurement and shelf life efforts diverted to support higher priorities on D5 LE to meet fabrication, assembly and test schedule goals.

The unfavorable net change in the schedule variance is due to 1) Destruct Initiation Unit and flight termination receiver unit delivery delays; and 2) Servoactuator delivery delays due to Vendor Request for Information or Change.

Notes

The FY 2012 P&DSS contract specifies a ceiling price that applies to the Fixed Price Incentive Production CLIN only (Item 0001).

Contract Identification

Appropriation: Procurement
Contract Name: Guidance FY13 SPALT
Contractor: Charles Stark Draper Laboratory
Contractor Location: 55 Technology Square
 Cambridge, MA 02139
Contract Number: N00030-13-C-0007
Contract Type: Fixed Price Incentive(Firm Target) (FPIF)
Award Date: March 08, 2013
Definitization Date: March 08, 2013

Contract Price							
Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
252.8	257.8	651	257.8	263.1	651	257.8	257.8

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to last year's data only reflected only Cost for all CLINs when, in fact, the data should have reflected Cost plus Fee. This year the data is reflecting Cost plus Fee.

Contract Variance		
Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (12/31/2014)	-0.3	-1.9
Previous Cumulative Variances	+0.5	+0.1
Net Change	-0.8	-2.0

Cost and Schedule Variance Explanations

The unfavorable net change in the cost variance is due to increased program management and oversight efforts to manage the FY 2013 launches as a result of the Application Specific Integrated Circuit discoloration.

The unfavorable net change in the schedule variance is due to delayed High Accuracy Strategic Oscillator (HASO)/Transient Measurement Timer procurement. Delays in HASO production in FYs 2009 and 2010 have been resolved but resulted in production impacts to follow-on contracts.

Contract Identification

Appropriation: Procurement
Contract Name: TRIDENT II FY13 P&DSS
Contractor: Lockheed Martin Space Systems
Contractor Location: 1111 Lockheed Martin Way
 Sunnyvale, CA 94089
Contract Number: N00030-12-C-0101
Contract Type: Cost Plus Incentive Fee (CPIF), Cost Plus Fixed Fee (CPFF), Fixed Price Incentive(Firm Target) (FPIF)
Award Date: October 01, 2012
Definitization Date: December 20, 2012

Contract Price							
Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
592.2	516.7	N/A	1661.9	516.7	N/A	1661.9	1661.9

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to contract definitization and the exercising of options.

Contract Variance			
Item	Cost Variance		Schedule Variance
Cumulative Variances To Date (12/31/2014)	+32.0		-9.3
Previous Cumulative Variances	+17.9		-7.1
Net Change	+14.1		-2.2

Cost and Schedule Variance Explanations

The favorable net change in the cost variance is due to 1) D5 Life Extension (LE) production support efforts and advanced part buys being delayed due to completing builds on previous production contracts; and 2) Delayed propulsion engineering production subcontract activity for igniter Strategic Program Alteration (SPALT) and refurbishment activities to accommodate the second stage SPALT conversion.

The unfavorable net change in the schedule variance is due to 1) Destruct Initiation Unit and the flight termination unit delivery delays; 2) Panel assembly and delivery delays due to required responses for Vendor Request for Information or Change; and 3) Propellant shipment delays due to a more thorough material inspection and acceptance by the prime contractor.

Notes

The FY 2013 P&DSS contract specifies a ceiling price that applies to the Fixed Price Incentive Production CLIN only (Item 0001).

Contract Identification

Appropriation: Procurement
Contract Name: TRIDENT II FY14 P&DSS
Contractor: Lockheed Martin Space Systems
Contractor Location: 1111 Lockheed Martin Way
 Sunnyvale, CA 94089
Contract Number: N00030-13-C-0100
Contract Type: Cost Plus Fixed Fee (CPFF), Fixed Price Incentive(Firm Target) (FPIF)
Award Date: September 17, 2013
Definitization Date: November 05, 2013

Contract Price							
Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
98.0	536.5	N/A	756.4	536.5	N/A	756.4	756.4

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to contract definitization and the exercising of options.

Contract Variance			
Item	Cost Variance		Schedule Variance
Cumulative Variances To Date (12/31/2014)	+17.7		-6.3
Previous Cumulative Variances	--		--
Net Change	+17.7		-6.3

Cost and Schedule Variance Explanations

The favorable cumulative cost variance is due to 1) Less than anticipated engineering efforts being required to support Systems Engineering, Integration and Test; 2) Connector parts delivery delays due to quality issues; 3) Less than anticipated production support effort due to completing builds on previous production contracts; and 4) Less than anticipated system support and operations efforts due to support resources being allocated to work previous FY contracts in addition to design and testing efficiencies being realized.

The unfavorable cumulative schedule variance is due to 1) Circuit Card Assemblies advanced parts buy being late to milestone deliveries and build due to prior year efforts; and 2) Delayed Flight Controls Electronics Assembly software design capture activity due to prioritization of Demonstration and Shake-Down Operations-25 reviews earlier in FY 2014.

Notes

This is the first time this contract is being reported.

The FY 2014 P&DSS contract specifies a ceiling price that applies to the Fixed Price Incentive Production CLIN only (Item 0001).

Deliveries and Expenditures

Deliveries				
Delivered to Date	Planned to Date	Actual to Date	Total Quantity	Percent Delivered
Development	28	28	28	100.00%
Production	425	425	533	79.74%
Total Program Quantity Delivered	453	453	561	80.75%

Expended and Appropriated (TY \$M)			
Total Acquisition Cost	41658.3	Years Appropriated	38
Expended to Date	34658.8	Percent Years Appropriated	80.85%
Percent Expended	83.20%	Appropriated to Date	36868.7
Total Funding Years	47	Percent Appropriated	88.50%

The above data is current as of January 31, 2015.

