Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-442

AIM-9X Block II Sidewinder (AIM-9X Blk II)

As of FY 2015 President's Budget

Defense Acquisition Management
Information Retrieval
(DAMIR)

Table of Contents

Common Acronyms and Abbreviations

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

Program Information

Program Name

AIM-9X Block II Sidewinder (AIM-9X Blk II)

DoD Component

Navy

Joint Participants

Air Force

Responsible Office

Responsible Office

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Date Assigned September 7, 2010

References

SAR Baseline (Production Estimate)

Navy Acquisition Executive (NAE) Approved Acquisition Program Baseline (APB) dated December 23, 2011

Approved APB

Navy Acquisition Executive (NAE) Approved Acquisition Program Baseline (APB) dated December 23, 2011

Mission and Description

The AIM-9X Block II Sidewinder (AIM-9X Blk II) short-range air-to-air missile is a long term evolution of the AIM-9 series of fielded missiles. The missile program provides a launch and leave, air combat munitions that uses passive Infrared (IR) energy for acquisition and tracking of enemy aircraft and complements the Advanced Medium Range Air-to-Air Missile. Air superiority in the short-range air-to-air missile arena is essential and includes first shot, first kill opportunity against enemy employing IR countermeasures. Anti-Tamper features have been incorporated to protect improvements inherent in this design.

Executive Summary

During Operational Test (OT) the program identified that the AIM-9X Blk II Missile did not satisfy the requirements of Probability of Kill and Maximum Range which resulted in the Block II program being decertified on July 29, 2013. Manufacturing process changes and software updates have been made and the program re-entered Integrated Testing in February 2014.

A LRIP III/FY 2013 contract was awarded in August 2013. During LRIP, the program will procure AIM-9X Block II All-Up-Round missiles and Captive Air Training Missiles. A Full Rate Production (FRP) decision will be sought after successful completion of Initial Operational Test and Evaluation and following the Beyond-LRIP assessment of system operational effectiveness and suitability.

As a result of the OT suspension, the Program Office submitted a Program Deviation Report in December 2013 reporting an APB schedule breach for OT Complete and FRP thresholds.

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

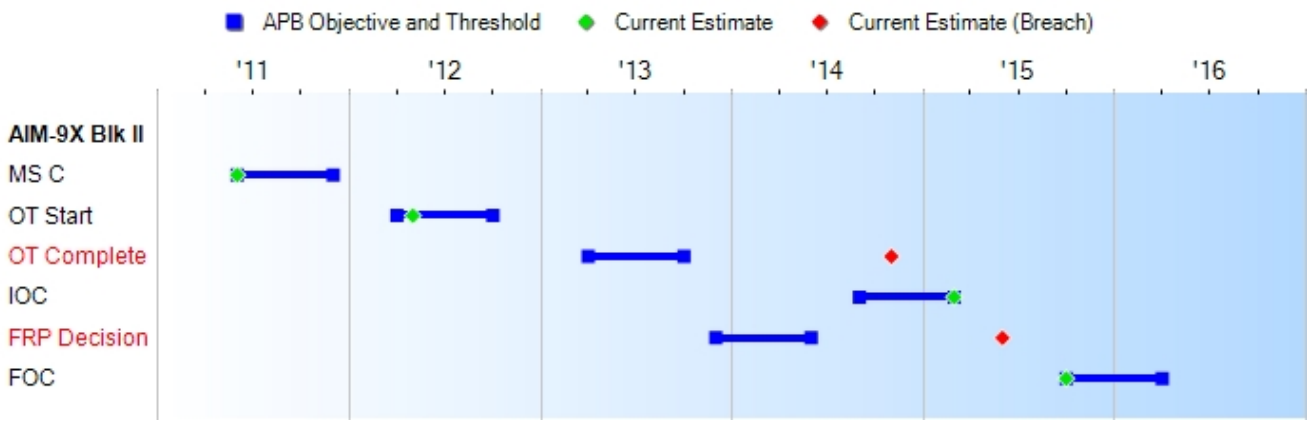
Explanation of Breach

Schedule Breach: During Operational Testing (OT), the program identified that the AIM-9X Block II Missile did not satisfy the requirements of Probability of Kill and Maximum Range which resulted in the program being decertified on July 29, 2013. Manufacturing process changes and software updates have been made and the program began Integrated Testing in February 2014.

Cost Breach: The Cost Breach was previously reported in the December 2012 SAR.

A Program Deviation Report was submitted for each of the breaches and will be resolved in the Full Rate Production APB, scheduled for June 2015.

Schedule



Milestones	SAR Baseline Prod Est	Current APB Production Objective/Threshold		Current Estimate	
MS C	JUN 2011	JUN 2011	DEC 2011	JUN 2011	
OT Start	APR 2012	APR 2012	OCT 2012	MAY 2012	
OT Complete	APR 2013	APR 2013	OCT 2013	**NOV 2014**[1]	(Ch-1)
IOC	SEP 2014	SEP 2014	MAR 2015	MAR 2015	(Ch-1)
FRP Decision	DEC 2013	DEC 2013	JUN 2014	**JUN 2015**[1]	(Ch-1)
FOC	OCT 2015	OCT 2015	APR 2016	OCT 2015	

[1] *APB Breach*

Change Explanations

(Ch-1) The Opertional Test (OT) Complete current estimate changed from August 2013 to November 2014. The Full Rate Production Decision current estimate changed from April 2014 to June 2015. The IOC current estimate changed from September 2014 to March 2015. These changes were made to reflect the program's identification that the AIM-9X Blk II missile did not satisfy the requirements of Probability of Kill and Maximum Range which resulted in the program being decertified on July 29, 2013. Manufacturing process changes and software updates have been made and the program began Intregated Testing in February 2014.

