Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-391

Standard Missile-6 (SM-6)

As of FY 2017 President's Budget

Defense Acquisition Management
Information Retrieval
(DAMIR)

Table of Contents

Common Acronyms and Abbreviations for MDAP Programs

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

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

Program Information

Program Name

Standard Missile-6 (SM-6)

DoD Component

Navy

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References

SAR Baseline (Production Estimate)

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated March 26, 2010

Approved APB

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated August 9, 2013

Mission and Description

The Standard Missile-6 (SM-6) Extended Range Active Missile (ERAM) is designed to provide ship self-defense, fleet area defense, and theater air defense for sea and littoral forces. Raytheon Missile Systems has been chosen as the sole source contractor for SM-6 ERAM Block I. The SM-6 ERAM is a surface-to-air supersonic missile, launched from AEGIS Cruisers and Destroyers, capable of successfully engaging manned and unmanned, fixed or rotary wing aircraft and land attack or Anti-Ship Cruise Missiles in flight. The SM-6 ERAM program is an evolutionary, capabilities based acquisition program that will use spiral development to produce an initial Block I capability, with follow-on blocks to pace emerging threat systems as required. In addition to an extended range, the initial SM-6 ERAM Block I will have active missile seeker homing for improved flight responsiveness, guidance, sub-clutter visibility, and countermeasures resistance over present SM-2 missiles and will be "Engage-On-Remote" intercept capable.

SM-6 will be an effective weapon that will apply timely, precise, accurate and lethal fire power against cruise missile threats and launch platforms in a fleet area defense role and over hostile territory. SM-6 will provide in-flight destruction capabilities over the total flight path. SM-6 may be employed in concert with the developing Joint Theater Air and Missile Defense Family of Systems to provide continuous protection to forward deployed maneuver forces as well as theater rear assets.

Executive Summary

The SM-6 program was designated as an ACAT 1C program with the Navy as the lead Component as documented in the ADM dated April 1, 2015.

An Undefinitized Contract Action (UCA) for the SM-6 Block IA Engineering Change Proposal (ECP) FY 2015 production contract was awarded on April 30, 2015.

The SM-6 Block I/IA FRP FY 2015 production contract was definitized on May 29, 2015.

SM-6 has been integrated and authorized for use onto AEGIS Baselines 9A in February 2015 and Baseline 9C.1 in November 2015.

The program successfully completed ten of ten planned Follow-on Operational Test and Evaluation (FOT&E) flight tests. The program successfully completed two FOT&E flight tests in March 2015 and successfully completed the remaining four FOT&E flight tests in January 2016. Additional FOT&E events will be completed in order to validate deficiency discovered during IOT&E and support for FOC declaration in 2017.

