



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 December 31, 2012

Defense Acquisition Management
Information Retrieval
(DAMIR)

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Program Information

Program Name

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

DoD Component

Navy

Responsible Office

Responsible Office

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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) Strategic Weapons System (SWS) program developed an improved Submarine Launched Ballistic Missile (SLBM) with greater accuracy and payload capability at equivalent ranges as compared to the TRIDENT I (C4) system. TRIDENT II enhances 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. TRIDENT II'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 (SSP) is executing in accordance with the production continuity procurement strategy approved by the Congress and the DoD.

The TRIDENT II (D5) missile is executing to the revised Acquisition Program Baseline (APB) that was approved and signed by the Assistant Secretary of the Navy (ASN) (Research, Development and Acquisition ((RD&A)) on September 10, 2011. The significant changes since the revised APB include refinement of the Joint Fuze Production estimates and realignment with current program schedule, and realignment of funding from Operating and Support (O&S) costs to fund the D5 LE program. In February 2012, the first Mk6 LE Guidance system was flight tested successfully.

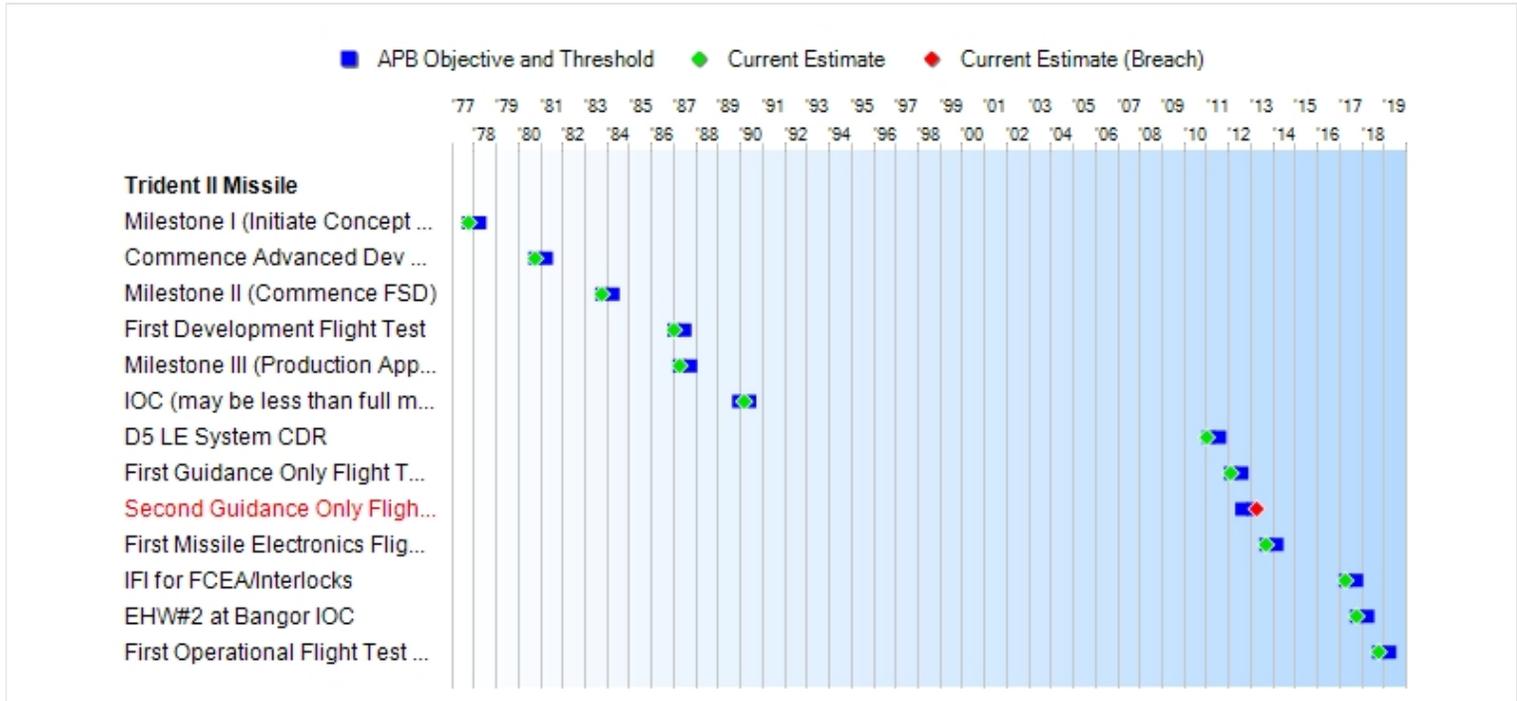
In the area of rocket motors and Post Boost Control System Gas Generators (PBCS GGs), the TRIDENT II (D5) missile program lowered the solid rocket motor unit cost from President's Budget 2013 as the Navy is actively engaged with Lockheed Martin and Alliant Tech Systems (ATK) to aggressively lower their 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 FY 2015, 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 in order to address age out concerns. Due to the high rate of D5 motor production in the early years of the program, a significant portion of the inventory will age out at the same time which will require the Navy to increase procurement quantities above the 12 motor sets per year.