Acronyms and Abbreviations

FOC - Follow-On Capability
FRP - Full Rate Production
MS - Milestone
OT - Operational Test

Performance

Characteristics	SAR Baseline Prod Est	Current APB Production Objective/Threshold		Demonstrated Performance	Current Estimate
AIM-9X Day/Night Capability	Yes	Yes	Yes	TBD	Yes
AIM-9X Aircraft Interface/Interoperability Missile Weight (lbs.)	≤ 192	≤ 192	≤ 210	TBD	≤ 192
AIM-9X Aircraft Interface/Interoperability Missile Length (in.)	≤ 115	≤ 115	≤ 123	TBD	≤ 115
AIM-9X Aircraft Interface/Interoperability Missile Box Size (in.)	≤ 12.5 X 12.5	≤ 12.5 X 12.5	≤ 12.5 X 12.5	TBD	≤ 12.5 X 12.5
AIM-9X Aircraft Interface/Interoperability Missile Diameter (in.)	≤ 5	≤ 5	≤ 7	TBD	≤ 5
AIM-9X Aircraft Interface/Interoperability Interface	Mid body umbilical only	Mid body umbilical only	Digital.	TBD	Mid body umbilical only
AIM-9X High Off Boresight Capability Cueing/Verification	Interface with current/ planned aircraft radar systems and planned HMCS.	Interface with current/ planned aircraft radar systems and planned HMCS.	Interface with current/ planned aircraft radar systems and planned HMCS.	TBD	Interface with current/ planned aircraft radar systems and planned-HMCS
AIM-9X Captive Carry Reliability (MTBCCF) (hr.)	>.or.=900	>.or.=900	>.or.=500	794.16	>.or.=900
AIM-9X Detect Non-Operational Missile (BIT) All Components (%)	>.or.=0.80	>.or.=0.80	>.or.=0.60	TBD	>.or.=0.80
AIM-9X Detect Non-Operational Missile (BIT-able Components) (%)	>.or.=0.95	>.or.=0.95	>.or.=0.90	TBD	>.or.=0.95
AIM-9X Mean Time Between False Alarms (hr.)	>.or.=25	>.or.=25	<.or.=16	TBD	>.or.=25
AIM-9X BIT Time (sec.)	≤ 20	≤ 20	≤ 20	TBD	≤ 20
EMI Compatibility	Threshold= Objective	Threshold= Objective	Not incur damage to electrical components while in the	TBD	Threshold= Objective

			electromagnetic environment of an aircraft carried. The AIM-9X Block II missile shall be compatible with representative threshold hose aircraft weapon and sensor load-outs with regard to RFI, EMI, and MIL-STD-1533 or MIL-STD-1760 data bus message throughput constraints.		
Ao- AUR	No less than (.98) after 35,000 flight hours	No less than (.98) after 35,000 flight hours	No less than (.93) after 35,000 flight hours	TBD	No less than (.98) after 35,000 flight hours
Net Readiness	The capability, system, and/or service must fully support execution of joint critical operational activities and information exchanges identified in the DoD Enterprise Architecture and solution architectures based on	The capability, system, and/or service must fully support execution of joint critical operational activities and information exchanges identified in the DoD Enterprise Architecture and solution architectures based on	The capability, system, and/or service must fully support execution of all operational activities and information exchanges identified in DoD Enterprise Architecture and solution architectures based on	TBD	The capability, system, and/or service must fully support execution of joint critical operational activities and information exchanges identified in the DoD Enterprise Architecture and solution architectures based on

	integrated DoDAF content, and must satisfy the technical requirements for transition to Net-Centric military operations to include: 1) Solution architecture products complaint with DoD Enterprise Architecture based on integrated DoDAF content, including specified operationally effective information exchanges. 2) Compliant with Net-Centric Data Strategy and Net-Centric Services Strategy, and the principles and rules identified in the DoD IEA, excepting tactical and non-IP communica-tions. 3) Compliant with GIG Technical Guidance to	integrated DoDAF content, and must satisfy the technical requirements for transition to Net-Centric military operations to include: 1) Solution architecture products complaint with DoD Enterprise Architecture based on integrated DoDAF content, including specified operationally effective information exchanges. 2) Compliant with Net-Centric Data Strategy and Net-Centric Services Strategy, and the principles and rules identified in the DoD IEA, excepting tactical and non-IP communica-tions. 3) Compliant with GIG Technical Guidance to	integrated DoDAF content, and must satisfy the technical requirements for transition to Net-Centric military operations to include: 1) Solution architecture products compliant with DoD Enterprise Architecture based on integrated DoDAF content, including specified operationally effective information exchanges. 2) Compliant with Net-Centric Data Strategy and Net-Centric Services Strategy, and the principles and rules identified in the DoD IEA , excepting tactical and non-IP communica-tions. 3) Compliant with GIG Technical Guidance to		integrated DoDAF content, and must satisfy the technical requirements for transition to Net-Centric military operations to include: 1) Solution architecture products complaint with DoD Enterprise Architecture based on integrated DoDAF content, including specified operationally effective information exchanges. 2) Compliant with Net-Centric Data Strategy and Net-Centric Services Strategy, and the principles and rules identified in the DoD IEA, excepting tactical and non-IP communica-tions. 3) Compliant with GIG Technical Guidance to