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

Threshold Breaches

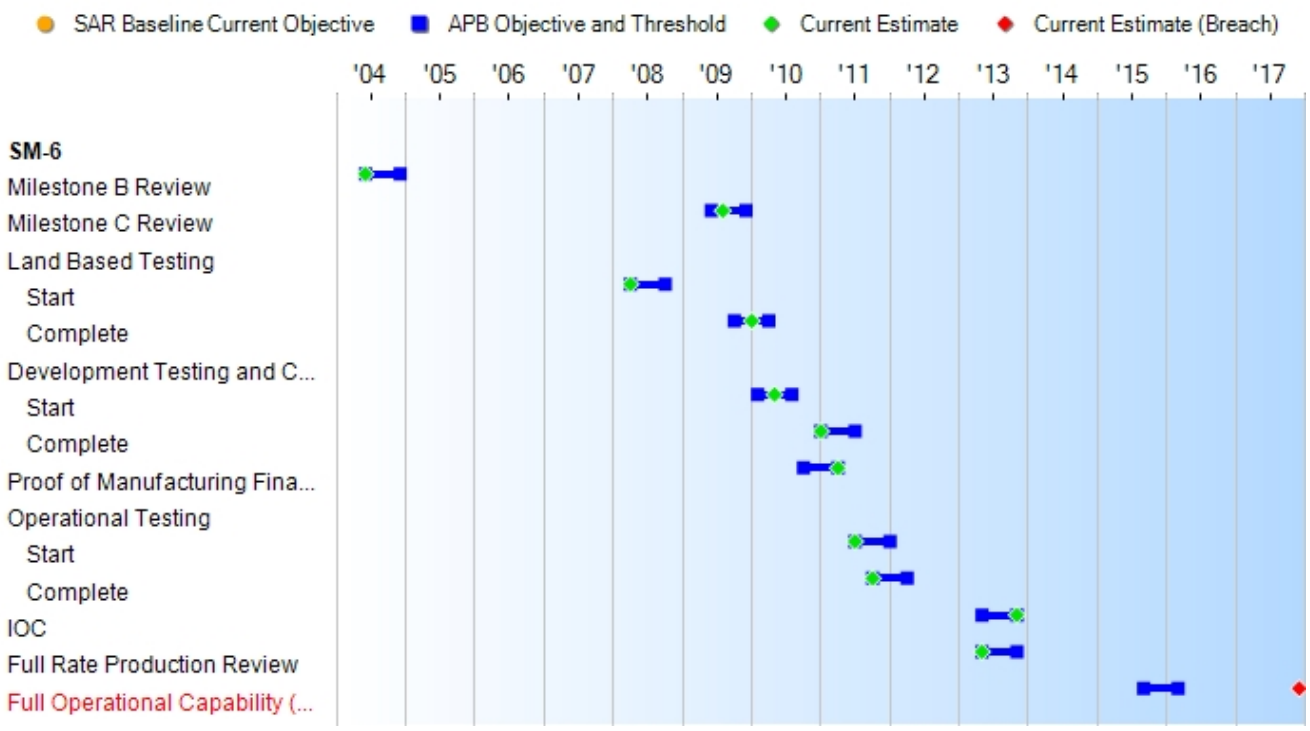
APB Breaches		
Schedule		☑
Performance		☐
Cost	RDT&E	☐
	Procurement	☐
	MILCON	☐
	Acq O&M	☐
O&S Cost		☐
Unit Cost	PAUC	☐
	APUC	☐

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

Explanation of Breach

The SM-6 program submitted a Program Deviation Report to Assistant Secretary of the Navy for Research, Development, and Acquisition (ASN (RD&A)) in October 2015 with revised estimated milestone dates for FOC from March 2016 to December 2017. This revision in FOC date does not impact the capability level or number of missiles being delivered to the Fleet, but rather is driven by the inability to complete outstanding Operational Test and Evaluation events due to target moratoriums and FY 2015 and FY 2016 funding shortfalls. There is no plan to update the APB.

Schedule


SAR Baseline Current Objective
APB Objective and Threshold
Current Estimate
Current Estimate (Breach)
'04
'05
'06
'07
'08
'09
'10
'11
'12
'13
'14
'15
'16
'17
SM-6
Milestone B Review
Milestone C Review
Land Based Testing
Start
Complete
Development Testing and C...
Start
Complete
Proof of Manufacturing Fina...
Operational Testing
Start
Complete
IOC
Full Rate Production Review
Full Operational Capability (...

Schedule Events					
Events	**SAR Baseline Production Estimate**	**Current APB Production Objective/Threshold**		**Current Estimate**	
Milestone B Review	Jun 2004	Jun 2004	Dec 2004	Jun 2004	
Milestone C Review	Jun 2009	Jun 2009	Dec 2009	Aug 2009	
Land Based Testing					
Start	Apr 2008	Apr 2008	Oct 2008	Apr 2008	
Complete	Oct 2009	Oct 2009	Apr 2010	Jan 2010	
Development Testing and Combined Development and Operational Testing					
Start	Feb 2010	Feb 2010	Aug 2010	May 2010	
Complete	Apr 2010	Jan 2011	Jul 2011	Jan 2011	
Proof of Manufacturing Final Review	Oct 2010	Oct 2010	Apr 2011	Apr 2011	
Operational Testing					
Start	Aug 2010	Jul 2011	Jan 2012	Jul 2011	
Complete	Sep 2010	Oct 2011	Apr 2012	Oct 2011	
IOC	Mar 2011	May 2013	Nov 2013	Nov 2013	
Full Rate Production Review	Jun 2011	May 2013	Nov 2013	May 2013	
Full Operational Capability (FOC)	Sep 2015	Sep 2015	Mar 2016	**Dec 2017**[1]	(Ch-1)

[1] *APB Breach*

Change Explanations

(Ch-1) Current estimate for FOC changed from March 2016 to December 2017 due to inability to complete outstanding Operational Test and Evaluation events due to target moratoriums and FY 2015 and FY 2016 funding shortfalls. This revision in FOC does not impact the capability level or number of missiles being delivered to the Fleet.

