

CLEARED
For Open Publication

May 09, 2023

Department of Defense
OFFICE OF PREPUBLICATION AND SECURITY REVIEW

Selected Acquisition Report (SAR)



Standard Missile-6 (SM-6)

FY 2024 President's Budget

Defense Acquisition Visibility Environment
(DAVE)

Table of Contents

Acronyms and Abbreviations 3

Program Information 5

Responsible Office 5

Mission and Description 6

Executive Summary 7

Schedule 8

Performance 11

Acquisition Budget Estimate 12

Unit Cost 14

Risks 15

Low Rate Initial Production 16

Contracts 17

Deliveries and Expenditures 22

Operating and Support Costs 23

Common Acronyms and Abbreviations

\$B - Billions of Dollars
\$K - Thousands of Dollars
\$M - Millions of Dollars
ACAT - Acquisition Category
Acq O&M - Acquisition-Related Operations and Maintenance
ADM - Acquisition Decision Memorandum
APB - Acquisition Program Baseline
APPN - Appropriation
APUC - Average Procurement Unit Cost
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
FMS - Foreign Military Sales
FOC - Full Operational Capability
FRP - Full Rate Production
FY - Fiscal Year
FYDP - Future Years Defense Program
ICE - Independent Cost Estimate
Inc - Increment
IOC - Initial Operational Capability
JROC - Joint Requirements Oversight Council
KPP - Key Performance Parameter
LRIP - Low Rate Initial Production
MDA - Milestone Decision Authority
MDAP - Major Defense Acquisition Program
MILCON - Military Construction

N/A - Not Applicable
O&M - Operations and Maintenance
O&S - Operating and Support
ORD - Operational Requirements Document
OSD - Office of the Secretary of Defense
PAUC - Program Acquisition Unit Cost
PB - President's Budget
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
U.S. - United States
UCR - Unit Cost Reporting
USD(A&S) - Under Secretary of Defense (Acquisition and Sustainment)
USD(AT&L) - Under Secretary of Defense (Acquisition, Technology and Logistics)

Program Information

Program Name

Standard Missile-6

DoD Component

Navy

Responsible Office

Program Manager

Name: CAPT Jonathan Garcia

Phone: (703) 872-7200

Email: jonathan.c.garcia.mil@us.navy.mil

Mission and Description

The STANDARD Missile-6 (SM-6) is a tri-mission capable (Anti-Air Warfare (AAW), Sea-Based Terminal Defense (SBT), and Anti-Surface Warfare (ASuW)) missile that provides for over-the-horizon engagements, enhanced capability at extended ranges and increased firepower with an active guidance section. Launched from AEGIS Cruisers and Destroyers, SM-6 provides timely, precise, accurate and lethal fire power against cruise missile threats and launch platforms in a fleet area defense role and is capable of successfully engaging manned and unmanned, fixed or rotary wing aircraft, and land attack or Anti-Ship Cruise Missiles (ASCM) in flight. SM-6 is an evolutionary acquisition program with requirements for future Block upgrades. Raytheon Missile Systems (RMS) is the sole source contractor for SM-6.

Executive Summary

SM-6

Program Highlights Since Last Report

SM-6 Program is in Full Rate Production for the SM-6 Block I and the more capable SM-6 Block IA variant. The Fiscal Year (FY) 2024 President's Budget (PB) reflects a funding profile for an authorized Multiyear Procurement (MYP) beginning in FY 2019 and completing in FY 2023. Advance Procurement (AP) is captured in the funding phasing to address economic order quantity material requirements. MYP and AP were approved in the FY 2019 National Defense Authorization Act. The FY 2024 PB reflects a funding profile for a follow-on MYP for SM-6 Block IA beginning in FY 2024 and completing in FY 2028. Advance Procurement is captured in the funding phasing to address economic order quantity material requirements. The SM-6 Block IB will transition from the Middle Tier of Acquisition to the Major Capability Acquisition pathway and will be designated as a major subprogram of the existing SM-6 Acquisition Category (ACAT) IC program. This designation is effective upon receipt of an Acquisition Decision Memorandum (ADM) for Milestone B (MS B) and an approved Acquisition Program Baseline (APB) reflecting the establishment of the subprogram. The SM-6 Full Rate Production (FRP) Block IA MYP Engineering Change Proposal (ECP) FY 2022 contract was awarded April 2022. The SM-6 FRP Block I/IA MYP FY 2022 Production contract was awarded April 2022. There are no significant software-related issues with this program at this time.