	include IT Standards identified in the TV-1 and implementation guidance of GIG GESPs necessary to meet all operational requirements specified in the DoD Enterprise Architecture and solution architecture views. 4) Information assurance requirements including availability, integrity, authentication, confidentiality, and non-repudiation, and issuance of an IATO or ATO by the DAA and 5) Supportability requirements to include SAASM Spectrum and JTRS requirements	include IT Standards identified in the TV-1 and implementation guidance of GIG GESPs necessary to meet all operational requirements specified in the DoD Enterprise Architecture and solution architecture views. 4) Information assurance requirements including availability, integrity, authentication, confidentiality, and non-repudiation, and issuance of an IATO or ATO by the DAA and 5) Supportability requirements to include SAASM Spectrum and JTRS requirements	include IT Standards identified in the TV-1 and implementation guidance of GESPs, necessary to meet all operational requirements specified in the DoD Enterprise Architecture and solution architecture views. 4) Information assurance requirements including availability, integrity, authentication, confidentiality, and non-repudiation, and issuance of an IATO or ATO by the DAA and 5) Supportability requirements to include SAASM, Spectrum and JTRS necessary to meet all operational requirements specified in the DoD Enterprise Architecture and solution architecture		include IT Standards identified in the TV-1 and implementation guidance of GIG GESPs necessary to meet all operational requirements specified in the DoD Enterprise Architecture and solution architecture views. 4) Information assurance requirements including availability, integrity, authentication, confidentiality and non-repudiation, and issuance of an IATO or ATO by the DAA and 5) Supportability requirements to include SAASM Spectrum and JTRS requirements

			views		
Ao- CATM	No less than (.95) after 100,000 flight hours	No less than (.95) after 100,000 flight hours	No less than (.86) after 100,000 flight hours	TBD	No less than (.95) after 100,000 flight hours
Material Availability (Am)	Threshold= Objective	Threshold= Objective	No less than (.82)	TBD	Threshold= Objective

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

Requirements Source

Capability Production Document (CPD) dated May 20, 2011

Change Explanations

None

Acronyms and Abbreviations

Ao - Operational Availability
ATO - Authorization To Operate
AUR - All Up Round
BIT - Built In Test
CATM - Captive Air Training Missile
DAA - Designated Accrediting Authority
DoDAF - Department of Defense Architecture Framework
EMI - Electromagnetic Interference
GESP - GIG Enterprise Service Profile
GIG - Global Information Grid
HMCS - Helmet Mounted Cueing System
hr - hour
IATO - Interim Authorization to Operate
IEA - Information Enterprise Architecture
in - Inches
IP - Internet Protocol
IT - Information Technology
JTRS - Joint Test Requirement System
lbs - Pounds
Mid - Middle
MIL - Military
MTBCCF - Mean Time Between Captive Carry Failure
RFI - Radio Frequency Interference
SAASM - Selective Availability Anti-Spoofing Module
sec - seconds
STD - Standard
TV - Technical View

Track to Budget

General Memo

Block III funding (Project Unit 0458) is not included in this Block II SAR.

RDT&E

Appn		BA	PE	
Navy	1319	07	0207161N	
	Project		**Name**	
	0457		Tactical Aim Missile	(Shared)
Air Force	3600	07	0207161F	
	Project		**Name**	
	674132		Tactical Aim Missile	(Shared)

Procurement

Appn		BA	PE	
Navy	1507	02	0204162N	
	Line Item		**Name**	
	2209		AIM-9X Block II Sidewinder	(Shared)
Navy	1507	02	0206138M	
	Line Item		**Name**	
	2209		AIM-9X Block II Sidewinder	(Shared)
	Notes:		USMC funding received as WPN	
Navy	1507	06	0204162N	
	Line Item		**Name**	
	6120		AIM-9X Block II Sidewinder	(Shared)
	Notes:		Initial Spares	
Air Force	3020	04	0207161F	
	Line Item		**Name**	
	000999		AIM-9X Block II Sidewinder	(Shared)
	Notes:		Initial Spares	
Air Force	3020	02	0207161F	
	Line Item		**Name**	
	M09HAI		AIM-9X Block II Sidewinder	(Shared)

Cost and Funding

Cost Summary

Total Acquisition Cost and Quantity

Appropriation	BY2011 $M			BY2011 $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	168.8	168.8	185.7	**350.7** [1]	175.7	175.7	376.7
Procurement	3798.5	3798.5	4178.4	3046.1	4680.4	4680.4	3669.9
Flyaway	--	--	--	2924.6	--	--	3521.4
Recurring	--	--	--	2745.3	--	--	3320.1
Non Recurring	--	--	--	179.3	--	--	201.3
Support	--	--	--	121.5	--	--	148.5
Other Support	--	--	--	39.8	--	--	46.7
Initial Spares	--	--	--	81.7	--	--	101.8
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	3967.3	3967.3	N/A	3396.8	4856.1	4856.1	4046.6

[1] ***APB Breach***

Confidence Level for Current APB Cost 50% -

The current Acquisition Program Baseline (APB) cost estimate provided sufficient resources to execute the program under normal conditions, encountering average levels of technical, schedule and programmatic risk and external interference. It was consistent with average resource expenditures on historical efforts of similar size, scope, and complexity and represents a notional 50% confidence level.