Performance

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

Track to Budget

General Notes

The SM-6 Development was funded under PE 0604366N - Project 3092.

The FY 2017 PB includes RDT&E funding for other STANDARD Missile improvements, none of which are included in the SM-6 development program baseline: Insensitive Munitions, Portable All-Up Round Built In Test Tester, Naval Integrated Fire Control - Counter Air, and Future Capability Demonstration.

The FY 2017 PB for SM-6 procurement (APPN 1507, PE 0204228N) includes Line Item 2234 and 6120. Both are shared with SM-2 through FY 2011. All up rounds are reflected in Budget Line Item (BLI) 2234 P1-7. Initial Spares are included in BLI 6120 P1-35.

RDT&E

Appn	BA	PE
Navy 1319	05	0604366N

Project	Name
3092	Standard Missile 6 Program (Shared) (Sunk)

Notes: FY 2012 is the last year of SM-6 RDT&E funding related to the Baseline Program of Record as reported in the SAR.

Procurement

Appn	BA	PE
Navy 1507	02	0204228N

Line Item	Name
2234	STANDARD Missile

Notes: Shared with SM-2 through FY 2011.

Appn	BA	PE
Navy 1507	06	0204228N

Line Item	Name
6120	Spares and Repair Parts (Shared)

Notes: Shared with SM-2 in Standard Missile Replenishment Spares line through FY 2011 and continues to be shared with other Navy programs.

Cost and Funding

Cost Summary

Total Acquisition Cost							
Appropriation	BY 2004 $M			BY 2004 $M	TY $M		
	SAR Baseline Production Estimate	Current APB Production Objective/Threshold		Current Estimate	SAR Baseline Production Estimate	Current APB Production Objective	Current Estimate
RDT&E	861.6	834.5	918.0	834.7	963.2	933.4	933.4
Procurement	4419.5	6854.1	7539.5	6401.7	5634.0	9623.8	8876.8
Flyaway	--	--	--	5609.8	--	--	7794.1
Recurring	--	--	--	5585.7	--	--	7766.0
Non Recurring	--	--	--	24.1	--	--	28.1
Support	--	--	--	791.9	--	--	1082.7
Other Support	--	--	--	549.1	--	--	743.7
Initial Spares	--	--	--	242.8	--	--	339.0
MILCON	0.0	0.0	--	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	--	0.0	0.0	0.0	0.0
Total	5281.1	7688.6	N/A	7236.4	6597.2	10557.2	9810.2

Confidence Level

Confidence Level of cost estimate for current APB: 50%

The Independent Cost Estimate (ICE) to support SM-6 Full Rate Production Decision, like all life-cycle cost estimates previously performed by the Office of the Secretary of Defense, Cost Assessment and Program Evaluation (OSD, CAPE), is built upon a product-oriented work breakdown structure, based on historical actual cost information to the maximum extent possible, and, most importantly, based on conservative assumptions that are consistent with actual demonstrated contractor and government performance for a series of acquisition programs in which the Department has been successful.

It is difficult to calculate mathematically the precise confidence levels associated with life-cycle cost estimates prepared for Major Defense Acquisition Programs (MDAPs). Based on the rigor in methods used in building estimates, the strong adherence to the collection and use of historical cost information, and the review of applied assumptions, we project that it is equally likely that the estimate will prove low or too high for execution of the program described.

Total Quantity			
Quantity	**SAR Baseline Production Estimate**	**Current APB Production**	**Current Estimate**
RDT&E	0	0	0
Procurement	1200	1800	1800
Total	1200	1800	1800

Quantity Notes

SM-6 received authorization to increase the procurement profile from 1200 missiles to 1800 missiles as documented in the Navy Electronic Resources and Requirements Review Board memorandum, dated March 18, 2013.