History of Significant Developments Since Program Initiation

History of Significant Developments Since Program Initiation	
Date	Significant Development Description
Apr 2022	FRP FY 2022 SM-6 MYP Block IA ECP contract modification award
Apr 2022	FRP FY2022 MYP Block I/IA contract modification award
Jun 2021	FRP FY 2021 SM-6 MYP Block IA ECP contract modification award
Jun 2021	FRP FY2021 MYP Block I/IA contract modification award
Apr 2020	FRP FY 2020 SM-6 MYP Block IA ECP contract modification award
Apr 2020	FRP FY2020 MYP Block I/IA contract modification award
Dec 2019	FRP FY 2019 - FY 2023 MYP SM-6 Block IA ECP contract award
Dec 2019	FRP FY 2019 - FY 2023 MYP SM-6 Block I/IA contract award
Oct 2019	SM-6 Block IA achieved IOC
Dec 2018	FRP FY 2017 - FY 2018 SM-6 Block IA ECP contract award
Dec 2018	Resource Management Decision included an emergent requirement to increase the SM-6 Block IA procurement from 125 to 180 All Up Rounds per year starting in FY 2024
Oct 2018	FY 2019 National Defense Authorization Act (NDAA) authorized a Multi-Year Procurement (MYP) and Advanced Procurement (AP) beginning with the FY 2019 program year for the procurement of up to 625 missiles, completing in the FY 2023 program year
Sep 2018	FRP FY 2017 - FY 2018 SM-6 Block I and Block IA contract award
Dec 2017	Full Operational Capability (FOC) achieved
Jan 2017	LRIP FY 2015 - FY 2016 SM-6 Block IA ECP contract award
Feb 2016	FRP FY 2016 SM-6 Block I and Block IA contract
May 2015	FRP FY 2015 SM-6 Block I and Block IA contract
May 2015	UCA for FY 2015 SM-6 Block IA Engineering Change Proposal (ECP) LRIP
Jun 2014	FRP FY 2014 SM-6 Block I contract
Nov 2013	Initial Operational Capability (IOC) achieved

Sep 2013	FRP FY 2013 SM-6 Block I contract
Aug 2013	Full Rate Production (FRP) Acquisition Decision Memorandum
Jul 2013	LRIP FY 2012 SM-6 Block I contract award
Mar 2013	Navy Electronic Resources and Requirements Review Board (ER3B) memorandum authorizing increase in procurement profile from 1200 to 1800 missiles
May 2012	Undefinitized Contract Action (UCA) for FY 2012 LRIP SM-6 Block I
Oct 2011	Operational Testing (OT) Flight Testing completed
Jun 2011	LRIP FY 2011 (Lot 3) SM-6 Block I option awarded to Raytheon Missile Systems
Jan 2011	Developmental Testing (DT) Flight Testing completed
Jul 2010	LRIP SM-6 Block I (Lot 1) contract definitized with an FY 2010 (Lot 2) option awarded to Raytheon Missile Systems
Jan 2010	Land Based Testing completed
Sep 2009	Letter contract to establish Not-to-Exceed prices for the LRIP contract FY 2009 Low-Rate Initial Production (LRIP) SM-6 Block I awarded to Raytheon Missile Systems
Aug 2009	Milestone C Acquisition Decision Memorandum
Sep 2004	System Development and Demonstration (SD&D) contract awarded to Raytheon Missile Systems
Jul 2004	Milestone B Acquisition Decision Memorandum