Quantity	SAR Baseline Prod Est	Current APB Production	Current Estimate
RDT&E	0	0	0
Procurement	6000	6000	6000
Total	6000	6000	6000

Cost and Funding

Funding Summary

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

Appropriation	Prior	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	To Complete	Total
RDT&E	107.6	19.4	69.8	77.1	66.8	13.4	13.7	8.9	376.7
Procurement	423.8	205.5	210.0	256.7	290.6	225.0	229.5	1828.8	3669.9
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 2015 Total	531.4	224.9	279.8	333.8	357.4	238.4	243.2	1837.7	4046.6
PB 2014 Total	559.6	262.5	300.0	284.7	287.4	267.8	263.5	2110.2	4335.7
Delta	-28.2	-37.6	-20.2	49.1	70.0	-29.4	-20.3	-272.5	-289.1

Quantity	Undistributed	Prior	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	To Complete	Total
Development	0	0	0	0	0	0	0	0	0	0
Production	0	665	450	470	565	597	430	401	2422	6000
PB 2015 Total	0	665	450	470	565	597	430	401	2422	6000
PB 2014 Total	0	679	450	468	468	470	429	431	2605	6000
Delta	0	-14	0	2	97	127	1	-30	-183	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
2004	--	--	--	--	--	--	1.3
2005	--	--	--	--	--	--	3.9
2006	--	--	--	--	--	--	7.7
2007	--	--	--	--	--	--	6.7
2008	--	--	--	--	--	--	0.5
2009	--	--	--	--	--	--	5.4
2010	--	--	--	--	--	--	--
2011	--	--	--	--	--	--	0.9
2012	--	--	--	--	--	--	8.4
2013	--	--	--	--	--	--	17.9
2014	--	--	--	--	--	--	6.6
2015	--	--	--	--	--	--	40.1
2016	--	--	--	--	--	--	31.0
2017	--	--	--	--	--	--	15.0
2018	--	--	--	--	--	--	0.3
2019	--	--	--	--	--	--	0.3
2020	--	--	--	--	--	--	0.5
2021	--	--	--	--	--	--	0.5
2022	--	--	--	--	--	--	0.5
2023	--	--	--	--	--	--	0.6
2024	--	--	--	--	--	--	0.6
2025	--	--	--	--	--	--	0.6
2026	--	--	--	--	--	--	0.6
2027	--	--	--	--	--	--	0.6
Subtotal	**--**	**--**	**--**	**--**	**--**	**--**	**150.5**

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

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2011 $M	Non End Item Recurring Flyaway BY 2011 $M	Non Recurring Flyaway BY 2011 $M	Total Flyaway BY 2011 $M	Total Support BY 2011 $M	Total Program BY 2011 $M
2004	--	--	--	--	--	--	1.5
2005	--	--	--	--	--	--	4.3
2006	--	--	--	--	--	--	8.3
2007	--	--	--	--	--	--	7.0
2008	--	--	--	--	--	--	0.5
2009	--	--	--	--	--	--	5.5
2010	--	--	--	--	--	--	--
2011	--	--	--	--	--	--	0.9
2012	--	--	--	--	--	--	8.1
2013	--	--	--	--	--	--	17.0
2014	--	--	--	--	--	--	6.2
2015	--	--	--	--	--	--	36.7
2016	--	--	--	--	--	--	27.8
2017	--	--	--	--	--	--	13.2
2018	--	--	--	--	--	--	0.3
2019	--	--	--	--	--	--	0.3
2020	--	--	--	--	--	--	0.4
2021	--	--	--	--	--	--	0.4
2022	--	--	--	--	--	--	0.4
2023	--	--	--	--	--	--	0.5
2024	--	--	--	--	--	--	0.5
2025	--	--	--	--	--	--	0.5
2026	--	--	--	--	--	--	0.4
2027	--	--	--	--	--	--	0.4
Subtotal	**--**	**--**	**--**	**--**	**--**	**--**	**141.1**

Annual Funding TY$
3600 | RDT&E | Research, Development, Test, and Evaluation, Air Force

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
2005	--	--	--	--	--	--	5.1
2006	--	--	--	--	--	--	10.9
2007	--	--	--	--	--	--	3.3
2008	--	--	--	--	--	--	5.5
2009	--	--	--	--	--	--	5.5
2010	--	--	--	--	--	--	3.7
2011	--	--	--	--	--	--	7.0
2012	--	--	--	--	--	--	7.9
2013	--	--	--	--	--	--	6.0
2014	--	--	--	--	--	--	12.8
2015	--	--	--	--	--	--	29.7
2016	--	--	--	--	--	--	46.1
2017	--	--	--	--	--	--	51.8
2018	--	--	--	--	--	--	13.1
2019	--	--	--	--	--	--	13.4
2020	--	--	--	--	--	--	0.5
2021	--	--	--	--	--	--	0.5
2022	--	--	--	--	--	--	0.5
2023	--	--	--	--	--	--	0.5
2024	--	--	--	--	--	--	0.6
2025	--	--	--	--	--	--	0.6
2026	--	--	--	--	--	--	0.6
2027	--	--	--	--	--	--	0.6
Subtotal	**--**	**--**	**--**	**--**	**--**	**--**	**226.2**

Annual Funding BY$
3600 | RDT&E | Research, Development, Test, and Evaluation, Air Force

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2011 $M	Non End Item Recurring Flyaway BY 2011 $M	Non Recurring Flyaway BY 2011 $M	Total Flyaway BY 2011 $M	Total Support BY 2011 $M	Total Program BY 2011 $M
2005	--	--	--	--	--	--	5.7
2006	--	--	--	--	--	--	11.8
2007	--	--	--	--	--	--	3.5
2008	--	--	--	--	--	--	5.7
2009	--	--	--	--	--	--	5.6
2010	--	--	--	--	--	--	3.7
2011	--	--	--	--	--	--	6.9
2012	--	--	--	--	--	--	7.7
2013	--	--	--	--	--	--	5.7
2014	--	--	--	--	--	--	12.0
2015	--	--	--	--	--	--	27.4
2016	--	--	--	--	--	--	41.7
2017	--	--	--	--	--	--	46.0
2018	--	--	--	--	--	--	11.4
2019	--	--	--	--	--	--	11.4
2020	--	--	--	--	--	--	0.4
2021	--	--	--	--	--	--	0.4
2022	--	--	--	--	--	--	0.4
2023	--	--	--	--	--	--	0.4
2024	--	--	--	--	--	--	0.5
2025	--	--	--	--	--	--	0.5
2026	--	--	--	--	--	--	0.4
2027	--	--	--	--	--	--	0.4
Subtotal	**--**	**--**	**--**	**--**	**--**	**--**	**209.6**

