



## 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 2015 President's Budget

Defense Acquisition Management  
Information Retrieval  
(DAMIR)

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## Common Acronyms and Abbreviations

Acq O&M - Acquisition-Related Operations and Maintenance  
APB - Acquisition Program Baseline  
APPN - Appropriation  
APUC - Average Procurement Unit Cost  
BA - Budget Authority/Budget Activity  
BY - Base Year  
DAMIR - Defense Acquisition Management Information Retrieval  
Dev Est - Development Estimate  
DoD - Department of Defense  
DSN - Defense Switched Network  
Econ - Economic  
Eng - Engineering  
Est - Estimating  
FMS - Foreign Military Sales  
FY - Fiscal Year  
IOC - Initial Operational Capability  
\$K - Thousands of Dollars  
LRIP - Low Rate Initial Production  
\$M - Millions of Dollars  
MILCON - Military Construction  
N/A - Not Applicable  
O&S - Operating and Support  
Oth - Other  
PAUC - Program Acquisition Unit Cost  
PB - President's Budget  
PE - Program Element  
Proc - Procurement  
Prod Est - Production Estimate  
QR - Quantity Related  
Qty - Quantity  
RDT&E - Research, Development, Test, and Evaluation  
SAR - Selected Acquisition Report  
Sch - Schedule  
Spt - Support  
TBD - To Be Determined  
TY - Then Year  
UCR - Unit Cost Reporting

## Program Information

**Program Name**

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

**DoD Component**

Navy

## Responsible Office

**Responsible Office**

VADM Terry Benedict  
Strategic Systems Programs  
1250-10th Street, SE  
Suite 3600; Washington Navy Yard  
Washington, DC 20374-5127  
[SP00@SSP.NAVY.MIL](mailto:SP00@SSP.NAVY.MIL)

**Phone** 202-433-7001  
**Fax** 202-433-5326  
**DSN Phone** 288-7001  
**DSN Fax** 288-5326

**Date Assigned** May 7, 2010

## 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 (US) strategic deterrence by providing a survivable sea-based system capable of engaging the full spectrum of potential targets. It enhances the US 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 Program Manager 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. The significant change from the FY 2012 SAR is a restructure of the Mk6 Life Extended (LE) Guidance System. There have been two successful flights of the Mk6 LE Guidance System.

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. In 2016, NASA plans to make a decision whether to choose liquid or solid propulsion systems for the next generation Space Launch Vehicles. If NASA were to decide upon the liquid propulsion option, 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

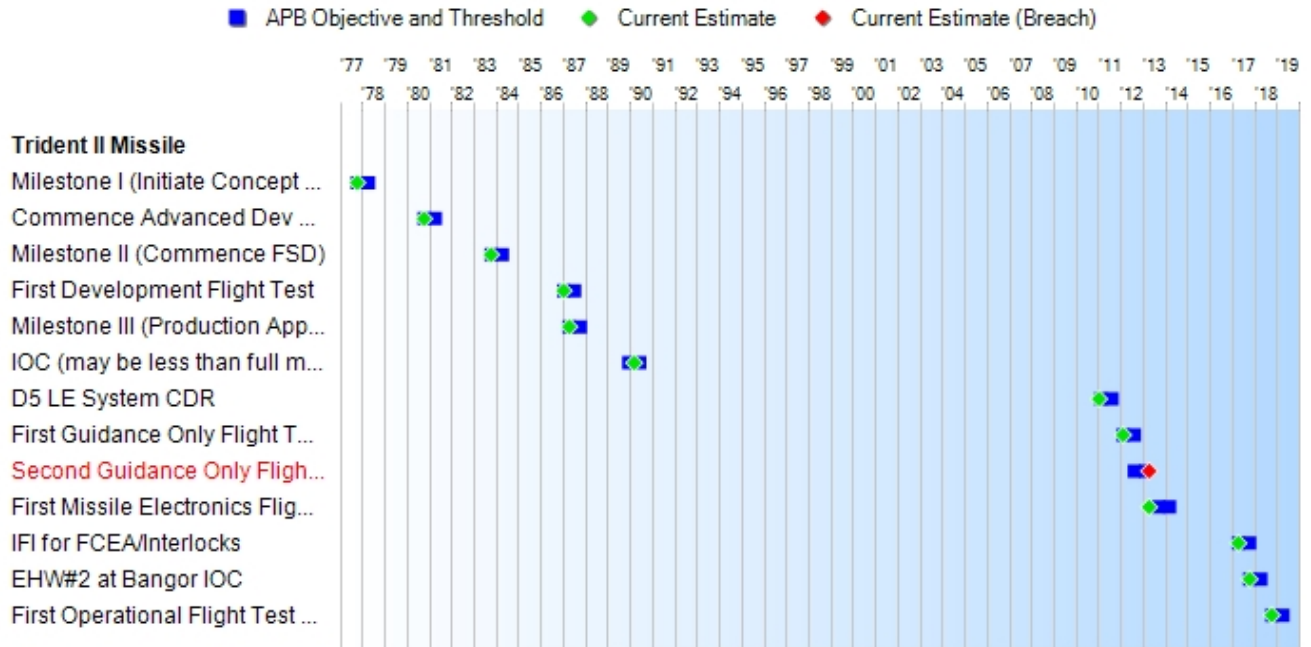
APB Breaches		
<b>Schedule</b>		<input checked="" type="checkbox"/>
<b>Performance</b>		<input type="checkbox"/>
<b>Cost</b>	RDT&E	<input type="checkbox"/>
	Procurement	<input type="checkbox"/>
	MILCON	<input type="checkbox"/>
	Acq O&M	<input type="checkbox"/>
<b>O&amp;S Cost</b>		<input type="checkbox"/>
<b>Unit Cost</b>	PAUC	<input type="checkbox"/>
	APUC	<input type="checkbox"/>