Schedule

SM-6

Events	Milestone Baseline Objective	Current Baseline Objective/Threshold		Current Estimate/Actual	Deviation
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	
Land Based Testing-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	
Development Testing and Combined Development and Operational Testing-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	
Operational Testing-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) (1)	Sep 2015	Sep 2015	Mar 2016	Dec 2017	Yes
Notes					

Deviation Explanation

1. The schedule breach was first reported in the December 2015 SAR. SM-6 successfully achieved FOC on December 27, 2017.

Performance

SM-6

Performance Characteristics				
Milestone Baseline	Current Baseline Objective/Threshold	Demonstrated Performance	Current Estimate/Actual	Deviation

Requirement Reference

Validated:

SM-6 Capability Production Document (CPD) dated December 23, 2008

Deviation Explanation

No deviations for this program/subprogram

Notes

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

Acquisition Budget Estimate

SM-6

Total Acquisition Cost

		Milestone APB	Current Baseline		Budget Estimate PB 2024		
Category	Base Year	Objective (BY\$M)	Objective (BY\$M)	Threshold (BY\$M)	BY\$M	TY\$M	Deviation
RDT&E	2004	861.6	834.5	918.0	834.8	933.4	
Procurement	2004	4419.5	6,854.1	7,539.5	7,588.7	11,063	
MILCON	2004	0	0	0	0	0	
Acq. O&M	2004	0	0	0	0	0	
Total		5281.1	7,688.6		8,423.5	11,996.4	
PAUC	2004	4.055	4.271		3.575		
APUC	2004	3.291	3.808		3.221		

Appropriation Category Deviation Explanations

PAUC Deviation Explanation

APUC Deviation Explanation

Budget Notes

SM-6 Block IA ECP production cut in started in FY 2015. FY 2024 PB reflects a funding profile for an authorized Multiyear Procurement (MYP) for SM-6 Block I/IA beginning in FY 2019 and completing in FY 2023. Advance Procurement (AP) is captured in the funding phasing to address economic order quantity (EOQ) material requirements. MYP and AP were approved in the FY 2019 Defense Authorization Act. FY 2024 PB reflects a follow-on MYP for SM-6 Block IA beginning in FY2024 and completing in FY 2028. AP is captured in the funding phasing to address EOQ material requirements. FY 2024 includes funding for Large Lot Procurement Industrial Base investments. The procurement profile assumed SM-6 Block IA/IB production ramps up to 200 SM-6 All Up Rounds (AUR) by FY 2026 and up to 300 SM-6 AURs by FY 2028. The procurement profile reflected in the Defense Acquisition Executive Summary Report is for SM-6 Block IA only. The FY 2024 PB, FY 2027 funding and FY 2028 control is lower than the projected AUR Unit Price for a procurement of 180 SM-6 Block IAs and 250 SM-6 Block IAs respectively. Total Procurement Cost reflected in FY 2029 represents estimate at the projected SM-6 Block IA AUR Unit Price assuming a single year procurement (SYP).

Total End Item Quantity

Quantity Category	Current APB Quantity	Current Estimate Quantity
Development	0	0
Procurement	1800	2356
O&M-Acquired		

Quantity Notes

SM-6 received authorization to increase the production profile from 1200 missiles to 1800 missiles as documented in the Navy Electronic Resources and Requirements Review Board (ER3B) memorandum, dated March 18, 2013. The Current Baseline/Estimate has been updated to reflect the procurement profile which assumes SM-6 Block IA and Block IB production ramps up to 200 SM-6 All Up Rounds (AUR) by FY 2026 and up to 300 SM-6 AURs by FY 2028. The total procurement reflected in the SAR is for SM-6 Block I and Block IA only Program of Record.

