



Selected Acquisition Report (SAR)

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



TRIDENT II MISSILE

As of December 31, 2010

Defense Acquisition Management
Information Retrieval
(DAMIR)

UNCLASSIFIED

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Program Information

Designation And Nomenclature (Popular Name)

Sea Launched Ballistic Missile-UGM 133A TRIDENT II (D-5) 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 Approved Acquisition Program Baseline (APB) dated June 8, 2002

Mission and Description

The TRIDENT II (D-5) 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 (C-4) 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

FY 2010 saw the 134th successful flight test for the TRIDENT II missile. 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 missile includes program and production support costs (including flight test instrumentation and additional reentry system hardware) and the D-5 Life Extension program. Strategic Systems Programs (SSP) is executing in accordance with the production continuity procurement strategy approved by Congress and the DoD.

TRIDENT II Missile is experiencing a threshold breach in the Military Construction (MILCON) appropriation as a result of the addition of the Explosive Handling Wharf (EHW) #2 project at the Strategic Weapons Facility, Pacific (SWFPAC) in Silverdale, Washington. In June 2002, in order to meet Commander, Strategic Command (STRATCOM) requirements, the TRIDENT II submarine fleet was "rebalanced" between the east and west coasts. The result of this rebalancing was two additional TRIDENT II submarines, or 60 percent of the strategic deterrent, being homeported at SWFPAC than had been originally planned. This resulted in the current and projected onload/offload operations required to support increased fleet deployment schedules to exceed the capacity of one EHW. In addition, structural degradation of the existing EHW's pilings requires a 120 day maintenance period per year. The piling replacement program will take over twenty years to complete. Upon completion, a single EHW would still be insufficient to support an increased submarine population and its associated efforts.

For the first time in the report, funding is reflected in support of the Joint Warhead Fuze Sustainment Program. This program will conduct a one-time refurbishment of the Mk5 Reentry Body during a planned W88/Mk5 Arming, Fuzing, and Firing (AF&F) Limited Life Component Replacement. FY 2018 will see the thirty year mark for the Mk5 Reentry Body and it was determined that this will be the best time to conduct refurbishment in a program similar to the current W76/Mk4 Refurbishment. The W88/Mk5 Refurbishment will be an advanced research and development program which will integrate modern technologies into the AF&F development and modernization in order to improve reliability, safety and security, and develop common fuze components adaptable to current and future warheads and with joint service and country applicability. The emphasis of this refurbishment will be to obtain the same performance as the Mk5; modernize nuclear surety features; and maximum reuse of existing hardware to minimize cost.

The D5 Life Extension Program completed its restructuring of the program to support additional design efforts for four missile electronics packages: Flight Control Electronics Assembly; Command Sequencer; Missile Inverter; and Interlocks. The Flight Control Electronics Assembly, the most complex of the four packages, completed its Critical Design Review (CDR) in October 2009. The remaining three packages completed their respective CDRs, and culminated in a system CDR, in January 2011. In accordance with a component based procurement strategy, the remaining ninety percent of the missile component procurement continues to remain on track.

TRIDENT II continues to experience cost increases in the area of Solid Rocket Motor (SRM) production. In FY 2007 the Air Force issued their last Minuteman remotoring contract and the National Aeronautics and Space Administration (NASA) reduced their solid rocket motor production. NASA and the Air Force had significantly contributed to sharing overhead costs in the past, however the completion of Minuteman, combined with NASA's reduction in SRM demand, has significantly impacted the Navy's cost of production with the TRIDENT II missile.