#### Explanation of Breach

The schedule breach was previously reported in the December 2012 SAR. The Second Guidance Only Flight Test Demonstration/Demonstration Shakedown Operation-24 was achieved April 2013. Therefore, no APB will be submitted to clear this breach.

Nunn-McCurdy Breaches		
<b>Current UCR Baseline</b>		
	PAUC	None
	APUC	None
<b>Original UCR Baseline</b>		
	PAUC	None
	APUC	None

### Schedule



Milestones	SAR Baseline Prod Est	Current APB Objective/Threshold	Current Estimate
Milestone I (Initiate Concept Definition)	OCT 1977	OCT 1977	APR 1978
Commence Advanced Dev Phase	OCT 1980	OCT 1980	APR 1981
Milestone II (Commence FSD)	OCT 1983	OCT 1983	APR 1984
First Development Flight Test	JAN 1987	JAN 1987	JUL 1987
Milestone III (Production Approval)/ Award Initial Missile Production	APR 1987	APR 1987	OCT 1987
IOC (may be less than full msl outload)	DEC 1989	DEC 1989	JUN 1990
D5 LE System CDR	N/A	FEB 2011	AUG 2011
First Guidance Only Flight Test (DASO-23)	N/A	FEB 2012	AUG 2012
Second Guidance Only Flight Test (DASO-24)	N/A	AUG 2012	FEB 2013
First Missile Electronics Flight Test (PTM-1/DASO-25)	N/A	SEP 2013	MAR 2014
IFI for FCEA/Interlocks	N/A	APR 2017	OCT 2017
EHW#2 at Bangor IOC	N/A	OCT 2017	APR 2018
First Operational Flight Test (CET)	N/A	OCT 2018	APR 2019

<sup>1</sup>APB Breach



**Change Explanations**

(Ch-1) DASO-24 current estimate changed from August 2012 to April 2013 due to the extension of the maintenance availability of the USS Pennsylvania (Ship, Submersible, Ballistic Missile, Nuclear Powered (SSBN - 735) and is not attributable to the TRIDENT II (D5) LE program. Further, the Program Manager was able to pull ahead the First Missile Electronics Flight Test (PTM-1) flight that had been previously scheduled for DASO-25 (September 2013) so that it was able to occur as part of DASO-24. As a result of that action, DASO-25 no longer needs to be included in the TRIDENT II (D5) LE milestones as a significant event prior to TRIDENT II (D5) LE IFI.

(Ch-2) As a result of the DASO-24 current estimate being changed from August 2012 to April 2013 due to the extension of the maintenance availability of the USS Pennsylvania (SSBN-735), the Program Manager was able to pull ahead the First Missile Electronics Flight Test (PTM-1) flight that had been previously scheduled for DASO-25 (September 2013) so that it was able to occur as part of DASO-24. As a result of that action, DASO-25 no longer needs to be included in the TRIDENT II (D5) LE milestones as a significant event prior to TRIDENT II (D5) LE IFI.

**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  
TRIDENT II (D5) LE - TRIDENT II (D5) Life Extension

## Performance

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

**Track to Budget**

**RDT&E**

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

**Procurement**

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

The funding profile for Proc (Weapons Proc, Navy (WPN)) does not match that found in the FY 2015 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
	<b>Project</b>		<b>Name</b>
			Facilities Restoration and MOD-Grounds (Shared) (Sunk)
Navy	1205	01	0203176N

			<b>Project</b>	<b>Name</b>		
				Facilities Restoration and MOD-Fleet Ops	(Shared)	(Sunk)
Navy	1205	01		0212176N		
			<b>Project</b>	<b>Name</b>		
				Fleet Ballistic Missile	(Shared)	
			<b>Notes:</b>	(Projects 618, 882, 903, 913, and 990)		
Navy	1205	01		0212576N		
			<b>Project</b>	<b>Name</b>		
				Facilities New Footprint	(Shared)	(Sunk)
Navy	1205	01		0703676N		
			<b>Project</b>	<b>Name</b>		
				Facility Restoration and MOD - Maint and Prod	(Shared)	(Sunk)
Navy	1205	01		0805976N		
			<b>Project</b>	<b>Name</b>		
				Facility Restoration and MOD - Training	(Shared)	(Sunk)

The funding for MILCON in the SAR does not match that reflected in the FY 2015 PB. TRIDENT II (D5) missile does not directly hold the funding for MILCON as that is managed by the Commander, Navy Installation Command and the Naval Facilities Engineering Command. The projects reflected here are those that directly impact TRIDENT II (D5) missile acquisition.