Unit Cost

SM-6

Current UCR Baseline and Current Estimate (Base-Year Dollars)			
Category (\$M) Base Year:2004	Current UCR Baseline	Current Estimate	% Change

Program Acquisition Unit Cost

Cost	7,688.6	8,423.5	
Quantity	1,800	2356	
Unit Cost	4.271	3.575	-16.29%

Average Procurement Unit Cost

Cost	6,854.1	7,588.7	
Quantity	1,800	2,356	
Unit Cost	3.808	3.221	-15.41%

Original UCR Baseline and Current Estimate (Base-Year Dollars)			
Category (\$M) Base Year:2004	Original UCR Baseline	Current Estimate	% Change

Program Acquisition Unit Cost

Cost	4,866.3	8,423.5	
Quantity	1,200	2356	
Unit Cost	4.055	3.575	-11.84%

Average Procurement Unit Cost

Cost	3,949.6	7,588.7	
Quantity	1,200	2,356	
Unit Cost	3.291	3.221	-2.17%

Cost Growth Details

Current Baseline PAUC Breach Explanation

Current Baseline APUC Breach Explanation

Original Baseline PAUC Breach Explanation

Original Baseline APUC Breach Explanation

Impacts of Schedule Changes on Unit Cost

None

Impacts of Performance Changes on Unit Cost

None

Actions Taken or Proposed to Control Future Cost Growth

FY 2024 PB assumes a follow-on MYP for SM-6 Block IA beginning in FY 2024 and completing in FY 2028.

Risk and Sensitivity Analysis**SM-6****Risk and Sensitivity Analysis****Current Procurement Cost (December - 2022)**

All areas are on track without any major issues. The program continues to monitor obsolescence issues and is currently mitigating the risk by leveraging STANDARD Missile resources to achieve efficiencies. The program continues to execute within the Current Acquisition Program Baseline unit cost metrics.

Original Baseline Estimate (July - 2004)

OSD CAPE ICE Memorandum dated June 2004 shows a comparison of the ICE and Navy Service Cost Position with Development at (\$6M) delta or -0.7% difference; Procurement at \$527M delta or 14% difference; O&S at \$13M delta or 4% difference; and Total program cost at \$534M delta out of \$5.5B estimate or 11% difference. The 14% difference in the procurement phase cost estimates is driven by differences in the theoretical first unit production costs (T1s), the associated SDD to production step down factors, and learning rates. Schedule Risk: Both the CAPE and the Navy estimates indicate that the current 48-month planned for the SDD phase of the SM-6 program is overly optimistic. Missile programs of this type have an average SDD phase duration of 58-months. The current SM-6 program SDD schedule does not allow for failure during the testing and evaluation phase.

Current Baseline Estimate (August - 2013)

OSD CAPE ICE memorandum dated May 2013 shows a comparison of the ICE and Navy Service Cost Position with SDD at \$0 delta; Procurement at \$341M delta or 5.2% difference; O&S at (\$18M) or -3.9% difference; and Total program cost at \$323M delta out of \$8.1B or 4.1% difference. Cost Risk: CAPE suggested that the program's new Acquisition Program Baseline (APB) be established in line with a more realistic maximum SM-6 annual procurement profile reflecting the current budget environment. USD (AT&L) accepted this recommendation. Two programmatic changes have occurred since Milestone B approval: the Navy increased its total production quantity from 1,200 to 1,800, but reduced the maximum annual procurement quantity in every budget cycle, resulting in an SM-6 procurement profile that extends out an additional eight years. Despite these changes, the average procurement unit cost (APUC) has remained within 3.4% of the estimate APUC figure at Milestone C.

Schedule Risk		
Technical Risks		
Current	December 22, 2022	The program office has been funded to develop an Electronics Unit (EU) upgrade to address a production obsolescence issue.

Low Rate Initial Production

SM-6

Item	Initial LRIP Decision	Current Total LRIP
Approval Date	07/12/2004	04/15/2012
Approved Quantity	120	178
Reference	Milestone B ADM	LRIP Lot 4 ADM
Start Year	2009	2009
End Year	2011	2012

Rationale if quantity exceeds 10% of the total number of articles to be procured:

The SM-6 Program received authorization to enter into a fourth year of LRIP as documented in the ADM dated April 05, 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.