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"/>	
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



Milestones	SAR Baseline Prod Est	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 2013 ¹ (Ch-1)
First Missile Electronics Flight Test (PTM-1/DASO-25)	N/A	SEP 2013	MAR 2014	SEP 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

¹APB Breach

Acronyms And Abbreviations

CDR - Critical Design Review
CET - Commander Evaluation Test
D5 LE - D5 Life Extension
DASO - Demonstration and Shakedown Operation
Dev - Development
EHW - Explosive Handling Wharf
FCEA - Flight Control Electronics Assembly
FSD - Full Scale Development
IFI - Initial Fleet Introduction
IOC - Initial Operational Capability
msl - missile
N/A - Not Applicable
PTM - Proofing Test Missile

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 D5 LE program.

Performance

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

Track To Budget**RDT&E**

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

Procurement

APPN 1507	BA 01	PE 0101228N	(Navy)
	ICN 1150	TRIDENT II (D-5) Missile	(Sunk)
	ICN 1250	TRIDENT MODS	(Shared)

The funding profile for Procurement (Weapons Procurement, Navy (WPN)) does not match that found in the FY 2014 President's Budget controls for WPN after FY 2011. Beginning in FY 2012, WPN funding is shared between Acquisition and Operating and Support (O&S) costs in the SAR and, hence, the Operating and Support (O&S) costs are not reflected in the TRIDENT II missile acquisition.

MILCON

APPN 1205	BA 01	PE 0101221N	(Navy)
		Fleet Ballistic Missile	(Shared)
		(Projects 618, 903, 913, and 990)	

APPN 1205	BA 01	PE 0202576N	(Navy)	
		Facilities Restoration and MOD- Grounds	(Shared)	(Sunk)
APPN 1205	BA 01	PE 0203176N	(Navy)	
		Facilities Restoration and MOD- Fleet Ops	(Shared)	(Sunk)
APPN 1205	BA 01	PE 0212576N	(Navy)	
		Facilities New Footprint	(Shared)	(Sunk)
APPN 1205	BA 01	PE 0703676N	(Navy)	
		Facility Restoration and MOD - Maint and Prod	(Shared)	(Sunk)
APPN 1205	BA 01	PE 0805976N	(Navy)	
		Facility Restoration and MOD - Training	(Shared)	(Sunk)