Annual Funding TY$
3020 | Procurement | Missile Procurement, Air Force

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
2009	--	--	--	1.9	1.9	--	1.9
2010	--	--	--	14.2	14.2	--	14.2
2011	106	56.5	--	7.7	64.2	1.4	65.6
2012	127	68.6	--	16.3	84.9	1.7	86.6
2013	150	55.5	--	11.0	66.5	7.4	73.9
2014	225	94.2	--	6.2	100.4	1.8	102.2
2015	303	127.2	--	5.6	132.8	1.8	134.6
2016	350	149.0	--	7.1	156.1	1.8	157.9
2017	385	176.4	--	5.3	181.7	2.0	183.7
2018	229	108.5	--	5.7	114.2	2.0	116.2
2019	201	110.2	--	6.1	116.3	2.0	118.3
2020	181	114.2	--	4.3	118.5	5.8	124.3
2021	175	115.5	--	5.1	120.6	5.9	126.5
2022	172	118.3	--	4.4	122.7	6.0	128.7
2023	168	120.5	--	4.5	125.0	6.0	131.0
2024	165	122.6	--	4.6	127.2	6.4	133.6
2025	161	124.8	--	4.6	129.4	6.6	136.0
2026	158	127.1	--	4.7	131.8	6.7	138.5
2027	96	88.2	--	4.8	93.0	6.8	99.8
Subtotal	**3352**	**1877.3**	**--**	**124.1**	**2001.4**	**72.1**	**2073.5**

Annual Funding BY$
3020 | Procurement | Missile Procurement, Air Force

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2011 $M	Non End Item Recurring Flyaway BY 2011 $M	Non Recurring Flyaway BY 2011 $M	Total Flyaway BY 2011 $M	Total Support BY 2011 $M	Total Program BY 2011 $M
2009	--	--	--	1.9	1.9	--	1.9
2010	--	--	--	14.2	14.2	--	14.2
2011	106	55.3	--	7.5	62.8	1.4	64.2
2012	127	66.0	--	15.7	81.7	1.6	83.3
2013	150	51.9	--	10.4	62.3	6.9	69.2
2014	225	86.6	--	5.6	92.2	1.7	93.9
2015	303	114.7	--	5.1	119.8	1.6	121.4
2016	350	131.8	--	6.3	138.1	1.6	139.7
2017	385	153.0	--	4.5	157.5	1.8	159.3
2018	229	92.2	--	4.9	97.1	1.7	98.8
2019	201	91.8	--	5.1	96.9	1.7	98.6
2020	181	93.3	--	3.5	96.8	4.8	101.6
2021	175	92.5	--	4.1	96.6	4.7	101.3
2022	172	92.9	--	3.5	96.4	4.7	101.1
2023	168	92.8	--	3.5	96.3	4.6	100.9
2024	165	92.6	--	3.5	96.1	4.8	100.9
2025	161	92.4	--	3.4	95.8	4.9	100.7
2026	158	92.2	--	3.4	95.6	4.9	100.5
2027	96	62.7	--	3.4	66.1	4.9	71.0
Subtotal	**3352**	**1554.7**	**--**	**109.5**	**1664.2**	**58.3**	**1722.5**

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

Fiscal Year	Quantity	End Item Recurring Flyaway TY $M	Non End Item Recurring Flyaway TY $M	Non Recurring Flyaway TY $M	Total Flyaway TY $M	Total Support TY $M	Total Program TY $M
2009	--	--	--	0.9	0.9	--	0.9
2010	--	--	--	11.4	11.4	--	11.4
2011	63	40.9	--	8.2	49.1	1.2	50.3
2012	69	37.9	--	8.9	46.8	1.7	48.5
2013	150	57.8	--	5.4	63.2	7.3	70.5
2014	225	87.7	--	12.2	99.9	3.4	103.3
2015	167	69.1	--	2.7	71.8	3.6	75.4
2016	215	90.4	--	4.9	95.3	3.5	98.8
2017	212	99.4	--	3.6	103.0	3.9	106.9
2018	201	101.2	--	3.4	104.6	4.2	108.8
2019	200	104.1	--	2.8	106.9	4.3	111.2
2020	150	83.3	--	1.4	84.7	5.1	89.8
2021	150	85.5	--	2.2	87.7	5.2	92.9
2022	150	89.1	--	1.5	90.6	5.2	95.8
2023	150	92.0	--	1.5	93.5	5.4	98.9
2024	150	95.9	--	1.5	97.4	5.4	102.8
2025	150	100.6	--	1.5	102.1	5.5	107.6
2026	150	120.5	--	1.6	122.1	5.6	127.7
2027	96	87.4	--	1.6	89.0	5.9	94.9
Subtotal	**2648**	**1442.8**	**--**	**77.2**	**1520.0**	**76.4**	**1596.4**