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

Threshold Breaches

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

Explanation of Breach

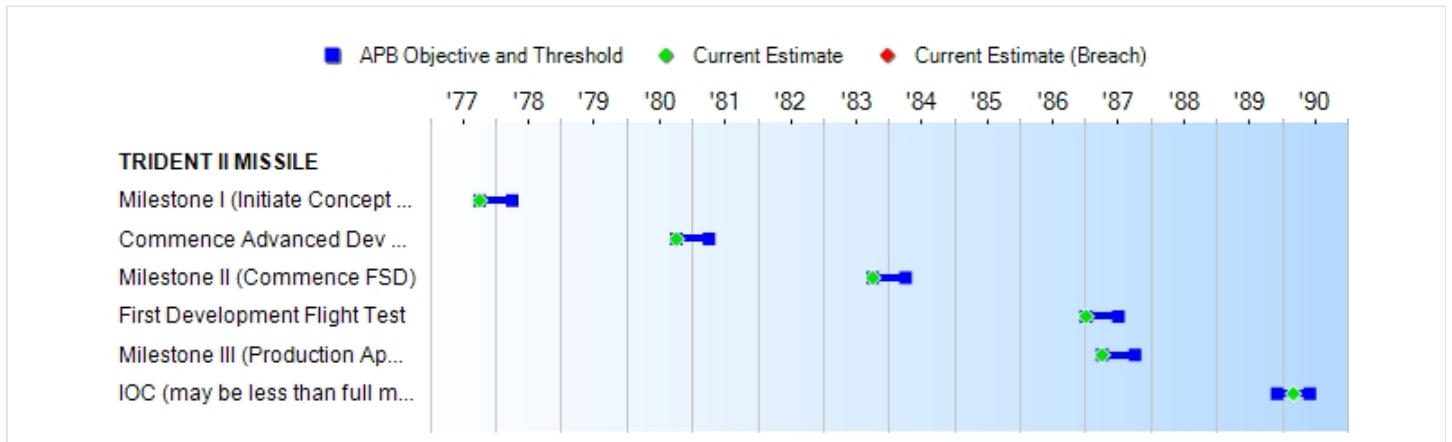
The Military Construction (MILCON) Threshold breach is attributed to the addition of a new MILCON project. The project is the construction of a new Explosive Handling Wharf (EHW) at the Strategic Weapons Facility, Pacific (SWFPAC) in Silverdale, Washington. This project is required in order to meet increased fleet deployment schedules due to the FY 2002 rebalancing of the TRIDENT II submarine fleet which resulted in two additional submarines being homeported on the West Coast.

A revised Approved Program Baseline (APB) reflecting this change is in process for final review and approval.

Nunn-McCurdy Breaches	
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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

Acronyms And Abbreviations

Dev - Development
 FSD - Full Scale Development
 IOC - Initial Operational Capability
 msl - missile

Change Explanations

None

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 2012 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 (Projects 618, 903, 913, and 990)	(Shared)	
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 2012 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 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	8414.8	9256.3	8771.4	9453.2	9411.3	10098.7
Procurement	17588.5	17155.2	18870.7	17826.4	25396.9	27683.7	29349.3
Flyaway	14471.2	--	--	13638.4	19017.9	--	22519.9
Recurring	14471.2	--	--	13638.4	19017.9	--	22519.9
Non Recurring	0.0	--	--	0.0	0.0	--	0.0
Support	3117.3	--	--	4188.0	6379.0	--	6829.4
Other Support	3082.9	--	--	4164.4	6331.6	--	6794.0
Initial Spares	34.4	--	--	23.6	47.4	--	35.4
MILCON	532.9	373.7	411.1	739.0 ¹	668.4	448.9	1185.3
Acq O&M	0.0	0.0	--	0.0	0.0	0.0	0.0
Total	26556.3	25943.7	N/A	27336.8	35518.5	37543.9	40633.3

¹ APB Breach

Quantity	SAR Baseline Prod Est	Current APB Production	Current Estimate
RDT&E		30	28
Procurement		815	540
Total		845	568