The funding for Military Construction (MILCON) in the SAR does not match that reflected in the FY 2014 President's Budget. TRIDENT II missile does not directly hold the funding for MILCON as that is managed by the Commander, Navy Installation Command (CNIC) and the Naval Facilities Engineering Command (NAVFAC). The projects reflected here are those that directly impact TRIDENT II 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	8791.5	9453.2	10126.0	10166.4
Procurement	17588.5	18406.7	20247.4	18137.1	25396.9	30643.5	30393.4
Flyaway	14471.2	--	--	13933.7	19017.9	--	23424.7
Recurring	14471.2	--	--	13933.7	19017.9	--	23424.7
Non Recurring	0.0	--	--	0.0	0.0	--	0.0
Support	3117.3	--	--	4203.4	6379.0	--	6968.7
Other Support	3082.9	--	--	4179.8	6331.6	--	6933.3
Initial Spares	34.4	--	--	23.6	47.4	--	35.4
MILCON	532.9	757.6	833.4	613.1	668.4	1220.3	946.3
Acq O&M	0.0	0.0	--	0.0	0.0	0.0	0.0
Total	26556.3	27948.2	N/A	27541.7	35518.5	41989.8	41506.1

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

Cost and Funding

Funding Summary

Appropriation and Quantity Summary FY2014 President's Budget / December 2012 SAR (TY\$ M)

Appropriation	Prior	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	To Complete	Total
RDT&E	9508.6	61.6	81.5	99.4	104.4	101.2	96.7	113.0	10166.4
Procurement	24272.9	661.4	666.4	679.9	662.4	684.2	678.8	2087.4	30393.4
MILCON	548.3	280.0	24.9	93.1	0.0	0.0	0.0	0.0	946.3
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2014 Total	34329.8	1003.0	772.8	872.4	766.8	785.4	775.5	2200.4	41506.1
PB 2013 Total	34507.0	1180.6	1108.0	995.1	676.0	663.7	453.4	1011.5	40595.3
Delta	-177.2	-177.6	-335.2	-122.7	90.8	121.7	322.1	1188.9	910.8

Program funding and production quantities listed in this SAR are consistent with the FY 2014 President's Budget (PB). The FY 2014 PB did not reflect the enacted DoD appropriation for FY 2013, nor sequestration; it reflected the President's requested amounts for FY 2013.

Quantity	Undistributed	Prior	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	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 2014 Total	28	533	0	0	0	0	0	0	0	561
PB 2013 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	--	--	--	--	--	--	42.2
2013	--	--	--	--	--	--	61.6
2014	--	--	--	--	--	--	81.5
2015	--	--	--	--	--	--	99.4
2016	--	--	--	--	--	--	104.4
2017	--	--	--	--	--	--	101.2
2018	--	--	--	--	--	--	96.7
2019	--	--	--	--	--	--	66.0
2020	--	--	--	--	--	--	24.0
2021	--	--	--	--	--	--	23.0
Subtotal	28	--	--	--	--	--	10166.4

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

Fiscal Year	Quantity	End Item Recurring Flyaway BY 1983 \$M	Non End Item Recurring Flyaway BY 1983 \$M	Non Recurring Flyaway BY 1983 \$M	Total Flyaway BY 1983 \$M	Total Support BY 1983 \$M	Total Program BY 1983 \$M
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	--	--	--	--	--	--	21.3
2013	--	--	--	--	--	--	30.5
2014	--	--	--	--	--	--	39.6
2015	--	--	--	--	--	--	47.4
2016	--	--	--	--	--	--	48.8
2017	--	--	--	--	--	--	46.4
2018	--	--	--	--	--	--	43.6
2019	--	--	--	--	--	--	29.2
2020	--	--	--	--	--	--	10.4
2021	--	--	--	--	--	--	9.8
Subtotal	28	--	--	--	--	--	8791.5

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	862.7	--	--	862.7	179.1	1041.8
2009	24	889.2	--	--	889.2	178.9	1068.1
2010	24	867.8	--	--	867.8	184.4	1052.2
2011	24	922.9	--	--	922.9	177.5	1100.4
2012	24	620.1	--	--	620.1	131.8	751.9
2013	--	454.6	--	--	454.6	206.8	661.4