## Cost and Funding

### Cost Summary

#### Total Acquisition Cost and Quantity

Appropriation	BY1983 \$M			BY1983 \$M	TY \$M		
	SAR Baseline Prod Est	Current APB Production Objective/Threshold	Current Estimate		SAR Baseline Prod Est	Current APB Production Objective	Current Estimate
RDT&E	8434.9	8783.9	9662.3	8794.0	9453.2	10126.0	10167.6
Procurement	17588.5	18406.7	20247.4	18202.7	25396.9	30643.5	30497.7
Flyaway	--	--	--	13989.5	--	--	23524.5
Recurring	--	--	--	13989.5	--	--	23524.5
Non Recurring	--	--	--	0.0	--	--	0.0
Support	--	--	--	4213.2	--	--	6973.2
Other Support	--	--	--	4189.6	--	--	6937.8
Initial Spares	--	--	--	23.6	--	--	35.4
MILCON	532.9	757.6	833.4	640.2	668.4	1220.3	1006.3
Acq O&M	0.0	0.0	--	0.0	0.0	0.0	0.0
Total	26556.3	27948.2	N/A	27636.9	35518.5	41989.8	41671.6

Confidence Level for Current APB Cost 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.

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

## Cost and Funding

### Funding Summary

#### Appropriation and Quantity Summary FY2015 President's Budget / December 2013 SAR (TY\$ M)

Appropriation	Prior	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	To Complete	Total
RDT&E	9564.1	81.5	87.4	96.1	114.7	111.3	65.5	47.0	10167.6
Procurement	24891.5	666.7	657.3	620.1	669.3	640.4	684.4	1668.0	30497.7
MILCON	812.7	24.9	83.8	0.0	0.0	0.0	84.9	0.0	1006.3
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2015 Total	35268.3	773.1	828.5	716.2	784.0	751.7	834.8	1715.0	41671.6
PB 2014 Total	35332.8	772.8	872.4	766.8	785.4	775.5	645.3	1555.1	41506.1
Delta	-64.5	0.3	-43.9	-50.6	-1.4	-23.8	189.5	159.9	165.5

Quantity	Undistributed	Prior	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	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 2015 Total	28	533	0	0	0	0	0	0	0	561
PB 2014 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 TY\$

#### 1319 | RDT&E | Research, Development, Test, and Evaluation, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway TY \$M	Non End Item Recurring Flyaway TY \$M	Non Recurring Flyaway TY \$M	Total Flyaway TY \$M	Total Support TY \$M	Total Program TY \$M
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	--	--	--	--	--	--	81.5
2015	--	--	--	--	--	--	87.4
2016	--	--	--	--	--	--	96.1
2017	--	--	--	--	--	--	114.7
2018	--	--	--	--	--	--	111.3
2019	--	--	--	--	--	--	65.5
2020	--	--	--	--	--	--	24.0
2021	--	--	--	--	--	--	23.0
<b>Subtotal</b>	<b>28</b>	--	--	--	--	--	<b>10167.6</b>



**Annual Funding BY\$****1319 | RDT&E | Research, Development, Test, and Evaluation, Navy**

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway BY 1983 \$M</b>	<b>Non End Item Recurring Flyaway BY 1983 \$M</b>	<b>Non Recurring Flyaway BY 1983 \$M</b>	<b>Total Flyaway BY 1983 \$M</b>	<b>Total Support BY 1983 \$M</b>	<b>Total Program BY 1983 \$M</b>
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	--	--	--	--	--	--	28.0
2014	--	--	--	--	--	--	40.0
2015	--	--	--	--	--	--	42.1
2016	--	--	--	--	--	--	45.4
2017	--	--	--	--	--	--	53.1
2018	--	--	--	--	--	--	50.5
2019	--	--	--	--	--	--	29.1
2020	--	--	--	--	--	--	10.5
2021	--	--	--	--	--	--	9.8
<b>Subtotal</b>	<b>28</b>	--	--	--	--	--	<b>8794.0</b>