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

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2011 $M	Non End Item Recurring Flyaway BY 2011 $M	Non Recurring Flyaway BY 2011 $M	Total Flyaway BY 2011 $M	Total Support BY 2011 $M	Total Program BY 2011 $M
2009	--	--	--	0.9	0.9	--	0.9
2010	--	--	--	11.3	11.3	--	11.3
2011	63	39.7	--	7.9	47.6	1.2	48.8
2012	69	36.2	--	8.4	44.6	1.7	46.3
2013	150	54.3	--	5.1	59.4	6.9	66.3
2014	225	81.0	--	11.2	92.2	3.2	95.4
2015	167	62.6	--	2.4	65.0	3.3	68.3
2016	215	80.3	--	4.4	84.7	3.1	87.8
2017	212	86.6	--	3.1	89.7	3.4	93.1
2018	201	86.4	--	2.9	89.3	3.6	92.9
2019	200	87.1	--	2.4	89.5	3.6	93.1
2020	150	68.4	--	1.1	69.5	4.2	73.7
2021	150	68.8	--	1.8	70.6	4.2	74.8
2022	150	70.3	--	1.2	71.5	4.1	75.6
2023	150	71.2	--	1.2	72.4	4.1	76.5
2024	150	72.7	--	1.1	73.8	4.1	77.9
2025	150	74.8	--	1.1	75.9	4.1	80.0
2026	150	87.8	--	1.2	89.0	4.1	93.1
2027	96	62.4	--	1.1	63.5	4.3	67.8
Subtotal	**2648**	**1190.6**	**--**	**69.8**	**1260.4**	**63.2**	**1323.6**

Low Rate Initial Production

	Initial LRIP Decision	Current Total LRIP
Approval Date	6/30/2011	8/15/2012
Approved Quantity	361	679
Reference	Milestone C ADM	LRIP III ADM
Start Year	2011	2011
End Year	2012	2013

The Current Total LRIP Quantity is more than 10% of the total production quantity due to the need to maintain the production line.

The Initial LRIP Decision Approved Quantity was authorized for LRIP I and II per the Milestone C Acquisition Decision Memorandum dated June 30, 2011.

Foreign Military Sales

Country	Date of Sale	Quantity	Total Cost $M	Memo
Belgium	1/6/2014	76	48.2	FMS Case BE-P-ACW. Until contract award the reported funding amound is the LOA line item value(s).
Singapore	12/18/2013	28	15.9	FMS Case SN-P-ADF. Until Contract Award the reported funding amount is the LOA line item value(s).
Netherlands	11/1/2013	48	25.1	FMS Case NE-P-AGE. Until Contract Award the reported funding amount is the LOA line item value(s).
Turkey	9/3/2013	117	92.6	FMS Case TK-P-AHX-A5. Until Contract Award the reported funding amount is the LOA line item value(s).
Oman	3/11/2013	74	20.7	FMS Case MU-P-LAO
Kuwait	2/28/2013	100	29.1	FMS Case KU-P-ABI
Malaysia	5/29/2012	28	8.0	FMS Case MF-P-AAD
Morocco	3/29/2012	30	8.4	FMS Case MO-P-AAK
Saudi Arabia	12/25/2011	154	85.0	FMS Case SR-D-SAI.
South Korea	12/20/2011	19	9.0	FMS Case KS-P-AKR.

Nuclear Costs

None

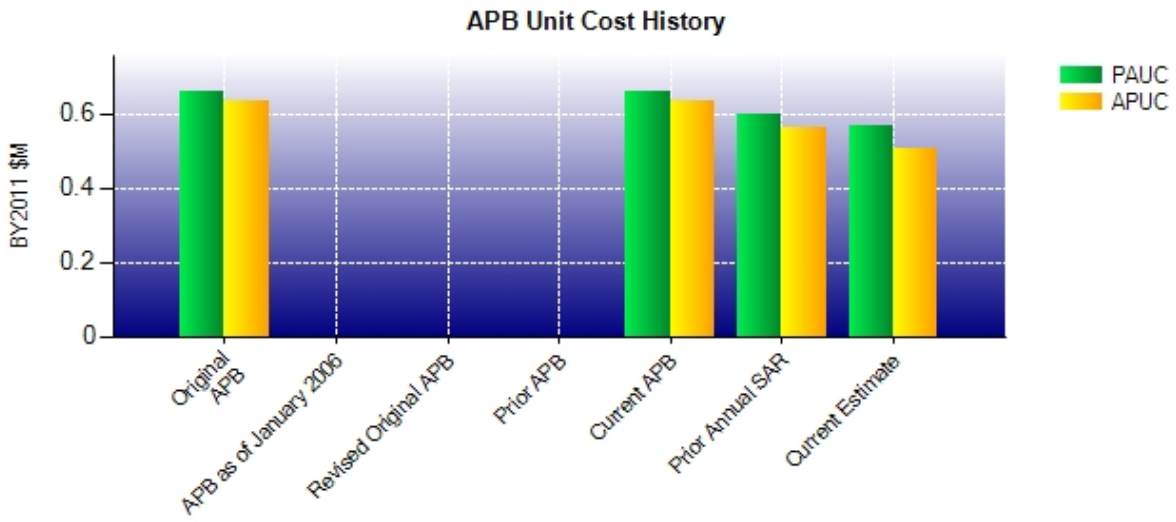
Unit Cost

Unit Cost Report

	BY2011 $M	BY2011 $M	
Unit Cost	**Current UCR Baseline (DEC 2011 APB)**	**Current Estimate (DEC 2013 SAR)**	**BY % Change**
Program Acquisition Unit Cost (PAUC)			
Cost	3967.3	3396.8	
Quantity	6000	6000	
Unit Cost	0.661	0.566	-14.40
Average Procurement Unit Cost (APUC)			
Cost	3798.5	3046.1	
Quantity	6000	6000	
Unit Cost	0.633	0.508	-19.76