2014	--	463.8	--	--	463.8	202.6	666.4
2015	--	475.7	--	--	475.7	204.2	679.9
2016	--	455.5	--	--	455.5	206.9	662.4
2017	--	452.0	--	--	452.0	232.2	684.2
2018	--	429.4	--	--	429.4	249.4	678.8
2019	--	415.8	--	--	415.8	163.5	579.3
2020	--	356.2	--	--	356.2	114.3	470.5
2021	--	351.2	--	--	351.2	100.5	451.7
2022	--	269.7	--	--	269.7	90.9	360.6
2023	--	130.6	--	--	130.6	40.0	170.6
2024	--	54.7	--	--	54.7	--	54.7
Subtotal	533	23424.7	--	--	23424.7	6968.7	30393.4

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

Fiscal Year	Quantity	End Item Recurring Flyaway BY 1983 \$M	Non End Item Recurring Flyaway BY 1983 \$M	Non Recurring Flyaway BY 1983 \$M	Total Flyaway BY 1983 \$M	Total Support BY 1983 \$M	Total Program BY 1983 \$M
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	--	402.1	--	--	402.1	77.3	479.4
2008	12	445.3	--	--	445.3	92.5	537.8
2009	24	452.4	--	--	452.4	91.0	543.4
2010	24	433.5	--	--	433.5	92.1	525.6
2011	24	450.9	--	--	450.9	86.7	537.6
2012	24	297.2	--	--	297.2	63.1	360.3
2013	--	213.7	--	--	213.7	97.3	311.0

2014	--	214.0	--	--	214.0	93.5	307.5
2015	--	215.4	--	--	215.4	92.4	307.8
2016	--	202.4	--	--	202.4	91.9	294.3
2017	--	197.1	--	--	197.1	101.2	298.3
2018	--	183.7	--	--	183.7	106.8	290.5
2019	--	174.6	--	--	174.6	68.7	243.3
2020	--	146.8	--	--	146.8	47.1	193.9
2021	--	142.0	--	--	142.0	40.7	182.7
2022	--	107.0	--	--	107.0	36.1	143.1
2023	--	50.9	--	--	50.9	15.5	66.4
2024	--	20.9	--	--	20.9	--	20.9
Subtotal	533	13933.7	--	--	13933.7	4203.4	18137.1

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	629.0
2009	24	1015.2
2010	24	1163.1
2011	24	962.3

2012	24	623.8
2013	--	--
2014	--	--
2015	--	--
2016	--	--
2017	--	--
2018	--	--
2019	--	--
2020	--	--
2021	--	--
2022	--	--
2023	--	--
2024	--	--
Subtotal	533	13933.7

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

Fiscal Year	Total Program TY \$M
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	280.0

2014	24.9
2015	93.1
Subtotal	946.3

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

Fiscal Year	Total Program BY 1983 \$M
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	38.3
2013	134.9