**Annual Funding TY\$**  
**1507 | Procurement | Weapons Procurement, Navy**

Fiscal Year	Quantity	End Item Recurring Flyaway TY \$M	Non End Item Recurring Flyaway TY \$M	Non Recurring Flyaway TY \$M	Total Flyaway TY \$M	Total Support TY \$M	Total Program TY \$M
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	--	464.1	--	--	464.1	202.6	666.7
2015	--	454.0	--	--	454.0	203.3	657.3
2016	--	413.3	--	--	413.3	206.8	620.1
2017	--	436.6	--	--	436.6	232.7	669.3
2018	--	389.8	--	--	389.8	250.6	640.4
2019	--	454.6	--	--	454.6	229.8	684.4
2020	--	431.3	--	--	431.3	114.3	545.6
2021	--	350.4	--	--	350.4	100.5	450.9
2022	--	331.2	--	--	331.2	94.4	425.6
2023	--	168.8	--	--	168.8	--	168.8
2024	--	77.1	--	--	77.1	--	77.1
<b>Subtotal</b>	<b>533</b>	<b>23524.5</b>	<b>--</b>	<b>--</b>	<b>23524.5</b>	<b>6973.2</b>	<b>30497.7</b>

**Annual Funding BY\$**  
**1507 | Procurement | Weapons Procurement, Navy**

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway BY 1983 \$M</b>	<b>Non End Item Recurring Flyaway BY 1983 \$M</b>	<b>Non Recurring Flyaway BY 1983 \$M</b>	<b>Total Flyaway BY 1983 \$M</b>	<b>Total Support BY 1983 \$M</b>	<b>Total Program BY 1983 \$M</b>
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	434.2	--	--	434.2	92.3	526.5
2011	24	459.0	--	--	459.0	87.1	546.1
2012	24	301.5	--	--	301.5	63.6	365.1
2013	--	199.7	--	--	199.7	85.8	285.5

2014	--	216.5	--	--	216.5	94.5	311.0
2015	--	207.8	--	--	207.8	93.1	300.9
2016	--	185.5	--	--	185.5	92.8	278.3
2017	--	192.1	--	--	192.1	102.4	294.5
2018	--	168.2	--	--	168.2	108.1	276.3
2019	--	192.3	--	--	192.3	97.2	289.5
2020	--	178.8	--	--	178.8	47.4	226.2
2021	--	142.4	--	--	142.4	40.9	183.3
2022	--	132.0	--	--	132.0	37.6	169.6
2023	--	66.0	--	--	66.0	--	66.0
2024	--	29.5	--	--	29.5	--	29.5
<b>Subtotal</b>	<b>533</b>	<b>13989.5</b>	<b>--</b>	<b>--</b>	<b>13989.5</b>	<b>4213.2</b>	<b>18202.7</b>

**Cost Quantity Information**  
**1507 | Procurement | Weapons Procurement, Navy**

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway (Aligned with Quantity) BY 1983 \$M</b>
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	644.5
2013	--	--
2014	--	--
2015	--	--
2016	--	--
2017	--	--
2018	--	--
2019	--	--
2020	--	--
2021	--	--
2022	--	--
2023	--	--
2024	--	--
<b>Subtotal</b>	<b>533</b>	<b>13989.5</b>



**Annual Funding TY\$**  
**1205 | MILCON | Military Construction,**  
**Navy and Marine Corps**

<b>Fiscal Year</b>	<b>Total Program TY \$M</b>
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	84.9
<b>Subtotal</b>	<b>1006.3</b>

**Annual Funding BY\$**  
**1205 | MILCON | Military Construction,**  
**Navy and Marine Corps**

<b>Fiscal Year</b>	<b>Total Program BY 1983 \$M</b>
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	38.6
2013	128.7

2014	11.9
2015	39.3
2016	--
2017	--
2018	--
2019	36.8
<b>Subtotal</b>	<b>640.2</b>