	BY2011 $M	BY2011 $M	
Unit Cost	**Original UCR Baseline (DEC 2011 APB)**	**Current Estimate (DEC 2013 SAR)**	**BY % Change**
Program Acquisition Unit Cost (PAUC)			
Cost	3967.3	3396.8	
Quantity	6000	6000	
Unit Cost	0.661	0.566	-14.40
Average Procurement Unit Cost (APUC)			
Cost	3798.5	3046.1	
Quantity	6000	6000	
Unit Cost	0.633	0.508	-19.76

Unit Cost History



		BY2011 $M		TY $M	
	Date	PAUC	APUC	PAUC	APUC
Original APB	DEC 2011	0.661	0.633	0.809	0.780
APB as of January 2006	N/A	N/A	N/A	N/A	N/A
Revised Original APB	N/A	N/A	N/A	N/A	N/A
Prior APB	N/A	N/A	N/A	N/A	N/A
Current APB	DEC 2011	0.661	0.633	0.809	0.780
Prior Annual SAR	DEC 2012	0.597	0.561	0.723	0.685
Current Estimate	DEC 2013	0.566	0.508	0.674	0.612

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	
0.809	0.027	0.000	-0.112	0.024	-0.063	0.000	-0.011	-0.135	0.674

Current SAR Baseline to Current Estimate (TY $M)

Initial APUC Prod Est	Changes								APUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
0.780	0.027	0.000	-0.112	-0.001	-0.071	0.000	-0.011	-0.168	0.612

SAR Baseline History

Item/Event	SAR Planning Estimate (PE)	SAR Development Estimate (DE)	SAR Production Estimate (PdE)	Current Estimate
Milestone A	N/A	N/A	N/A	N/A
Milestone B	N/A	N/A	N/A	N/A
Milestone C	N/A	N/A	JUN 2011	JUN 2011
IOC	N/A	N/A	N/A	N/A
Total Cost (TY $M)	N/A	N/A	4856.1	4046.6
Total Quantity	N/A	N/A	6000	6000
Prog. Acq. Unit Cost (PAUC)	N/A	N/A	0.809	0.674

Cost Variance

Summary Then Year $M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Prod Est)	175.7	4680.4	--	4856.1
Previous Changes				
Economic	+2.5	+177.5	--	+180.0
Quantity	--	--	--	--
Schedule	--	-575.6	--	-575.6
Engineering	--	-7.8	--	-7.8
Estimating	+45.2	-102.6	--	-57.4
Other	--	--	--	--
Support	--	-59.6	--	-59.6
Subtotal	+47.7	-568.1	--	-520.4
Current Changes				
Economic	-1.2	-18.2	--	-19.4
Quantity	--	--	--	--
Schedule	--	-97.6	--	-97.6
Engineering	+154.1	--	--	+154.1
Estimating	+0.4	-322.6	--	-322.2
Other	--	--	--	--
Support	--	-4.0	--	-4.0
Subtotal	+153.3	-442.4	--	-289.1
Total Changes	+201.0	-1010.5	--	-809.5
CE - Cost Variance	376.7	3669.9	--	4046.6
CE - Cost & Funding	376.7	3669.9	--	4046.6

Summary Base Year 2011 $M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Prod Est)	168.8	3798.5	--	3967.3
Previous Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	-303.1	--	-303.1
Engineering	--	-7.4	--	-7.4
Estimating	+43.2	-76.3	--	-33.1
Other	--	--	--	--
Support	--	-42.8	--	-42.8
Subtotal	+43.2	-429.6	--	-386.4
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	-45.4	--	-45.4
Engineering	+138.3	--	--	+138.3
Estimating	+0.4	-277.0	--	-276.6
Other	--	--	--	--
Support	--	-0.4	--	-0.4
Subtotal	+138.7	-322.8	--	-184.1
Total Changes	+181.9	-752.4	--	-570.5
CE - Cost Variance	350.7	3046.1	--	3396.8
CE - Cost & Funding	350.7	3046.1	--	3396.8

Previous Estimate: December 2012

RDT&E	$M	
Current Change Explanations	**Base Year**	**Then Year**
Revised escalation indices. (Economic)	N/A	-1.2
Adjustment for current and prior escalation. (Estimating)	+0.4	+0.4
Software improvements and redesign of component hardware due to obsolescence (Navy). (Engineering)	+77.1	+85.2
Software improvements and redesign of component hardware due to obsolescence (Air Force). (Engineering)	+61.2	+68.9
RDT&E Subtotal	+138.7	+153.3

Procurement	$M	
Current Change Explanations	**Base Year**	**Then Year**
Revised escalation indices. (Economic)	N/A	-18.2
Adjustment for current and prior escalation. (Estimating)	+4.5	+4.9
Stretch-out of procurement buy profile of 131 missiles from FY 2015 through FY 2019 to Beyond Future Years Defense Program, FY 2026 though FY 2027 (Navy). (Schedule)	0.0	+17.8
Acceleration of procurement buy profile of 314 missiles from FY 2015 through FY 2019 (Air Force). (Schedule)	0.0	-58.8
Additional Schedule Variance due to economies of scale associated with accelerated procurement buy profile (Air Force). (Schedule)	-45.4	-56.6
Decrease due to updated hardware estimates based on contract negotiation data (Navy). (Estimating)	-125.5	-142.6
Decrease due to updated hardware estimates based on contract negotiation data (Air Force). (Estimating)	-156.0	-184.9
Adjustment for current and prior escalation. (Support)	+0.3	+0.1
Increase in Other Support due to increased requirements of Special Air Trainers (Navy). (Support)	+5.4	+6.1
Increase in Other Support due to increased requirement of Special Air Trainers (Air Force). (Support)	+5.4	+5.6
Increase in Initial Spares due to stretch-out of procurement profile (Navy). (Support)	+1.0	+1.4
Decrease in Initial Spares due to acceleration of procurement profile (Air Force). (Support)	-12.5	-17.2
Procurement Subtotal	-322.8	-442.4