2014	11.8
2015	43.2
Subtotal	613.1

Low Rate Initial Production

	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

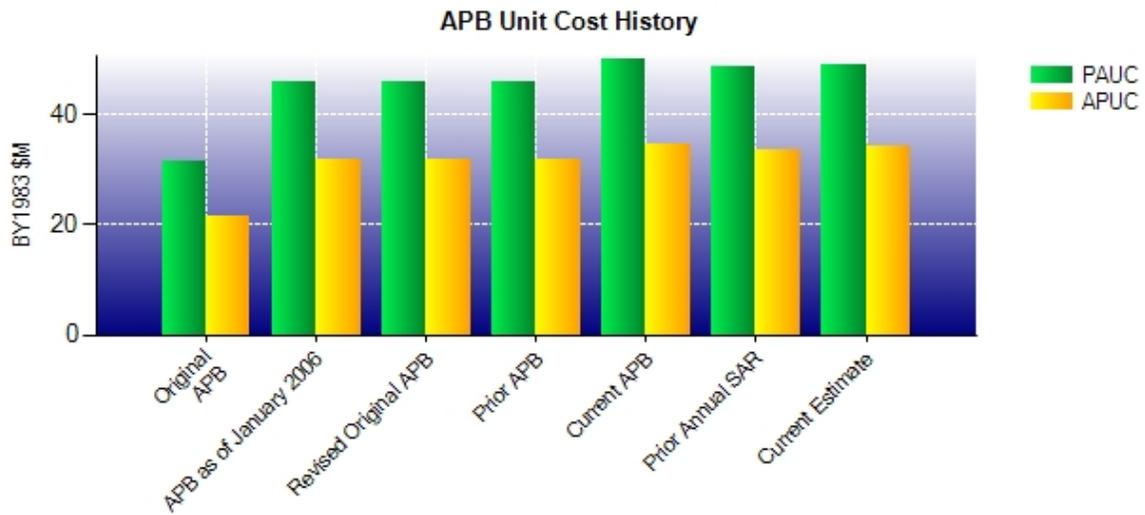
Nuclear Cost

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

Unit Cost**Unit Cost Report**

	BY1983 \$M	BY1983 \$M	
Unit Cost	Current UCR Baseline (SEP 2011 APB)	Current Estimate (DEC 2012 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	27948.2	27541.7	
Quantity	561	561	
Unit Cost	49.819	49.094	-1.46
Average Procurement Unit Cost (APUC)			
Cost	18406.7	18137.1	
Quantity	533	533	
Unit Cost	34.534	34.028	-1.47
	BY1983 \$M	BY1983 \$M	
Unit Cost	Revised Original UCR Baseline (JUN 2002 APB)	Current Estimate (DEC 2012 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	25943.7	27541.7	
Quantity	568	561	
Unit Cost	45.676	49.094	+7.48
Average Procurement Unit Cost (APUC)			
Cost	17155.2	18137.1	
Quantity	540	533	
Unit Cost	31.769	34.028	+7.11

Unit Cost History



	Date	BY1983 \$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 2011	48.578	33.356	72.362	55.091
Current Estimate	DEC 2012	49.094	34.028	73.986	57.023

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	-0.441	9.301	3.357	0.180	14.896	0.000	4.659	31.952	73.986

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	-0.447	3.969	3.359	0.175	13.901	0.000	4.904	25.861	57.023

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	41506.1
Total Quantity	N/A	740	845	561
Prog. Acq. Unit Cost (PAUC)	N/A	50.872	42.034	73.986

Cost Variance

Summary Then Year \$M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Prod Est)	9453.2	25396.9	668.4	35518.5
Previous Changes				
Economic	-30.7	-322.3	+0.4	-352.6
Quantity	-48.0	-6671.1	--	-6719.1
Schedule	--	+1790.1	+23.1	+1813.2
Engineering	-0.8	+93.1	+8.5	+100.8
Estimating	+738.0	+6564.7	+419.5	+7722.2
Other	--	--	--	--
Support	--	+2512.3	--	+2512.3
Subtotal	+658.5	+3966.8	+451.5	+5076.8
Current Changes				
Economic	+9.7	+84.0	+11.4	+105.1
Quantity	--	--	--	--
Schedule	+70.0	--	--	+70.0
Engineering	--	--	--	--
Estimating	-25.0	+844.4	-185.0	+634.4
Other	--	--	--	--
Support	--	+101.3	--	+101.3
Subtotal	+54.7	+1029.7	-173.6	+910.8
Total Changes	+713.2	+4996.5	+277.9	+5987.6
CE - Cost Variance	10166.4	30393.4	946.3	41506.1
CE - Cost & Funding	10166.4	30393.4	946.3	41506.1

Summary Base Year 1983 \$M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Prod Est)	8434.9	17588.5	532.9	26556.3
Previous Changes				
Economic	--	--	--	--
Quantity	-40.0	-3930.8	--	-3970.8
Schedule	--	--	-1.7	-1.7
Engineering	+1.3	+50.4	+4.2	+55.9
Estimating	+376.5	+3008.3	+165.1	+3549.9
Other	--	--	--	--
Support	--	+1062.6	--	+1062.6
Subtotal	+337.8	+190.5	+167.6	+695.9
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	+30.9	--	--	+30.9
Engineering	--	--	--	--
Estimating	-12.1	+334.6	-87.4	+235.1
Other	--	--	--	--
Support	--	+23.5	--	+23.5
Subtotal	+18.8	+358.1	-87.4	+289.5
Total Changes	+356.6	+548.6	+80.2	+985.4
CE - Cost Variance	8791.5	18137.1	613.1	27541.7
CE - Cost & Funding	8791.5	18137.1	613.1	27541.7