**Low Rate Initial Production**

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

## **Foreign Military Sales**

None

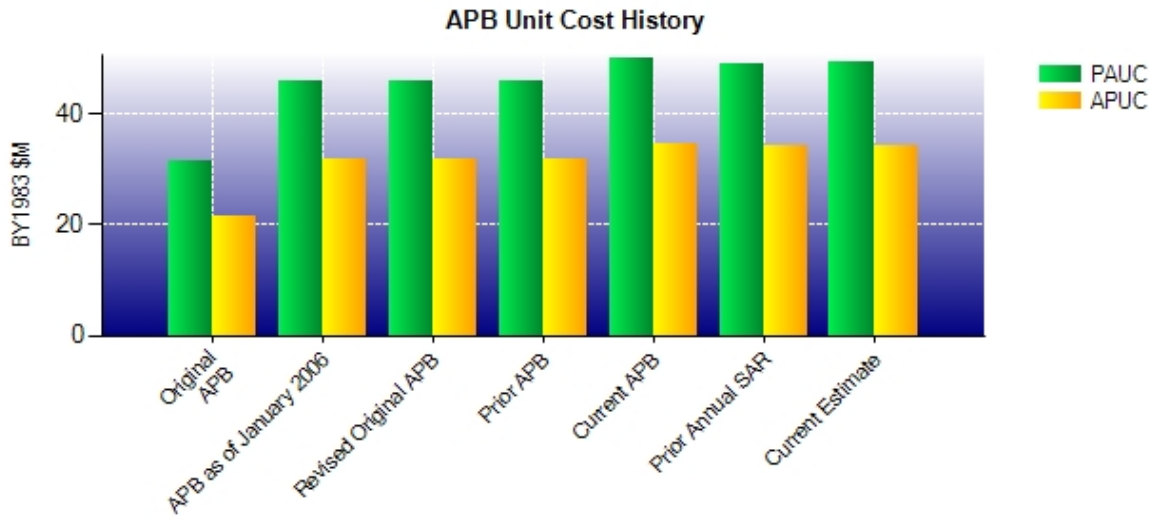
## **Nuclear Costs**

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

**Unit Cost****Unit Cost Report**

	<b>BY1983 \$M</b>	<b>BY1983 \$M</b>	
<b>Unit Cost</b>	<b>Current UCR Baseline (SEP 2011 APB)</b>	<b>Current Estimate (DEC 2013 SAR)</b>	<b>BY % Change</b>
<b>Program Acquisition Unit Cost (PAUC)</b>			
Cost	27948.2	27636.9	
Quantity	561	561	
Unit Cost	49.819	49.264	-1.11
<b>Average Procurement Unit Cost (APUC)</b>			
Cost	18406.7	18202.7	
Quantity	533	533	
Unit Cost	34.534	34.151	-1.11
	<b>BY1983 \$M</b>	<b>BY1983 \$M</b>	
<b>Unit Cost</b>	<b>Revised Original UCR Baseline (JUN 2002 APB)</b>	<b>Current Estimate (DEC 2013 SAR)</b>	<b>BY % Change</b>
<b>Program Acquisition Unit Cost (PAUC)</b>			
Cost	25943.7	27636.9	
Quantity	568	561	
Unit Cost	45.676	49.264	+7.86
<b>Average Procurement Unit Cost (APUC)</b>			
Cost	17155.2	18202.7	
Quantity	540	533	
Unit Cost	31.769	34.151	+7.50

### Unit Cost History



	Date	BY1983 \$M		TY \$M	
		PAUC	APUC	PAUC	APUC
<b>Original APB</b>	JUL 1987	31.428	21.581	42.034	31.162
<b>APB as of January 2006</b>	JUN 2002	45.676	31.769	66.098	51.266
<b>Revised Original APB</b>	JUN 2002	45.676	31.769	66.098	51.266
<b>Prior APB</b>	JUN 2002	45.676	31.769	66.098	51.266
<b>Current APB</b>	SEP 2011	49.819	34.534	74.848	57.492
<b>Prior Annual SAR</b>	DEC 2012	49.094	34.028	73.986	57.023
<b>Current Estimate</b>	DEC 2013	49.264	34.151	74.281	57.219

### SAR Unit Cost History

#### Current SAR Baseline to Current Estimate (TY \$M)

Initial PAUC Prod Est	Changes								PAUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
42.034	-0.573	9.301	3.381	0.180	15.260	0.000	4.698	32.247	74.281



## Current SAR Baseline to Current Estimate (TY \$M)

Initial APUC Prod Est	Changes								APUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
31.162	-0.567	3.970	3.215	0.175	14.319	0.000	4.945	26.057	57.219

## SAR Baseline History

Item/Event	SAR Planning Estimate (PE)	SAR Development Estimate (DE)	SAR Production Estimate (PdE)	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	41671.6
Total Quantity	N/A	740	845	561
Prog. Acq. Unit Cost (PAUC)	N/A	50.872	42.034	74.281

**Cost Variance**

<b>Summary Then Year \$M</b>				
	<b>RDT&amp;E</b>	<b>Proc</b>	<b>MILCON</b>	<b>Total</b>
SAR Baseline (Prod Est)	9453.2	25396.9	668.4	35518.5
Previous Changes				
Economic	-21.0	-238.3	+11.8	-247.5
Quantity	-48.0	-6671.1	--	-6719.1
Schedule	+70.0	+1790.1	+23.1	+1883.2
Engineering	-0.8	+93.1	+8.5	+100.8
Estimating	+713.0	+7409.1	+234.5	+8356.6
Other	--	--	--	--
Support	--	+2613.6	--	+2613.6
Subtotal	+713.2	+4996.5	+277.9	+5987.6
Current Changes				
Economic	-5.5	-64.0	-4.6	-74.1
Quantity	--	--	--	--
Schedule	+5.3	-76.5	+84.9	+13.7
Engineering	--	--	--	--
Estimating	+1.4	+222.9	-20.3	+204.0
Other	--	--	--	--
Support	--	+21.9	--	+21.9
Subtotal	+1.2	+104.3	+60.0	+165.5
Total Changes	+714.4	+5100.8	+337.9	+6153.1
CE - Cost Variance	10167.6	30497.7	1006.3	41671.6
CE - Cost & Funding	10167.6	30497.7	1006.3	41671.6