Cost and Funding

Funding Summary

Appropriation Summary									
FY 2017 President's Budget / December 2015 SAR (TY$ M)									
Appropriation	Prior	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
RDT&E	933.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	933.4
Procurement	1860.0	434.4	506.2	526.0	537.4	555.9	565.2	3891.7	8876.8
MILCON	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2017 Total	2793.4	434.4	506.2	526.0	537.4	555.9	565.2	3891.7	9810.2
PB 2016 Total	2825.6	452.4	513.6	532.3	544.8	559.8	673.7	3597.5	9699.7
Delta	-32.2	-18.0	-7.4	-6.3	-7.4	-3.9	-108.5	294.2	110.5

Quantity Summary										
FY 2017 President's Budget / December 2015 SAR (TY$ M)										
Quantity	Undistributed	Prior	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Development	0	0	0	0	0	0	0	0	0	0
Production	0	460	113	125	125	125	125	125	602	1800
PB 2017 Total	0	460	113	125	125	125	125	125	602	1800
PB 2016 Total	0	470	113	125	125	125	125	125	592	1800
Delta	0	-10	0	0	0	0	0	0	10	0

Cost and Funding

Annual Funding By Appropriation

Annual Funding 1319 | RDT&E | Research, Development, Test, and Evaluation, Navy							
Fiscal Year	Quantity	TY $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2004	--	--	--	--	--	--	25.5
2005	--	--	--	--	--	--	83.8
2006	--	--	--	--	--	--	114.8
2007	--	--	--	--	--	--	150.0
2008	--	--	--	--	--	--	172.6
2009	--	--	--	--	--	--	195.4
2010	--	--	--	--	--	--	112.6
2011	--	--	--	--	--	--	61.0
2012	--	--	--	--	--	--	17.7
Subtotal	--	--	--	--	--	--	933.4

Annual Funding 1319 | RDT&E | Research, Development, Test, and Evaluation, Navy							
Fiscal Year	Quantity	BY 2004 $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2004	--	--	--	--	--	--	25.0
2005	--	--	--	--	--	--	80.0
2006	--	--	--	--	--	--	106.3
2007	--	--	--	--	--	--	135.6
2008	--	--	--	--	--	--	153.2
2009	--	--	--	--	--	--	171.3
2010	--	--	--	--	--	--	97.2
2011	--	--	--	--	--	--	51.4
2012	--	--	--	--	--	--	14.7
Subtotal	--	--	--	--	--	--	834.7

Annual Funding 1507 | Procurement | Weapons Procurement, Navy							
Fiscal Year	Quantity	TY $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2009	19	92.4	--	17.6	110.0	12.4	122.4
2010	11	54.5	--	10.5	65.0	32.7	97.7
2011	59	210.5	--	--	210.5	32.5	243.0
2012	89	272.2	--	--	272.2	67.2	339.4
2013	89	264.6	--	--	264.6	54.4	319.0
2014	93	259.2	--	--	259.2	60.0	319.2
2015	100	364.2	--	--	364.2	55.1	419.3
2016	113	378.1	--	--	378.1	56.3	434.4
2017	125	458.7	--	--	458.7	47.5	506.2
2018	125	468.6	--	--	468.6	57.4	526.0
2019	125	479.7	--	--	479.7	57.7	537.4
2020	125	490.7	--	--	490.7	65.2	555.9
2021	125	498.7	--	--	498.7	66.5	565.2
2022	125	695.6	--	--	695.6	80.3	775.9
2023	125	704.2	--	--	704.2	81.9	786.1
2024	125	725.5	--	--	725.5	83.5	809.0
2025	125	737.2	--	--	737.2	85.2	822.4
2026	102	611.4	--	--	611.4	86.9	698.3
Subtotal	1800	7766.0	--	28.1	7794.1	1082.7	8876.8

Annual Funding 1507 | Procurement | Weapons Procurement, Navy							
Fiscal Year	Quantity	BY 2004 $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2009	19	80.0	--	15.2	95.2	10.8	106.0
2010	11	46.4	--	8.9	55.3	27.9	83.2
2011	59	175.9	--	--	175.9	27.2	203.1
2012	89	224.1	--	--	224.1	55.3	279.4
2013	89	214.8	--	--	214.8	44.2	259.0
2014	93	207.5	--	--	207.5	48.1	255.6
2015	100	287.3	--	--	287.3	43.4	330.7
2016	113	293.1	--	--	293.1	43.7	336.8
2017	125	349.0	--	--	349.0	36.1	385.1
2018	125	349.7	--	--	349.7	42.8	392.5
2019	125	350.9	--	--	350.9	42.2	393.1
2020	125	351.9	--	--	351.9	46.8	398.7
2021	125	350.7	--	--	350.7	46.7	397.4
2022	125	479.5	--	--	479.5	55.4	534.9
2023	125	475.9	--	--	475.9	55.4	531.3
2024	125	480.7	--	--	480.7	55.3	536.0
2025	125	478.9	--	--	478.9	55.3	534.2
2026	102	389.4	--	--	389.4	55.3	444.7
Subtotal	1800	5585.7	--	24.1	5609.8	791.9	6401.7