Cost and Funding**Funding Summary**

**Appropriation and Quantity Summary
FY2012 President's Budget / December 2010 SAR (TY\$ M)**

Appropriation	Prior	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	To Complete	Total
RDT&E	9444.7	33.1	42.2	61.6	95.6	106.6	104.6	210.3	10098.7
Procurement	22420.6	1106.7	939.1	858.7	747.1	773.1	598.5	1905.5	29349.3
MILCON	470.3	0.0	93.0	311.0	177.0	134.0	0.0	0.0	1185.3
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2012 Total	32335.6	1139.8	1074.3	1231.3	1019.7	1013.7	703.1	2115.8	40633.3
PB 2011 Total	32321.8	1106.9	1123.3	1019.0	711.7	754.5	599.7	1909.1	39546.0
Delta	13.8	32.9	-49.0	212.3	308.0	259.2	103.4	206.7	1087.3

Quantity	Undistributed	Prior	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	To Complete	Total
Development	28	0	0	0	0	0	0	0	0	28
Production	0	485	24	24	0	0	0	0	0	533
PB 2012 Total	28	485	24	24	0	0	0	0	0	561
PB 2011 Total	28	485	24	24	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	--	--	--	--	--	--	33.1
2012	--	--	--	--	--	--	42.2
2013	--	--	--	--	--	--	61.6

2014	--	--	--	--	--	--	95.6
2015	--	--	--	--	--	--	106.6
2016	--	--	--	--	--	--	104.6
2017	--	--	--	--	--	--	69.1
2018	--	--	--	--	--	--	76.7
2019	--	--	--	--	--	--	32.0
2020	--	--	--	--	--	--	32.5
Subtotal	28	--	--	--	--	--	10098.7

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	--	--	--	--	--	--	17.3
2012	--	--	--	--	--	--	21.7
2013	--	--	--	--	--	--	31.2
2014	--	--	--	--	--	--	47.6
2015	--	--	--	--	--	--	52.2
2016	--	--	--	--	--	--	50.4
2017	--	--	--	--	--	--	32.7
2018	--	--	--	--	--	--	35.7

2019	--	--	--	--	--	--	14.7
2020	--	--	--	--	--	--	14.6
Subtotal	28	--	--	--	--	--	8771.4

The changes in the Research Development Test and Evaluation, Navy (RDT&EN) appropriation for TRIDENT II missile is the addition of funding for FY 2010 through FY 2020 for the Joint Warhead Fuze Sustainment Program.

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	295.3	1346.9
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	867.7	--	--	867.7	184.4	1052.1
2011	24	922.9	--	--	922.9	183.8	1106.7
2012	24	679.9	--	--	679.9	259.2	939.1
2013	--	551.2	--	--	551.2	307.5	858.7
2014	--	516.1	--	--	516.1	231.0	747.1
2015	--	544.2	--	--	544.2	228.9	773.1
2016	--	363.8	--	--	363.8	234.7	598.5
2017	--	357.2	--	--	357.2	213.3	570.5
2018	--	217.6	--	--	217.6	171.4	389.0
2019	--	201.2	--	--	201.2	25.4	226.6
2020	--	201.5	--	--	201.5	20.7	222.2
2021	--	181.3	--	--	181.3	34.0	215.3
2022	--	167.5	--	--	167.5	9.5	177.0
2023	--	43.1	--	--	43.1	61.8	104.9
Subtotal	533	22519.9	--	--	22519.9	6829.4	29349.3

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	336.8	--	--	336.8	56.2	393.0
2006	--	380.1	--	--	380.1	105.2	485.3
2007	--	402.4	--	--	402.4	77.3	479.7
2008	12	446.1	--	--	446.1	92.6	538.7
2009	24	454.3	--	--	454.3	91.4	545.7
2010	24	437.7	--	--	437.7	93.0	530.7
2011	24	458.7	--	--	458.7	91.4	550.1
2012	24	332.6	--	--	332.6	126.8	459.4
2013	--	265.2	--	--	265.2	148.0	413.2
2014	--	244.2	--	--	244.2	109.3	353.5
2015	--	253.2	--	--	253.2	106.5	359.7
2016	--	166.4	--	--	166.4	107.4	273.8
2017	--	160.7	--	--	160.7	95.9	256.6
2018	--	96.2	--	--	96.2	75.8	172.0
2019	--	87.5	--	--	87.5	11.0	98.5
2020	--	86.2	--	--	86.2	8.8	95.0
2021	--	76.2	--	--	76.2	14.3	90.5
2022	--	69.2	--	--	69.2	4.0	73.2
2023	--	17.5	--	--	17.5	25.1	42.6
Subtotal	533	13638.4	--	--	13638.4	4188.0	17826.4