<b>Summary Base Year 1983 \$M</b>				
	<b>RDT&amp;E</b>	<b>Proc</b>	<b>MILCON</b>	<b>Total</b>
SAR Baseline (Prod Est)	8434.9	17588.5	532.9	26556.3
Previous Changes				
Economic	--	--	--	--
Quantity	-40.0	-3930.8	--	-3970.8
Schedule	+30.9	--	-1.7	+29.2
Engineering	+1.3	+50.4	+4.2	+55.9
Estimating	+364.4	+3342.9	+77.7	+3785.0
Other	--	--	--	--
Support	--	+1086.1	--	+1086.1
Subtotal	+356.6	+548.6	+80.2	+985.4
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	+1.8	-32.2	+36.8	+6.4
Engineering	--	--	--	--
Estimating	+0.7	+88.0	-9.7	+79.0
Other	--	--	--	--
Support	--	+9.8	--	+9.8
Subtotal	+2.5	+65.6	+27.1	+95.2
Total Changes	+359.1	+614.2	+107.3	+1080.6
CE - Cost Variance	8794.0	18202.7	640.2	27636.9
CE - Cost & Funding	8794.0	18202.7	640.2	27636.9

Previous Estimate: December 2012

<b>RDT&amp;E</b>	<b>\$M</b>	
<b>Current Change Explanations</b>	<b>Base Year</b>	<b>Then Year</b>
Revised escalation indices. (Economic)	N/A	-5.5
Mk5A First Production Unit (FPU) development stretched out from 2018 to 2019. (Schedule)	+1.8	+5.3
Adjustment for current and prior escalation. (Estimating)	+0.7	+1.4
<b>RDT&amp;E Subtotal</b>	<b>+2.5</b>	<b>+1.2</b>

<b>Procurement</b>	<b>\$M</b>	
<b>Current Change Explanations</b>	<b>Base Year</b>	<b>Then Year</b>
Revised escalation indices. (Economic)	N/A	-64.0
Adjustment for current and prior escalation. (Estimating)	+9.7	+19.8
Mk5A FPU procurement time compressed due to extension of development efforts from 2018 to 2019. (Schedule)	-32.2	-76.5
Guidance Strategic Programs Alteration Kit procurement was re-profiled to give up in the Future Year Defense Program to support higher priority Navy initiatives, thus reducing quantities in the earlier years. In order to meet original inventory objectives additional funding is required to keep production lines open for an extra two years. (Estimating)	+78.3	+203.1
Adjustment for current and prior escalation. (Support)	+3.0	+6.7
Increase in Other Support due to FY 2013 Sequestration reductions (\$+43.4) and refinement of prior estimates (\$-28.2). (Support)	+6.8	+15.2
<b>Procurement Subtotal</b>	<b>+65.6</b>	<b>+104.3</b>

<b>MILCON</b>	<b>\$M</b>	
<b>Current Change Explanations</b>	<b>Base Year</b>	<b>Then Year</b>
Revised escalation indices. (Economic)	N/A	-4.6
Shift of a Motor Transfer Facility project at the Utah Test and Training Range. (Schedule)	+36.8	+84.9
Revised project estimates for the Explosive Handling Wharf #2 project at the Strategic Weapons Facility, Pacific. (Estimating)	-11.5	-24.0
Adjustment for current and prior escalation. (Estimating)	+1.8	+3.7
<b>MILCON Subtotal</b>	<b>+27.1</b>	<b>+60.0</b>

## Contracts

### Appropriation: Procurement

Contract Name	<b>FY 2011 TRIDENT II Guidance</b>
Contractor	Charles Stark Draper Laboratory
Contractor Location	Cambridge, MA 02139
Contract Number, Type	N00030-11-C-0005, CPIF
Award Date	December 28, 2010
Definitization Date	December 28, 2010

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 Contract Line Item Numbers.

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date (2/28/2014)	+5.1	-1.4
Previous Cumulative Variances	+3.6	-1.2
Net Change	+1.5	-0.2

### Cost and Schedule Variance Explanations

The favorable net change in the cost variance is due to reductions in verification testing for the Electronics Assembly and the Inertial Measurement Unit configurations. These reductions were the result of a clearer understanding of design changes and risks, as well as greater than anticipated reuse of existing planning products in the qualification planning tasks.

The unfavorable net change in the schedule variance is due to a program directed decision to delay the MOD1 Flight Software release.

**Appropriation: Procurement**

Contract Name	<b>FY 2011 TRIDENT II Guidance Repair</b>
Contractor	Charles Stark Draper Laboratory
Contractor Location	Cambridge, MA 02139
Contract Number, Type	N00030-11-C-0014, FPIF/FFP
Award Date	February 10, 2011
Definitization Date	June 22, 2011

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

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date (2/28/2014)	+1.3	-0.9
Previous Cumulative Variances	+0.6	-0.8
Net Change	+0.7	-0.1

**Cost and Schedule Variance Explanations**

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

The unfavorable net change in the schedule variance is due to parts not being received as originally planned.