Low Rate Initial Production

Item	Initial LRIP Decision	Current Total LRIP
Approval Date	7/12/2004	4/5/2012
Approved Quantity	120	178
Reference	Milestone B ADM	LRIP Lot 4 ADM
Start Year	2009	2009
End Year	2011	2012

The SM-6 program received authorization to enter into a fourth year of LRIP as documented in the ADM dated April 5, 2012. This ADM authorized the increase in the total LRIP quantity from 120 (10 percent) to 178 (15 percent) based on a procurement profile of 1200 missiles, and deferred the FRP decision to FY 2013.

The SM-6 program received authorization to increase the procurement profile from 1200 missiles to 1800 missiles as documented in the Navy Electronic Resources and Requirements Review Board memorandum, dated March 18, 2013.

The SM-6 program built up 25 non-LRIP rounds to be test fired during the System Development and Demonstration phase of the program. All 25 missiles were expended prior to IOC.

Foreign Military Sales

None

Nuclear Costs

None

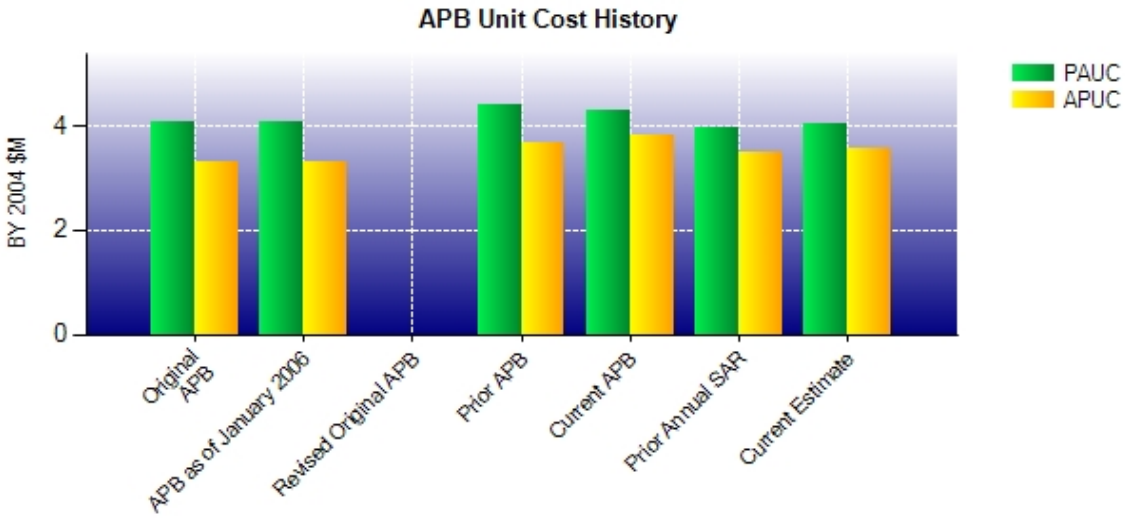
Unit Cost

Unit Cost Report

Item	BY 2004 $M Current UCR Baseline (Aug 2013 APB)	BY 2004 $M Current Estimate (Dec 2015 SAR)	% Change
Program Acquisition Unit Cost			
Cost	7688.6	7236.4	
Quantity	1800	1800	
Unit Cost	4.271	4.020	-5.88
Average Procurement Unit Cost			
Cost	6854.1	6401.7	
Quantity	1800	1800	
Unit Cost	3.808	3.556	-6.62

Item	BY 2004 $M Original UCR Baseline (Jul 2004 APB)	BY 2004 $M Current Estimate (Dec 2015 SAR)	% Change
Program Acquisition Unit Cost			
Cost	4866.3	7236.4	
Quantity	1200	1800	
Unit Cost	4.055	4.020	-0.86
Average Procurement Unit Cost			
Cost	3949.6	6401.7	
Quantity	1200	1800	
Unit Cost	3.291	3.556	+8.05