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	1040.4
2011	24	839.5
2012	24	574.0
2013	--	--
2014	--	--
2015	--	--
2016	--	--
2017	--	--
2018	--	--
2019	--	--
2020	--	--
2021	--	--
2022	--	--

2023	--	--
Subtotal	533	13638.4

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	93.0
2013	311.0
2014	177.0
2015	134.0
Subtotal	1185.3

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	47.2
2013	155.3
2014	86.9
2015	64.7
Subtotal	739.0

The primary change to the Military Construction (MILCON) appropriation is due to the addition of Project #990 - Explosive Handling Wharf (EHW) #2.

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

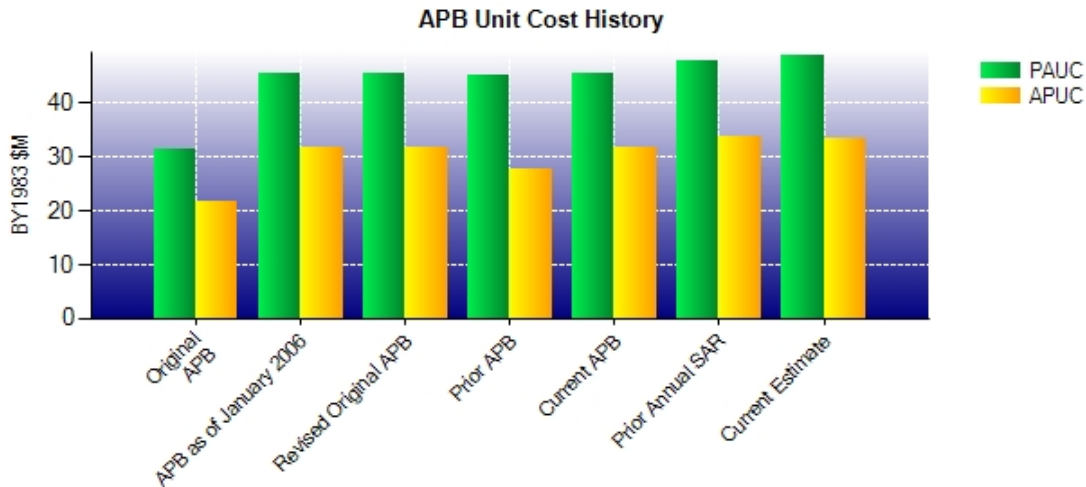
Classified Nuclear Cost information is provided in the classified annex to this submission.

Unit Cost**Unit Cost Report**

	BY1983 \$M	BY1983 \$M	
Unit Cost	Current UCR Baseline (JUN 2002 APB)	Current Estimate (DEC 2010 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	25943.7	27336.8	
Quantity	568	561	
Unit Cost	45.676	48.729	+6.68
Average Procurement Unit Cost (APUC)			
Cost	17155.2	17826.4	
Quantity	540	533	
Unit Cost	31.769	33.445	+5.28

	BY1983 \$M	BY1983 \$M	
Unit Cost	Revised Original UCR Baseline (JUN 2002 APB)	Current Estimate (DEC 2010 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	25943.7	27336.8	
Quantity	568	561	
Unit Cost	45.676	48.729	+6.68
Average Procurement Unit Cost (APUC)			
Cost	17155.2	17826.4	
Quantity	540	533	
Unit Cost	31.769	33.445	+5.28