Notes

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.

Contracts & Efforts

Contract Data	
Contract Number	N00024-17-C-5409/1
Effort Number	
Modification Number	
Award Date	09/28/2018
Definitization Date	09/28/2018
Order Number	
CAGE Code/CAGE Legal Name	15090/Raytheon
Contract Title	SM-6 FRP 17/18
Contract Address	Tucson, AZ
Contracting Office	NAVSEA 02
Supported Phase	Production
Contract Strategy	
Contract Type	Firm-Fixed-Price
Modification Date	
Work Start Date	
Technical Data Rights	
Work Completed	

Contracts/Effort Price, Quantity, and Performance (TY\$M)

Initial Target Price	Current Target Price	
\$564.5	\$564.5	
Initial Ceiling Price	Current Ceiling Price	
N/A	N/A	
Contractor EAC	PM EAC	
Initial Quantity	Current Quantity	Delivered Quantity
250	250	Not reported due to classification
BAC	BCWP	ACWP
BCWS	Cost Variance	Schedule Variance

--	--	--

Contract Notes:

The SM-6 FRP Block I and Block IA FY 2017 - FY 2018 Production contract was awarded on September 28, 2018. Scheduled Quantities and Deliveries to Date are not reported due to classification. Cost Variance: Cost Variance reporting is not required on this FFP contract. Schedule Variance: Schedule Variance reporting is not required on this FFP contract.

Factors Contributing to Cost Variance and Projected Effects on Program Costs

Factors Contributing to Schedule Variance and Projected Effects on Program Schedule

Contract Data	
Contract Number	N00024-20-C-5405
Effort Number	
Modification Number	P00007
Award Date	12/20/2019
Definitization Date	12/20/2019
Order Number	
CAGE Code/CAGE Legal Name	15090/Raytheon Missile Systems
Contract Title	SM-6 MYP FY19 - FY23
Contract Address	Tucson, AZ
Contracting Office	NAVSEA 02
Supported Phase	Production
Contract Strategy	
Contract Type	FPIF
Modification Date	
Work Start Date	December 20, 2019
Technical Data Rights	
Work Completed	35.56%

Contracts/Effort Price, Quantity, and Performance (TY\$M)		
Initial Target Price	Current Target Price	
\$1,049.2	\$1,049.2	
Initial Ceiling Price	Current Ceiling Price	
\$1,098.9	\$1,098.9	
Contractor EAC	PM EAC	
\$921.8	\$921.8	
Initial Quantity	Current Quantity	Delivered Quantity
625	625	0
BAC	BCWP	ACWP
\$866.2	\$308	\$394.9
BCWS	Cost Variance	Schedule Variance

\$281.7	-86.9%	+26.3%
---------	--------	--------

Contract Notes:

The SM-6 FRP Block IA MYP ECP FY 2022 contract was awarded April 2022. The SM-6 FRP Block I/IA MYP FY 2022 Production contract was awarded April 2022. Scheduled quantities and deliveries to date are not reported due to classification.

Factors Contributing to Cost Variance and Projected Effects on Program Costs

The Integrated Baseline Review was completed on September 14, 2020. Cost Variance (-86.9% ITD) decreased due to combining material requirements across projects for procurement, fabrication and assembly (also known as pegging), which is continuously being monitored with accounting to understand overall pegging impacts. As a result of the 2020 merger of Raytheon and United Technologies cost accounting standards, legacy circuit card assembly center of excellence will be converted from an Inter-Organizational Transfer (IOT) to a single business unit Stock Transport Order (STO) which shifts material accounting from a purchase part to a make item within another business unit factory. This conversion continues to impact the factory side of Earned Value due to STO cash flow and the inability for the cost account manager to claim completion.