**Contract Comments**

Current Contract Ceiling Price contains both the Fixed Price Incentive Firm and Firm Fixed Price (FFP) efforts. FFP efforts are not included in the variance data reported above.

**Appropriation: Procurement**

Contract Name **FY 2011 Production and Deployed System Support (P&DSS)**  
 Contractor Lockheed Martin Space Systems  
 Contractor Location Sunnyvale, CA 94088  
 Contract Number, Type N00030-11-C-0100, CPIF/CPFF/FPIF  
 Award Date October 01, 2010  
 Definitization Date August 16, 2011

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.

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date (2/28/2014)	+29.7	-13.6
Previous Cumulative Variances	+16.4	-18.0
Net Change	+13.3	+4.4

**Cost and Schedule Variance Explanations**

The favorable net change in the cost variance is due to 1) Less required systems engineering support due to fewer issues than anticipated during missile processing; and 2) Delay in material deliveries of connectors and Flight Control chassis.

The favorable net change in the schedule variance is due to a recovery of third stage motor production delays, previously caused by a chamber insulator problem investigation and motor processing delays. Those delays have been resolved and are returning to the master schedule.

**Contract Comments**

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

**Appropriation: Procurement**

Contract Name **FY 2012 Production and Deployed System Support (P&DSS)**  
 Contractor Lockheed Martin Space Systems  
 Contractor Location Sunnyvale, CA 94088  
 Contract Number, Type N00030-12-C-0100, CPIF/CPFF/FPIF  
 Award Date October 01, 2011  
 Definitization Date December 16, 2011

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	1138.2	590.7	N/A	1138.2	1138.2

**Target Price Change Explanation**

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to contract modifications which added additional effort and manhours.

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date (2/28/2014)	+33.1	-12.2
Previous Cumulative Variances	+19.3	-5.1
Net Change	+13.8	-7.1

**Cost and Schedule Variance Explanations**

The favorable net change in the cost variance is due to 1) Delayed material purchase receipt of advance procurement material; 2) Reduced demand for support service resources due to a delayed start of an alteration and Post Boost Control System destruct manufacturing; 3) Delayed receipt of Linear Ordnance System non-labor piece parts; 4) Delay in material receipt for Interlocks and Flight Control chassis deliveries; 5) Delayed evaluation testing at the Strategic Weapons Facility, Atlantic due to late material receipt; 6) Third Stage (TS) motor storage delayed due to TS motor production recovery efforts and less staff support required due to reduced testing schedule pending receipt of material for testing; 7) Various facility modifications started late due to focus on completing prior year modifications; and 8) Less production support required than originally anticipated due to late hardware deliveries.

The unfavorable net change in the schedule variance is due to 1) Delayed delivery of Gas Generator hardware; 2) Destruct Initiation Unit on hold due to component failures during testing; 3) Destruct Inverter delays due to earlier shut down of the line which caused production delays through December 2013; 4) Gas Hydraulic Assembly delays due to subtier supplier issues; 5) Servoactuator delays due to continuing test stand issues and Vendor Request for Information or Change (VRIC) which have put deliveries on hold until VRIC is resolved; and 6) Delayed production of Test Missile Kit antenna manufacturing and test due to focus of efforts on prior contracts.

**Contract Comments**

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



**Appropriation: Procurement**

Contract Name	<b>FY 2012 TRIDENT II Guidance Repair</b>
Contractor	Charles Stark Draper Laboratory
Contractor Location	Cambridge, MA 02139
Contract Number, Type	N00030-12-C-0005, FPIF/FFP
Award Date	May 04, 2012
Definitization Date	May 04, 2012

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

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date (2/28/2014)	+1.5	-2.4
Previous Cumulative Variances	+0.5	+0.1
Net Change	+1.0	-2.5

**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 stopping Interferometric Fiber Optic Gyro assembly operations as a result of a technical problem with oxygen depletion in the fill gas causing a frequency response problem with an optoelectrical gyro part.

**Appropriation: Procurement**

Contract Name **FY 2013 TRIDENT II GUIDANCE**  
 Contractor Charles Stark Draper Laboratory  
 Contractor Location Cambridge, MA 02139  
 Contract Number, Type N00030-13-C-0007, FPIF  
 Award Date March 08, 2013  
 Definitization Date March 08, 2013

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	252.8	257.8	651	257.8	257.8

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date (2/28/2014)	+0.5	+0.1
Previous Cumulative Variances	--	--
Net Change	+0.5	+0.1

**Cost and Schedule Variance Explanations**

The favorable cumulative cost variance is due to lower than planned program management support activities by the contractor.

The favorable cumulative schedule variance is due to improved efficiencies in the program.

**Contract Comments**

This is the first time this contract is being reported.