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	MAY 1995	45.200	27.878	60.973	42.213
Current APB	JUN 2002	45.676	31.769	66.098	51.266
Prior Annual SAR	DEC 2009	47.763	33.691	70.492	55.592
Current Estimate	DEC 2010	48.729	33.445	72.430	55.064

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	-0.879	9.302	3.232	0.180	14.050	0.000	4.511	30.396	72.430

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	-0.824	3.970	3.359	0.175	12.474	0.000	4.748	23.902	55.064

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	40633.3
Total Quantity	N/A	740	845	561
Prog. Acq. Unit Cost (PAUC)	N/A	50.872	42.034	72.430

Cost Variance**Cost Variance Summary**

Summary Then Year \$M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Prod Est)	9453.2	25396.9	668.4	35518.5
Previous Changes				
Economic	-39.9	-425.5	-13.7	-479.1
Quantity	-48.0	-6671.1	--	-6719.1
Schedule	--	+1790.1	+23.1	+1813.2
Engineering	-0.8	+93.1	+8.5	+100.8
Estimating	+66.2	+6916.3	-201.6	+6780.9
Other	--	--	--	--
Support	--	+2530.8	--	+2530.8
Subtotal	-22.5	+4233.7	-183.7	+4027.5
Current Changes				
Economic	--	-13.9	--	-13.9
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	+668.0	-267.4	+700.6	+1101.2
Other	--	--	--	--
Support	--	--	--	--
Subtotal	+668.0	-281.3	+700.6	+1087.3
Total Changes	+645.5	+3952.4	+516.9	+5114.8
CE - Cost Variance	10098.7	29349.3	1185.3	40633.3
CE - Cost & Funding	10098.7	29349.3	1185.3	40633.3

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	+49.7	+3178.4	-143.6	+3084.5
Other	--	--	--	--
Support	--	+1071.0	--	+1071.0
Subtotal	+11.0	+369.0	-141.1	+238.9
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	+325.5	-130.8	+347.2	+541.9
Other	--	--	--	--
Support	--	-0.3	--	-0.3
Subtotal	+325.5	-131.1	+347.2	+541.6
Total Changes	+336.5	+237.9	+206.1	+780.5
CE - Cost Variance	8771.4	17826.4	739.0	27336.8
CE - Cost & Funding	8771.4	17826.4	739.0	27336.8

Previous Estimate: December 2009

RDT&E	\$M	
	Base Year	Then Year
Current Change Explanations		
Addition of the Joint Warhead Fuze Life Extension Program. This program will conduct a one-time refurbishment of the Mk5 Reentry Body during a planned W88/Mk5 Arming, Fuzing and Firing (AF&F) Limited Life Component Replacement and will leverage current technologies into the AF&F development and modernization. This is an overall alteration program which will result in no change in form, fit or function of the Mk5 Reentry Body (i.e., no increase in military capability). Also included is \$10M of FY 2011 funding for Global Strike Study. (Estimating)	+325.5	+668.0
RDT&E Subtotal	+325.5	+668.0
Procurement	\$M	
	Base Year	Then Year
Current Change Explanations		
Revised escalation indices. (Economic)	N/A	-13.9
Adjustment for current and prior escalation. (Estimating)	+1.1	+1.9
Realign funding to Operating and Support (O&S) costs for replacement of rocket motors for the previously delivered 425 missiles. (Estimating)	-176.4	-363.2
Additional funding required as a result of the D5 Life Extension program restructure (Estimating)	+44.5	+93.9
Adjustment for current and prior escalation. (Support)	0.0	+0.4
Decrease in Other Support due to refinement of prior year estimates. (Support)	-0.3	-0.4
Procurement Subtotal	-131.1	-281.3
MILCON	\$M	
	Base Year	Then Year
Current Change Explanations		
Addition of Explosive Handling Wharf #2 project in order to support the rebalancing of the TRIDENT fleet between the east and west coasts. (Estimating)	+347.2	+700.6
MILCON Subtotal	+347.2	+700.6