Previous Estimate: December 2011

RDT&E	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	+9.7
Mk5A First Production Unit delay from FY 2018 to FY 2019. (Schedule)	+30.9	+70.0
Adjustment for current and prior escalation. (Estimating)	-0.5	-1.0
Funding realigned to support the W78/88-1 Life Extension Study. (Estimating)	-11.6	-24.0
RDT&E Subtotal	+18.8	+54.7

Procurement	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	+84.0
Adjustment for current and prior escalation. (Estimating)	-8.8	-18.3
Revised estimate to extend Joint Fuze production. (Estimating)	+81.1	+200.2
Revised estimate in order to procure new missile electronics packages for the original 281 missiles to change them to a D5 Life Extension (LE) configuration. (Estimating)	+256.1	+621.6
Realignment of Solid Rocket Motor (SRM) unit cost savings from Operating and Support (O&S) costs to D5 LE redesign efforts due to Alliant Techsystems (ATK) aggressively lowering their overhead costs. (Estimating)	+6.2	+40.9
Adjustment for current and prior escalation. (Support)	-3.1	-6.6
Realignment of Solid Rocket Motor (SRM) unit cost savings from O&S to Other Weapons Support (OWS) to support D5 LE production support efforts due to ATK aggressively lowering their overhead costs. (Support)	+26.6	+107.9
Procurement Subtotal	+358.1	+1029.7

MILCON	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	+11.4
Revised project estimates for the Explosive Handling Wharf #2 project at the Strategic Weapons Facility, Pacific (SWFPAC). (Estimating)	-80.1	-169.2
Deletion of the three Missile Motor Magazines project at the Strategic Weapons Facility, Atlantic (SWFLANT). (Estimating)	-4.4	-9.8
Adjustment for current and prior escalation. (Estimating)	-2.9	-6.0
MILCON Subtotal	-87.4	-173.6

Contracts

Appropriation: Procurement

Contract Name	FY 2010 TRIDENT II Guidance
Contractor	Charles Stark Draper Laboratory
Contractor Location	Boston, MA 02139
Contract Number, Type	N00030-10-C-0015, CPIF
Award Date	February 04, 2010
Definitization Date	February 04, 2010

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
131.1	N/A	N/A	131.1	N/A	N/A	131.1	131.1

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date (2/28/2013)	-0.6	-3.2
Previous Cumulative Variances	+1.2	-6.2
Net Change	-1.8	+3.0

Cost And Schedule Variance Explanations

The unfavorable net change in the cost variance is due to higher than planned touch labor effort on the Magnetoresistive Random Access Memory (MRAM) for Circuit Card Assembly (CCA) operations.

The favorable net change in the schedule variance is due to improved performance within the MRAM baseline.

Appropriation: Procurement

Contract Name **FY 2010 Production and Deployed System Support (P&DSS)**
 Contractor Lockheed Martin Space Systems
 Contractor Location Sunnyvale, CA 94088
 Contract Number, Type N00030-10-C-0100, CPIF/CPFF
 Award Date October 01, 2009
 Definitization Date June 04, 2010

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
867.4	N/A	0	853.8	N/A	0	853.8	853.8

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date (2/28/2013)	+29.0	-8.2
Previous Cumulative Variances	+19.7	+0.5
Net Change	+9.3	-8.7

Cost And Schedule Variance Explanations

The favorable net change in the cost variance is due to 1) Material which was delivered in 2011; 2) Production support service efficiencies resulting from cross utilization of resources on multiple contracts, and reduced demand in support services planning and quality engineering as a consequence of a late-start manufacturing cycle; and 3) Less Procurement Quality Assurance Engineering (PQAE) support required because of a focus on quality assurance supplier hardware requirements.