Operating and Support Cost

Cost Estimate Details

Date of Estimate:	February 10, 2015
Source of Estimate:	POE
Quantity to Sustain:	533
Unit of Measure:	Missile
Service Life per Unit:	43.00 Years
Fiscal Years in Service:	FY 2000 - FY 2042

Total missiles procured for the TRIDENT II (D5) missile program is 561. Of that number, 28 of those missiles were R&D missiles, with the remainder of 533 to be procured using Weapons Procurement, Navy (WPN) funding. For the purpose of Section 18, Strategic Systems Programs (SSP) only uses the number of 533 as our O&S costs begin in FY 2000 and ends in FY 2042. That time period would only cover the 533 procured missiles and would not support the 28 R&D missiles which were procured in the late 1980s prior to IOC in 1990.

While the TRIDENT II (D5) missile program will procure 533 WPN missiles there will never be a time when we will support a total of 533 missiles in a given year. Primarily, this is due to our flight test program as every year a certain number of missiles are tested for reliability and accuracy.

As stated above, the costs reflected in this section are for FYs 2000-2042. This is due to the fact that TRIDENT II (D5) missile did not have to establish an O&S APB or report O&S costs. FY 2000 was the first year that SSP was required to begin showing O&S costs for TRIDENT II (D5) missile in its SAR.

Annual O&S Costs are broken down into these categories:

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

Sustaining Support: Provides for the sustainment of the TRIDENT II (D5) missiles SWS to include Shipboard System Integration efforts, replacement of aging rocket motors, tooling and test support 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 Missile and TRIDENT II (D5) facilities. The last year of funding for this effort was FY 2003.

Sustainment Strategy

With the collaboration of SSP and our 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 refresh schedule. A total of 533 TRIDENT II (D5) missiles will be 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 OHIO-Class Replacement Program.

The TRIDENT II (D5) missile SWS is completing its 25th 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 that those skill sets will be available for the follow-on OHIO-Class Replacement Program.

The TRIDENT II (D5) missile 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 were not required. At the request of the Assistant Secretary of the Navy for Research, Development & Acquisition, 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.

Antecedent Information

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.

Annual O&S Costs BY1983 \$M		
Cost Element	Trident II Missile Average Annual Cost Per Missile	TRIDENT I (C-4) (Antecedent) N/A
Unit-Level Manpower	--	--
Unit Operations	--	--
Maintenance	0.241	--
Sustaining Support	0.923	--
Continuing System Improvements	--	--
Indirect Support	0.004	--
Other	--	--
Total	1.168	--

Item	Total O&S Cost \$M		
	Trident II Missile		TRIDENT I (C-4) (Antecedent)
	Current Production APB Objective/Threshold	Current Estimate	
Base Year	N/A	N/A	26769.0
Then Year	N/A	N/A	64929.0

Equation to Translate Annual Cost to Total Cost

\$1.168M is the total average O&S cost per missile per year (in BY \$).

\$1.168M x 533 missiles = \$622.544M as the total average O&S costs for all missiles per year (in BY \$).

\$622,544M x 43 years = \$26,769M as the total cost of O&S costs for all missiles from FY 2000-FY 2042 (in BY \$).

O&S Cost Variance

Category	BY 1983 \$M	Change Explanations
Prior SAR Total O&S Estimates - Dec 2013 SAR	26265.0	
Programmatic/Planning Factors	504.0	O&S sustaining support increases are due to a program review which resulted in the following impacts: 1) Requirement for a second missile control center digital trainer at Trident Training Facility, Bangor; 2) Increases in O&M performance evaluation, reliability maintenance, and accuracy maintenance in order to ensure the necessary technical expertise and industrial base to support the life of the weapon system; 3) Support required to support Missile Control Center trainers at the Trident Training Facilities; and 4) Additional personnel required to support the Navy's Nuclear Weapons Community Management responsibilities.
Cost Estimating Methodology	0.0	
Cost Data Update	0.0	
Labor Rate	0.0	
Energy Rate	0.0	
Technical Input	0.0	
Other	0.0	
Total Changes	504.0	
Current Estimate	26769.0	

O&S support increased from \$26,265M (BY\$) to \$26,769M (BY\$), for a change of \$504M from the previous SAR. Procurement, Navy O&S sustaining support increases are due to the need for a second missile control center digital trainer at Trident Training Facility, Bangor, as well as refreshes and replacement of legacy support equipment. Operations and Maintenance, Navy sustaining support and maintenance increases are due to Operational Engineering Support increases in the areas of performance evaluation, reliability maintenance and accuracy thus ensuring the necessary technical expertise and industrial base in order to maintain the sea-based strategic deterrent demonstrated safety, reliability, and accuracy and it's unique technologies through the entire life of the OHIO Class and as the initial payload for the OHIO Class Replacement Program. Other increases in O&M sustaining are due to the costs of additional Missile Control Center trainers at both Trident Training Facilities. Additional personnel are required to support the management of the Navy's Nuclear Weapons Community program which requires additional acquisition management and technical support.

Disposal Estimate Details

Date of Estimate: February 10, 2015
Source of Estimate: POE
Disposal/Demilitarization Total Cost (BY 1983 \$M): Total costs for disposal of all Missile are 124.7

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 OHIO-Class Replacement Program. The costs displayed in this section reflect infrastructure costs required for maintaining a disposal program.