**Appropriation: Procurement**

Contract Name **FY 2013 Production and Deployed System Support (P&DSS)**  
 Contractor Lockheed Martin Space Systems  
 Contractor Location Sunnyvale, CA 94088  
 Contract Number, Type N00030-12-C-0101, CPIF/CPFF/FPIF  
 Award Date October 01, 2012  
 Definitization Date December 20, 2012

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price at Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
592.2	N/A	N/A	1352.6	516.7	N/A	1352.6	1352.6

**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 exercise of options as funding became available.

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date (2/28/2014)	+17.9	-7.1
Previous Cumulative Variances	--	--
Net Change	+17.9	-7.1

**Cost and Schedule Variance Explanations**

The favorable cumulative cost variance is due to 1) Design Compliance Reports were completed more efficiently than anticipated as a result of leveraging available test data; and 2) Less than anticipated production support effort due to completing builds on previous production contracts;

The unfavorable cumulative schedule variance is due to 1) Delivery delays due to delays in testing as well as obsolete parts issues; 2) Circuit Card Assemblies advanced parts buy were late to milestone delivery and builds due to focus on prior year contract efforts; and 3) Delay of Small Reentry Inertial Measurement Unit parts arriving later than originally planned.

**Contract Comments**

This is the first time this contract is being reported.

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

## Deliveries and Expenditures

Delivered to Date	Plan 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	41671.6	Years Appropriated	37
Expended to Date	33731.5	Percent Years Appropriated	78.72%
Percent Expended	80.95%	Appropriated to Date	36041.4
Total Funding Years	47	Percent Appropriated	86.49%

The above data is current as of 2/28/2014.

## Operating and Support Cost

### Trident II Missile

#### Assumptions and Ground Rules

##### Cost Estimate Reference:

The Program Office estimate of O&S engineering costs was generated using a "bottoms-up" approach with expertise from each technical subsystem manager (missile, launcher, fire control, etc.). The in-house engineering team and their subsystem prime/support contractors work to generate an engineering rough order magnitude estimate, which also takes into account historical sustainment estimates.

##### Sustainment Strategy:

With the collaboration of Strategic Systems Program (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 (SSI) 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 Strategic Weapon System (SWS) for the OHIO-Class Replacement Program.

The TRIDENT II (D5) missile SWS is completing its 24th 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 current Program of Record is through FY 2042. TRIDENT II (D5) missile will be the initial SWS for the OHIO-Class Replacement program and, therefore, additional costs will be incurred.

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 Independent Cost Estimate 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.

Unitized O&S Costs BY1983 \$M		
Cost Element	Trident II Missile Average Annual Cost for all Missiles	TRIDENT I (C-4) (Antecedent) N/A
Unit-Level Manpower	0.000	0.000
Unit Operations	0.000	0.000
Maintenance	143.210	0.000
Sustaining Support	465.700	0.000
Continuing System Improvements	0.000	0.000
Indirect Support	1.900	0.000
Other	0.000	0.000
<b>Total</b>	<b>610.810</b>	<b>--</b>

Unitized Cost Comments:

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

Sustaining Support: Provides for the sustainment of the TRIDENT II (D5) missile SWS to include the SSI 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 in FY 2003.

Calculation of Costs is based upon FY 2000 being the first year of O&S costs with the program going out to FY 2042 (43 years). \$610.81(BY Average annual cost for all missiles)\*43 years = \$26,264.8 (26,265) (BY Current Estimate for O&S Costs).

	Total O&S Cost \$M			
	Current Production APB Objective/Threshold		Current Estimate	
	Trident II Missile		Trident II Missile	TRIDENT I (C-4) (Antecedent)
<b>Base Year</b>	N/A	N/A	26265.0	N/A
<b>Then Year</b>	N/A	N/A	62502.0	N/A

Total O&S Costs Comments:

O&S support decreased from \$26,330 Billion (BY\$) to \$26,265 Billion (BY\$), for a change of \$65 million from the December 2012 SAR. Other Procurement, Navy O&S sustaining support increases are due to additional software and hardware refreshes as part of the SSI program that are required for all 12 TRIDENT II (D5) hulls to be operational through FY 2042. Operations and Maintenance, Navy sustaining support and maintenance decreases are due to affordability reductions in reliability maintenance, problem investigation and resolution, root cause analysis, and Fleet Ballistic Missile maintenance.

O&S Cost Variance		
Category	Base Year	Change Explanation

	1983 \$M	
Prior SAR Total O&S Estimate December 2012	26,330	
Cost Estimating Methodology	0.0	
Cost Data Update	0.0	
Labor Rate	0.0	
Energy Rate	0.0	
Technical Input	0.0	
Programmatic/Planning Factors	-65.0	Affordability reductions in reliability maintenance, problem investigation and resolution, root cause analysis and Fleet Ballistic Missile maintenance.
Other	0.0	
Total Changes	-65.0	
Current Estimate	26,265.0	

#### Disposal Costs:

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.

The Then Year Disposal Costs = \$319.7M / Base Year = \$124.7M (Reflects costs for FYs 2009 through 2042).