The unfavorable net change in the schedule variance is due to 1) Late delivery of Gas Hydraulic Assemblies (GHAs) resulting from delayed test console availability as well as delayed production of the D5 High Voltage Detonator (HVD) hardware; 2) D5 Life Extension (LE) cable fabrication parts shortages; 3) Test Missile Kit (TMK) manufacturing delays arising from resolution of design and technical issues; and 4) Third stage motor production schedule delays caused by chamber insulator problem investigation and motor processing delays.

Contract Comments

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

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to a reduction to the target cost and the target fee as a result of the contractor providing fewer manhours than required under the contract.

Appropriation: Procurement

Contract Name	FY 2011 TRIDENT II Guidance
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	422.7	N/A	N/A	422.7	422.7

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date (2/28/2013)	+3.6	-1.2
Previous Cumulative Variances	+1.2	-1.0
Net Change	+2.4	-0.2

Cost And Schedule Variance Explanations

The favorable net change in the cost variance is due to the lower than planned efforts required for the release of the Test Execution and Results Management (TERM) software and Common Deployment Test Applets (CDTA) Computer Software Configuration Items (CSCIs).

The unfavorable net change in the schedule variance is due to delays in material invoicing.

Contract Comments

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

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to contract modifications which exercised the FY 2012 option Contract Line Item Numbers (CLINs).

Appropriation: Procurement

Contract Name	FY 2011 TRIDENT II Guidance Repair
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 (2/28/2013)	+0.6	-0.8
Previous Cumulative Variances	+0.5	0.0
Net Change	+0.1	-0.8

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 the FY 2011 contract having a late start as the FY 2010 contract completed later than originally anticipated.

Contract Comments

Current Contract Ceiling Price contains both the Fixed Price Incentive Firm (FPIF) 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
 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
924.5	N/A	N/A	972.9	N/A	N/A	972.9	972.9

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date (2/28/2013)	+16.4	-18.0
Previous Cumulative Variances	+12.3	-1.4
Net Change	+4.1	-16.6

Cost And Schedule Variance Explanations

The favorable net change in the cost variance is due to 1) Missile processing and Test Missile Kit (TMK) fabrication efficiencies attributable to Continuous Improvement (CI) projects and cable fabricators; 2) Less services required than planned from the TMK Electronics Manufacturing Center (EMC); 3) Less support required than planned from Alternate Release Assembly (ARA) production quality assurance and Systems Engineering, Integration and Test (SEIT); and, 4) Efficiencies for supplier procurement efforts and cross-utilization of production support service resources across multiple contracts combined with support service manufacturing operations.

The unfavorable net change in the schedule variance is due to 1) TMK manufacturing delays resulting from resolution of design and technical issues; 2) Inverter Destruct Assembly delays due to parts shortages; 3) Late delivery of Gas Hydraulic Assemblies (GHAs) arising from delayed test console availability; 4) Factory Management Team (FMT) fabrication and assembly delays on firing units; and 5) Third stage motor production schedule delays caused by chamber insulator problem investigation and motor processing delays.

Contract Comments

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to Contract Line Item (CLIN) definitization which established the target cost and the target fee for CLIN 0030.

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
 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
1133.8	N/A	N/A	1133.8	N/A	N/A	1133.8	1133.8

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date (2/28/2013)	+19.3	-5.1
Previous Cumulative Variances	--	--
Net Change	+19.3	-5.1

Cost And Schedule Variance Explanations

The favorable cumulative cost variance is due to 1) Strategic Weapons Facility, Pacific (SWFPAC) efficiencies resulting from Continuous Improvement (CI) projects and fewer than anticipated issues and repairs; 2) Efficiencies in Life Extension (LE) Survivability Radiation Test Console (RTC) make-buy analysis and feasibility study; 3) Favorable labor rates for the Production Factory Management Team (FMT) and lower support from Test Missile Kit (TMK) services; 4) Production services efficiencies and less support from material requirements processing and production delivery arising from manufacturing delays; 5) LE Flight Control qualification efficiencies resulting from contiguous and parallel testing of packages and fewer anomalies than anticipated; 6) FMT fabrication and assembly manufacturing efficiencies resulting from batch processing; 7) Command Sequencer efficiencies gained by parallel testing Product Equivalent Package (PEP) 1 and PEP2; 8) Fewer drawing changes than expected for the Production Test Console (PTC) spare cables drawings and Second Stage Nozzle Insertion Plug drawings; 9) Delayed subcontractor support of igniter refurbishment and of extended prime and subcontractor negotiations; 10) Delayed Missile Parts Warehouse (MPW) billings/purchases and relocation package costs; and 11) Less than planned Common Minor Material (CMC) disbursements.