Contracts

Appropriation: Procurement

Contract Name	FY 2006 Follow On Procurement
Contractor	Lockheed Martin Space Systems
Contractor Location	Sunnyvale, CA 94088
Contract Number, Type	N00030-05-C-0100, CPFF/CPIF
Award Date	October 01, 2005
Definitization Date	December 19, 2005

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
885.7	N/A	0	885.1	N/A	0	935.9	935.9

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date	-15.2	-4.4
Previous Cumulative Variances	-15.2	-4.4
Net Change	+0.0	+0.0

Cost And Schedule Variance Explanations

None

Contract Comments

This is the last SAR submission for this contract.

Appropriation: Procurement

Contract Name **FY 2007 Follow On Procurement**
 Contractor Lockheed Martin Space Systems
 Contractor Location Sunnyvale, CA 94088
 Contract Number, Type N00030-06-C-0100, CPIF/CPFF
 Award Date October 01, 2006
 Definitization Date January 12, 2007

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
672.1	N/A	0	851.8	N/A	0	862.4	862.4

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date	-7.2	-10.2
Previous Cumulative Variances	-7.2	-10.2
Net Change	+0.0	+0.0

Cost And Schedule Variance Explanations

None

Contract Comments

This is the last SAR submission for this contract.

Appropriation: Procurement

Contract Name	FY 2008 Follow on Procurement
Contractor	Lockheed Martin Space Systems
Contractor Location	Sunnyvale, CA 94088
Contract Number, Type	N00030-07-C-0100, CPIF
Award Date	October 01, 2007
Definitization Date	November 30, 2007

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
849.3	N/A	12	1111.1	N/A	12	1274.5	1274.5

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date	+0.8	-17.1
Previous Cumulative Variances	+3.6	-3.4
Net Change	-2.8	-13.7

Cost And Schedule Variance Explanations

The net unfavorable schedule change of \$13.7M was due to the following reasons:

1. Delays in material deliveries for the following: Circuit Card Assemblies (CCAs), Interlocks Build and Special Test Equipment (STE). Deliveries were driven by lagging parts due to vendor fabrication issues and technical holds. The vendor will proceed with build activities as CCA and Interlock Build design issues are resolved and the drawings are finalized by the vendor;
2. Test Missile Kit (TMK) Destruct Interlocks/Destruct Acceleration Switches (DI/DASs) did not comply with Range Safety Particle Impact Noise Detection (PIND) testing requirements during production which resulted in an eight month postponement of the start of DI/DAS manufacturing on prior year contracts. This delay necessitated disassembling all DI and DASs, performing the PIND testing, and reassembling all prior year units. Approximately 100% of the DIs and 90% of the DASs have now been completed, and;
3. Gas Hydraulic Assembly (GHA) build delays due to parts shortages. The requalification of these parts is complete and production will begin pending approval by the Program Manager (PM). In addition, the supplier was delayed in delivering a High Voltage Detonator (HVD) Qualification Lot to the Government for Qualification/Acceptance Testing. After completion of qualification testing, the production lot will continue in acceptance testing.

The net unfavorable cost change of \$2.8M was due to additional resources required for unplanned engineering efforts associated with the following: Adjudicating the CCA technical issues discovered during the Life Extension (LE) validation effort, conducting the Critical Design Review (CDR) and resolving CDR action items.

Contract Comments

The increase of \$261.8M in the current contract price from the initial contract price was due to contract modifications for LE Development, TMK efforts, LE Strategic System Program Alteration (SPALT) kits and Igniter Redesign.

The Contractor's Estimated Price at Completion is more than the Current Contract Price by \$163.4M due to the finalization of the D5 LE Program restructure.