Factors Contributing to Schedule Variance and Projected Effects on Program Schedule

The Integrated Baseline Review was completed on September 14, 2020. Schedule Variance (+26.3 ITD) decreased due to Aerojet being behind schedule due to an exit cone issue that has since been mitigated through partnering with Raytheon to provide government furnished material until Aerojet recovers schedule.

External Government Activities

Activity Title		Government Entity	Supported Phase
CAGE		Work Start Date	
City		State/Province:	
Notes			

Deliveries and Expenditures

SM-6

Deliveries				
Delivered to Date	Planned to Date	Actual to Date	Total Quantity	Percent Delivered
Development				
Production	856	856	2,356	36.33%
<hr/>				
Total Program Quantity Delivered	856	856	2356	36.33%

Expended and Appropriated (TY \$M)

Years Appropriated to date: 19

Total Years Appropriated Funding (Current Baseline): 24

Percent Years Appropriated: 79.17%

Then-Year Funding Appropriated as Percentage of Total Acquisition Estimate: 50.70%

Then-Year Funding Expended as Percentage of Total Acquisition Estimate: 37.60%

Total Acquisition Cost: \$11,996.4

Deliveries & Expenditures Notes:

The above data is current as of March 8, 2023.

Operating and Support Costs

SM-6

O&S Cost Breakdown:

Category (BY\$ Million)	SM-6
Unit-Level Manpower	.0
Unit Operations	180.9
Maintenance	192.9
Sustaining Support	126.6
Continued System Improvements	.0
Other	.0
Total	500.5

Cost Estimate Source: POE dated February 10, 2020

O&S Cost Notes:

Total Program O&S Cost Compared with Baseline					
	Current Baseline				
	Objective (BY\$M)	Threshold (BY\$M)	Current Estimate (BY\$M)	Current Estimate (TY\$M)	Deviation
Total O&S	443	487.3	500.5	1,017.9	

Note:

O&S Cost Deviation Explanation

The O&S cost breach is due to an updated O&S estimate to adjust for a total quantity from 1,800 to 2,356 missiles and extending the fiscal year retired date from FY 2054 to FY 2058. The annual average cost per missile remains the same.

Operating and Support Costs - Disposal and Unitized Costs**SM-6****Annual Unitized O&S Cost Definition and Calculation Relative to Total O&S Cost:**

Sustainment Factors	System Name: SM-6	Antecedent System Name: N/A
Quantity to Sustain	2356	
Unit of Measure		
Unit Expected Service Life	30	

Base Year:

Annual Unitized O&S Cost by Category Base Year \$ Unit:(\$M)	System Name: SM-6	Antecedent System Name: N/A
Unit-Level Manpower	0.0	
Unit Operations	3.0	
Maintenance	3.2	
Sustaining Support	2.1	
Continued System Improvements	0.0	
Other	0.0	
Total O&S	8.3	

Disposal/Demilitarization Cost Estimate

(Base Year \$Millions)	System Name: SM-6	Antecedent System Name: N/A
Total Disposal		

Cost Estimate Source - Disposal

Type:	Program Office Estimate
Approval Authority and Date:	Major Program Manager 03/08/2023

Note:

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 2356 All Up Rounds over a 30 year life cycle. The PB 2024 procurement profile assumes a ramp up to 200 SM-6 Block IA and Block IB missiles per year starting in FY 2024, and up to 300 SM-6 Block IA and Block IB missiles per year starting in FY 2028. The program expects the average annual operating and support cost per missile to remain unchanged with this new requirement. 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 include Depot Maintenance and Refurbishment. Sustaining Support includes Sustaining Investment and Software Maintenance. Indirect Costs includes Installation and Personnel Support.

Disposal Cost Notes:

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.

Additional O&S Estimate Assumptions:

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

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 Rounds will be considered a "wooden round" on board ships, 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 Estimate Assumptions:

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 by BY2004\$. SM-2 Block IIIA and Block IIIB FY 2015 PB is the basis for the SM-2 average annual cost per missile.