The unfavorable cumulative schedule variance is due to 1) LE system test delays driven by engineering discovery; 2) Missile Assembly Drawings (MADs) delayed until post package qualification in order to reduce risk; 3) Delayed flight software tactical Computer Software Configuration Item (CSCI) robustness activities arising from later delivery of PEP hardware; and 4) Slower than planned increase in effort resulting from delayed parts procurement and deferred support pending resolution from quality assurance audit findings.

Contract Comments

This is the first time this contract is being reported.

Appropriation: Procurement

Contract Name **FY 2012 TRIDENT II Guidance Repair**
 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	N/A	236.7	241.5	N/A	236.7	236.7

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date (2/28/2013)	+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 favorable hardware processing efficiencies.

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.

Deliveries and Expenditures

Deliveries 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 Quantities Delivered	453	453	561	80.75%

Expenditures and Appropriations (TY \$M)			
Total Acquisition Cost	41506.1	Years Appropriated	36
Expenditures To Date	32850.2	Percent Years Appropriated	76.60%
Percent Expended	79.15%	Appropriated to Date	35332.8
Total Funding Years	47	Percent Appropriated	85.13%

The above data is current as of 5/1/2013.

Operating and Support Cost

Trident II Missile

Assumptions and Ground Rules

Cost Estimate Reference:

O&S engineering costs were 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 operation and support 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 and will be the initial Strategic Weapon System (SWS) for the OHIO-class Replacement Program.

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	0.0	0.0
Unit Operations	0.0	0.0
Maintenance	142.3	0.0
Sustaining Support	468.2	0.0
Continuing System Improvements	0.0	0.0
Indirect Support	1.9	0.0
Other	0.0	0.0
Total	612.4	--

Unitized Cost Comments:

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

Sustaining Support: Provides for the sustainment of the TRIDENT II (D5) SWS to include the Shipboard System Integration (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 Strategic Systems Programs employees.

Indirect Support: Providing for real property maintenance including funding for recurring maintenance, major repair projects and minor construction in support of the Fleet Ballistic Missile (FBM) and TRIDENT facilities. The last year of funding for this effort was in FY 2003.

	Total O&S Cost \$M			
	Current Production APB Objective/Threshold		Current Estimate	
	Trident II Missile		Trident II Missile	TRIDENT I (C-4) (Antecedent)
Base Year	0.0	0.0	26330.3	N/A
Then Year	0.0	N/A	63076.3	N/A

Total O&S Costs Comments:

The TRIDENT II (D5) 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 (OES) 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 (POR) is through FY 2042, however, as the TRIDENT II D5 missile has been designated the SWS for the initial outload of the OHIO-class Replacement Program, the service life could extend past FY 2042 and, therefore, additional costs could be incurred.

O&S support increased from \$25,387 Billion (BY\$) to \$26,455 Billion (BY\$), for a change of \$1,068 Billion from the December 2011 SAR. Weapons Procurement, Navy (WPN) O&S sustaining support increases are due to extending Solid Rocket Motor (SRM) procurement buys to FY 2032 as opposed to the previously planned FY 2023, and realigning the SRM buys throughout the life of the program to support the initial outload of the OHIO-class Replacement Program. Operations and Maintenance, Navy (O&MN) sustaining support and maintenance increases are due to program life extension; previous data depicted one hull being retired every year starting in FY 2030 and ending in FY 2042. Due to program life extension all 12 TRIDENT II D5 hulls will be operational in FY 2042.

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).