Unit Cost History



Item	Date	BY 2004 $M		TY $M	
		PAUC	APUC	PAUC	APUC
Original APB	Jul 2004	4.055	3.291	4.986	4.163
APB as of January 2006	Jul 2004	4.055	3.291	4.986	4.163
Revised Original APB	N/A	N/A	N/A	N/A	N/A
Prior APB	Mar 2010	4.401	3.683	5.498	4.695
Current APB	Aug 2013	4.271	3.808	5.865	5.347
Prior Annual SAR	Dec 2014	3.962	3.498	5.389	4.870
Current Estimate	Dec 2015	4.020	3.556	5.450	4.932

SAR Unit Cost History

Initial SAR Baseline to Current SAR Baseline (TY $M)									
Initial PAUC Development Estimate	Changes								PAUC Production Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
4.986	0.114	0.000	-0.046	0.000	0.153	0.000	0.291	0.512	5.498

Current SAR Baseline to Current Estimate (TY $M)									
PAUC Production Estimate	Changes								PAUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
5.498	-0.050	-0.377	0.141	0.000	0.050	0.000	0.188	-0.048	5.450

Initial SAR Baseline to Current SAR Baseline (TY $M)									
Initial APUC Development Estimate	Changes								APUC Production Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
4.163	0.085	0.000	-0.046	0.000	0.202	0.000	0.291	0.532	4.695

Current SAR Baseline to Current Estimate (TY $M)									
APUC Production Estimate	Changes								APUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
4.695	-0.050	-0.109	0.141	0.000	0.067	0.000	0.188	0.237	4.932

SAR Baseline History				
Item	SAR Planning Estimate	SAR Development Estimate	SAR Production Estimate	Current Estimate
Milestone A	N/A	N/A	N/A	N/A
Milestone B	N/A	Jun 2004	Jun 2004	Jun 2004
Milestone C	N/A	Sep 2008	Jun 2009	Aug 2009
IOC	N/A	Sep 2010	Mar 2011	Nov 2013
Total Cost (TY $M)	N/A	5983.3	6597.2	9810.2
Total Quantity	N/A	1200	1200	1800
PAUC	N/A	4.986	5.498	5.450

Cost Variance

Summary TY $M				
Item	**RDT&E**	**Procurement**	**MILCON**	**Total**
SAR Baseline (Production Estimate)	963.2	5634.0	--	6597.2
Previous Changes				
Economic	+1.2	-31.1	--	-29.9
Quantity	--	+2619.6	--	+2619.6
Schedule	--	+245.6	--	+245.6
Engineering	--	--	--	--
Estimating	-31.0	-21.8	--	-52.8
Other	--	--	--	--
Support	--	+320.0	--	+320.0
Subtotal	-29.8	+3132.3	--	+3102.5
Current Changes				
Economic	--	-59.2	--	-59.2
Quantity	--	--	--	--
Schedule	--	+8.9	--	+8.9
Engineering	--	--	--	--
Estimating	--	+142.7	--	+142.7
Other	--	--	--	--
Support	--	+18.1	--	+18.1
Subtotal	--	+110.5	--	+110.5
Total Changes	-29.8	+3242.8	--	+3213.0
CE - Cost Variance	933.4	8876.8	--	9810.2
CE - Cost & Funding	933.4	8876.8	--	9810.2

Summary BY 2004 $M				
Item	**RDT&E**	**Procurement**	**MILCON**	**Total**
SAR Baseline (Production Estimate)	861.6	4419.5	--	5281.1
Previous Changes				
Economic	--	--	--	--
Quantity	--	+1761.1	--	+1761.1
Schedule	--	+20.4	--	+20.4
Engineering	--	--	--	--
Estimating	-26.9	-97.2	--	-124.1
Other	--	--	--	--
Support	--	+193.4	--	+193.4
Subtotal	-26.9	+1877.7	--	+1850.8
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	--	+92.7	--	+92.7
Other	--	--	--	--
Support	--	+11.8	--	+11.8
Subtotal	--	+104.5	--	+104.5
Total Changes	-26.9	+1982.2	--	+1955.3
CE - Cost Variance	834.7	6401.7	--	7236.4
CE - Cost & Funding	834.7	6401.7	--	7236.4