Appropriation: Procurement

Contract Name	FY 2008 Guidance Production
Contractor	Charles Stark Draper Laboratory
Contractor Location	Cambridge, MA 02139
Contract Number, Type	N00030-08-C-0010, CPIF
Award Date	November 27, 2007
Definitization Date	November 27, 2007

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
156.2	N/A	N/A	547.6	N/A	N/A	547.6	547.6

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date	-1.2	-1.4
Previous Cumulative Variances	-2.8	-4.4
Net Change	+1.6	+3.0

Cost And Schedule Variance Explanations

The net favorable schedule change of \$3.0M was attributed to the material receipt of the Alternate Pendulous Integrating Gyro Accelerometer (Alt-PIGA) and the Interferometric Fiber Optic Gyro (IFOG) deliveries. All deliveries were completed by May 2010. The current improved variance is due to delivery of the final pre-production IFOG unit.

The net favorable cost change of \$1.6M was the result of investigation findings on technical issues with the Alt-PIGA and IFOG instruments. The technical/manufacturing issues that caused the overrun in the previous report have all been resolved and no further cost exposure is expected.

Contract Comments

This contract is over 90% completed, therefore this will be the last SAR submission for this contract.

The differences in the Initial and Current Price of this contract are due to this report including all active and completed Earned Value (EV) data reported by the contractor from the base year (FY 2008) through both option years (FY 2009 and FY 2010).

The FY 2009 SAR reflected data for Earned Value Management (EVM) for Contract Line Item (CLIN) 0006 only as it was the Contract Performance Report (CPR) being submitted at that time. This report includes all active and completed Earned Value (EV) data reported by the contractor from the base year (FY 2008) through both option years (FYs 2009 and 2010).

Appropriation: Procurement

Contract Name **FY 2009 Follow On Procurement**
 Contractor Lockheed Martin Space Systems
 Contractor Location Sunnyvale, CA 94088
 Contract Number, Type N00030-08-C-0100, CPIF/CPFF
 Award Date October 01, 2008
 Definitization Date December 01, 2008

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
739.4	N/A	0	767.5	N/A	0	780.4	780.4

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date	+7.3	-4.5
Previous Cumulative Variances	+7.4	-0.7
Net Change	-0.1	-3.8

Cost And Schedule Variance Explanations

The net unfavorable schedule change of \$3.8M was due to the following:

1. Delays in the Vertical Missile Processing Building (VMPB) production modifications resulting from security enclave issues, and;
2. Delays in Factory Acceptance Testing (FAT) of test equipment due to vendor design changes.

The net unfavorable cost change of \$0.1M was due to various miscellaneous efforts.

Contract Comments

The Estimate at Completion (EAC) decrease of \$11.9M was due to the incorporation of revised FPRA rates.

The increase of \$28.1M in the current contract price from the initial contract price was due to various contract modifications including the following: The definitization of Alternate Release Assembly (ARA) efforts; a change incorporated for Extended Navy Test Bed (ENTB) efforts; and a partial termination of telemetry efforts.

The Contractor's Estimated Price at Completion was more than the current Contract Price by \$12.9M due to the inclusion of Performance Incentive Fees.

Appropriation: Procurement

Contract Name	FY 2009 Guidance Production
Contractor	Charles Stark Draper Laboratory
Contractor Location	Cambridge, MA 02139
Contract Number, Type	N00030-09-C-0011, CPIF
Award Date	January 31, 2009
Definitization Date	January 31, 2009

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
146.2	N/A	N/A	146.2	N/A	N/A	146.2	146.2

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date	-0.9	+0.6
Previous Cumulative Variances	+0.1	+0.2
Net Change	-1.0	+0.4

Cost And Schedule Variance Explanations

The net favorable schedule change of \$0.4M is minor and the contract is expected to complete on schedule.

The net unfavorable cost change of \$1.0M is attributed to non-recurring labor and Circuit Card Assembly (CCA) material costs running higher than originally planned.