Previous Estimate: December 2014

Procurement	$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-59.2
Reduction in funding for other Navy priorities led to a re-distribution of the procurement buy profile from FY 2015 and FY 2026. (Schedule)	0.0	+8.9
Revised estimate due to SM-6 Block IA FY 2015 / FY 2016 contract negotiation position being higher than previously budgeted All Up Round pricing. (Estimating)	+45.4	+58.0
Revised estimate for SM-6 Block IA pricing to align the out years with the higher FY 2015 / FY 2016 contract negotiation pricing position for All Up Round. (Estimating)	+77.8	+125.2
Revised estimate due to Congressional reduction in FY 2016 which resulted in a change in the SM-6 Block I and Block IA procurement buy mix. (Estimating)	-14.0	-18.1
Realignment of funds in FYDP for higher Navy priorities. (Estimating)	-22.6	-30.1
Adjustment for current and prior escalation. (Estimating)	+6.1	+7.7
Adjustment for current and prior escalation. (Support)	+0.9	+1.1
Increase in Other Support due to realignment of funds. (Support)	+0.9	+1.7
Increase in Initial Spares requirements estimated as a percent of All Up Round hardware. (Support)	+10.0	+15.3
Procurement Subtotal	+104.5	+110.5

Contracts

Contract Identification

Appropriation: Procurement
Contract Name: SM-6 FRP
Contractor: RMS Missile Systems (RMS)
Contractor Location: 1151 Hermans Road
Tucson, AZ 85756
Contract Number: N00024-13-C-5407/0
Contract Type: Firm Fixed Price (FFP)
Award Date: January 31, 2013
Definitization Date: September 26, 2013

Contract Price							
Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
276.8	N/A	89	564.8	N/A	182	564.8	564.8

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to contract modification P00014 which awarded the FY 2014 contract option on June 25, 2014.

Cost and Schedule Variance Explanations

Cost and Schedule Variance reporting is not required on this (FFP) contract.

Notes

On January 31, 2013, Raytheon Missile Systems was awarded a contract for Long Lead Material for the FY 2013 FRP contract. The base contract (FY 2013) was definitized on September 26, 2013. The FY 2014 contract option was awarded on June 25, 2014.

Contract Identification

Appropriation: Procurement
Contract Name: SM-6 FRP 15/16
Contractor: Raytheon
Contractor Location: 1151 East Hermans Road
Tucson, AZ 85756
Contract Number: N00024-15-C-5408/1
Contract Type: Firm Fixed Price (FFP)
Award Date: May 29, 2015
Definitization Date: May 29, 2015

Contract Price							
Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
259.1	N/A	93	515.0	N/A	101	515.0	515.0

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to the Initial Contract Price Target reflects the FY 2015 basic contract awarded on May 30, 2015 and the Current Contract Price Target reflects the FY 2016 contract option awarded on February 26, 2016.

Cost and Schedule Variance Explanations

Cost and Schedule Variance reporting is not required on this (FFP) contract.

Notes

This is the first time this contract is being reported.

Contract Identification

Appropriation: Procurement
Contract Name: SM-6 LRIP 4
Contractor: Raytheon Missile Systems (RMS)
Contractor Location: 1151 East Hermans Road
Tucson, AZ 85756
Contract Number: N00024-12-C-5401/1
Contract Type: Fixed Price Incentive(Firm Target) (FPIF)
Award Date: May 10, 2012
Definitization Date: July 05, 2013

Contract Price							
Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
266.4	279.2	89	266.4	279.2	89	266.4	266.4

Contract Variance		
Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (8/31/2015)	-1.1	-0.5
Previous Cumulative Variances	-0.4	-7.6
Net Change	-0.7	+7.1

Cost and Schedule Variance Explanations

The unfavorable net change in the cost variance is due to actuals being slightly higher than the budget at completion.

The favorable net change in the schedule variance is due to Raytheon making deliveries in accordance with the baseline plan. 100% of the All Up Round deliveries were completed as of April 30, 2015.