Appropriation: Procurement

Contract Name	FY 2010 Guidance Production
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		+2.1 -5.4
Previous Cumulative Variances		-- --
Net Change		+2.1 -5.4

Cost And Schedule Variance Explanations

The unfavorable cumulative schedule variance of \$5.4M was due to late Circuit Card Assembly (CCA) material (\$2.5M) receipts and the delay of Long Lead Material (LLM) CCA build (\$2.9M) schedule. Delivery delays were driven by lagging parts receipt due to vendor fabrication, technical holds, and test issues. The material deliveries were planned in advance of the requirement date of May 2011. Materials are being expedited and should be received by May 2011. The CCA build schedule is currently being replanned to align with current program requirements so no schedule impact is expected for Mk6LE Strategic System Program Alterations (SPALTs).

The favorable cumulative cost variance of \$2.1M was due to an underrun on gyro production, Alternate Pendulous Integrating Gyro Accelerometer (Alt-PIGA), and CCA LLM. This underrun is caused by less than planned engineering and production support due to manufacturing delays.

Contract Comments

This is the first SAR submission for this contract.

Appropriation: Procurement

Contract Name **FY 2010 Follow On Production**
 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	867.3	N/A	0	881.6	881.6

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date	+14.0	-1.7
Previous Cumulative Variances	--	--
Net Change	+14.0	-1.7

Cost And Schedule Variance Explanations

The unfavorable cumulative schedule variance of \$1.7M was due to delays of the Missile Design Compliance Report (MDCR) for the Alternate Release Assembly (ARA).

The favorable cumulative cost variance of \$14.0M was due to delays in hiring in support of Missile Assembly Building (MAB) 3 activation and the efficiencies in ARA efforts due to the qualification testing and completion of the MDCRs.

Contract Comments

This is the first SAR submission for this contract.

The decrease in \$0.1M in the current contract price from the initial price was due to contract modifications finalizing specific Contract Line Items Numbers (CLINs) as completion tasks.

The Contractor's Estimate at Completion (EAC) was more than the Current Price by \$14.3M due to production of the Strategic Systems Program Alteration (SPALT) kits for the Test Missile Kits (TMKs), Relays Equipment, and requalification of the Flight Termination Batteries production line.

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	40633.3	Years Appropriated	34
Expenditures To Date	30283.9	Percent Years Appropriated	73.91%
Percent Expended	74.53%	Appropriated to Date	33475.4
Total Funding Years	46	Percent Appropriated	82.38%

This reflects actual Deliveries and Expenditures through March 23, 2011.

Operating and Support Cost

Assumptions And Ground Rules

The Cost Elements are those included for Milestone II providing the Strategic Weapon System (SWS) subsystems' (launcher, fire control, navigation, test instrumentation, missile checkout, missile and guidance) average annual support costs from FY 2000 through FY 2042 (for a total of 42 years of Operating and Support life). The source of the costs displayed is the Program Manager's estimate as reflected in the FY 2012 President's Budget through FY 2016 and extended through FY 2042. The intermediate maintenance costs are for operating the Strategic Weapons Facilities. Depot maintenance costs are for repair of SWS equipments at contractors' facilities. Sustaining support costs are for sustaining engineering and acquisition of replacement support equipment, modification kits and spare parts for shipboard systems and post production flight hardware. Indirect costs are for base operating support (BOS). Responsibility for BOS was transferred to Commander Navy Installations beginning in FY 2004 and therefore is no longer included in FY 2004 and subsequent years.

Operating and Support costs and assumptions for the antecedent system TRIDENT I (C-4) have not previously been developed, and, therefore, are not available.

Date of estimate: December 31, 2010

Costs BY1983 \$M		
Cost Element	TRIDENT II MISSILE Average Annual Cost for all Missiles	TRIDENT I (C-4)
Unit-Level Manpower	--	--
Unit Operations	--	--
Maintenance	142.6	--
Sustaining Support	424.8	--
Continuing System Improvements	--	--
Indirect Support	1.9	--
Other	--	--
Total Unitized Cost (Base Year 1983 \$)	569.3	--

Total O&S Costs \$M	TRIDENT II MISSILE	TRIDENT I (C-4)
Base Year	24430.2	--
Then Year	55188.7	--