Notes

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

Deliveries and Expenditures

Deliveries				
Delivered to Date	**Planned to Date**	**Actual to Date**	**Total Quantity**	**Percent Delivered**
Development	0	0	0	--
Production	250	250	1800	13.89%
Total Program Quantity Delivered	250	250	1800	13.89%

Expended and Appropriated (TY $M)			
Total Acquisition Cost	9810.2	Years Appropriated	13
Expended to Date	1955.7	Percent Years Appropriated	56.52%
Percent Expended	19.94%	Appropriated to Date	3227.8
Total Funding Years	23	Percent Appropriated	32.90%

The above data is current as of February 09, 2016.

Operating and Support Cost

Cost Estimate Details

Date of Estimate:	May 13, 2013
Source of Estimate:	CAPE ICE
Quantity to Sustain:	1800
Unit of Measure:	Missile
Service Life per Unit:	30.00 Years
Fiscal Years in Service:	FY 2013 - FY 2054

Since the SM-6 is a wooden round (a concept that pictures a weapon as being completely reliable and, while deployed on board a ship, having an infinite shelf life while at the same time requiring no special handling, storage, surveillance, or maintenance by ships force personnel), Personnel Costs are unnecessary for missile operation.

The average annual cost per missile assumes 1800 All Up Rounds over a 30 year life cycle.

Unit Level Consumption includes Range and Target Costs, as well as Post Flight Analysis.

Intermediate Maintenance consists of Intermediate Level Maintenance facility costs.

Depot Maintenance includes Depot Maintenance and Refurbishment.

Sustaining Support includes Sustaining Investment and Software Maintenance.

Indirect Costs includes Installation and Personnel Support.

Sustainment Strategy

SM-6 will leverage the proven and mature STANDARD Missile product support infrastructure. No unique storage, transportation, handling facilities, or launching systems will be required. The All Up Round will be considered a "wooden round" on board ship, with no Operational Level Maintenance (O-Level) required. In the future, a shipboard portable Maintenance Built-In-Test (MBIT) capability will allow a team to come aboard and test or install new software into the SM-6 round.

Antecedent Information

For reporting purposes, SM-2 is the antecedent by definition of the closest analogous system to SM-6. The SM-6 program meets a different threat set and demonstrates enhanced capabilities in comparison to the SM-2 program.

SM-2 Cost/Missile/Year based on average quantity serviced in FY 2015, converted to BY 2004$. SM-2 BLK IIIA/IIIB FY 2015 PB is the basis for the SM-2 average annual cost per missile.

The final SM-2 SAR was reported in December 2003. The total O&S reported in the final SM-2 SAR has been converted to BY 2004$ for comparison.

Annual O&S Costs BY2004 $K		
Cost Element	**SM-6 Average Annual Cost Per Missile**	**SM-2 (Antecedent) Average Annual Cost Per Missile**
Unit-Level Manpower	0.000	0.000
Unit Operations	3.000	1.500
Maintenance	3.200	5.000
Sustaining Support	2.100	1.200
Continuing System Improvements	0.000	0.000
Indirect Support	0.200	0.500
Other	0.000	0.000
Total	8.500	8.200

Item	Total O&S Cost $M			
	SM-6			SM-2 (Antecedent)
	Current Production APB Objective/Threshold		Current Estimate	
Base Year	443.0	487.3	460.3	912.3
Then Year	863.9	N/A	845.9	0.0

Equation to Translate Annual Cost to Total Cost

Average Annual Missile O&S Cost = Total O&S Cost / number of missiles / number of operational missile years.

Total O&S Cost = $460.3M (BY04$)
Number of missiles = 1800
Number of operational years = 30 year life cycle
Differences in Annual Cost per Missile and Total O&S Cost are due to rounding issues.

O&S Cost Variance		
Category	**BY 2004 $M**	**Change Explanations**
Prior SAR Total O&S Estimates - Dec 2014 SAR	460.3	
Programmatic/Planning Factors	0.0	
Cost Estimating Methodology	0.0	
Cost Data Update	0.0	
Labor Rate	0.0	
Energy Rate	0.0	
Technical Input	0.0	
Other	0.0	
Total Changes	0.0	
Current Estimate	460.3	

Disposal Estimate Details

Date of Estimate:

Source of Estimate:

Disposal/Demilitarization Total Cost (BY 2004 $M):

The Army is responsible for demilitarization of all DoD missile systems at the end of the missile service life, including the STANDARD missile. Disposal costs are not identified at this time.