Contracts

Appropriation: RDT&E	
Contract Name	**AIM-9X Block II System Improvement Program**
Contractor	Raytheon Missiles Systems
Contractor Location	1151 E Hermans Rd Tucson, AZ 85756
Contract Number, Type	N00019-11-C-0026, CPFF
Award Date	March 31, 2011
Definitization Date	March 31, 2011

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price at Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
19.9	N/A	1	87.9	N/A	1	79.0	79.0

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to additional effort for Active Optical Target Detector (AOTD) obsolescence, system development and integration, algorithm development, F-22 integration, as well as replacement of Aircraft Interface and Cryo-Cooler Circuit card assemblies which are being driven by obsolescence.

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date (1/26/2014)	-0.4	-0.5
Previous Cumulative Variances	+2.8	-1.4
Net Change	-3.2	+0.9

Cost and Schedule Variance Explanations

The unfavorable net change in the cost variance is due to overhead, general and administrative rates.

The favorable net change in the schedule variance is due to Large Target Data Link Modulator-Demodulator Design Verification Testing (DVT) test asset hardware failures. These failures have caused a pause in DVT until the failures can be determined and corrected. The Large Target Data Link effort is funded by Other Customer Funds (OCF) and does not impact the current program objective (9.300). Another contributing factor was the requirement for an additional flight test conducted at Eglin Air Force Base and associated analysis to gather system performance data.

Contract Comments

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

This contract includes FMS and OCF. FMS and OCF funding is reflected in the above data.

Appropriation: Procurement	
Contract Name	**AIM-9X Block II Production**
Contractor	Raytheon Missile Systems
Contractor Location	1151 E Hermans Road Tucson, AZ 85756-9367
Contract Number, Type	N00019-11-C-0001, FFP/FPIF
Award Date	September 29, 2011
Definitization Date	September 29, 2011

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price at Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
61.9	61.9	120	487.6	491.8	1070	487.6	487.6

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to procurement of additional FY 2011 assets and the award of Lot 12 and Lot 13 Contracts.

Cost and Schedule Variance Explanations

Cost and Schedule Variance reporting is not required on this FFP/FPIF contract.

General Contract Variance Explanation

The requirement for Earned Value Management on this Fixed Price Incentive Firm contract was waived by the Department of Navy, Office of the Assistant Secretary, Research, Development and Acquisition on January 23, 2012. This requirement was waived because the contract will contain other cost and program reporting requirements such as Federal Acquisition Regulation Clause 52.216-16, Incentive Price Revision-Firm target, Integrated Master Program Schedule, and Government access to the Contractor's Internal Material Requirements Plan, an on-line tool that assesses schedule and technical performance.

Contract Comments

This contract includes FMS and Other Customer Funds.

Appropriation: Procurement

Contract Name	**AIM-9X Obsolescence, S/W Development & Platform Integration**
Contractor	Raytheon Company
Contractor Location	1151 East Hermans Road Tucson, AZ 85756
Contract Number, Type	N00019-12-C-2002/1, CPFF
Award Date	May 11, 2012
Definitization Date	May 11, 2012

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price at Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
1.4	N/A	N/A	41.5	N/A	N/A	41.5	41.5

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to the addition of the following efforts: Engineering Investigations and Missile Software Correction for F-16 Wing Twist, Flight Test Support, Production Software Support, Deficiency Analysis, Engineering Analysis of subsystem hardware, Engineering Change Proposal Preparation and associated contract fees.

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date (1/26/2014)	+1.5	-1.1
Previous Cumulative Variances	--	--
Net Change	+1.5	-1.1

Cost and Schedule Variance Explanations

The unfavorable cumulative schedule variance is due to a culmination of multiple control accounts to include delays in receipt of hardware components, a lack of resources and lab availability which has caused minor testing delays and a reprioritization of resources incurred by the Integration team.

General Contract Variance Explanation

Earned Value Management requirements apply only to Contract Line Item Numbers103, 105 and 107.

Contract Comments

This is the first time this contract is being reported.

This contract includes FMS, Other Customer Funds, Operations and Maintenance, Navy, and Operations and Maintenance, Air Force (3400).

Deliveries and Expenditures

Delivered to Date	Plan to Date	Actual to Date	Total Quantity	Percent Delivered
Development	0	0	0	--
Production	0	392	6000	6.53%
Total Program Quantity Delivered	0	392	6000	6.53%

Expended and Appropriated (TY $M)			
Total Acquisition Cost	4046.6	Years Appropriated	11
Expended to Date	356.1	Percent Years Appropriated	45.83%
Percent Expended	8.80%	Appropriated to Date	756.3
Total Funding Years	24	Percent Appropriated	18.69%

The above data is current as of 3/26/2014.

As a result of Operational Test Decertification, no new deliveries are being accepted at this time.

Operating and Support Cost

AIM-9X Blk II

Assumptions and Ground Rules

Cost Estimate Reference:

The current Program Office estimate is based in the FY 2015 PB budget submission dated January 2014. The estimate assumes 10 carriers (worst case) deployed per year (beginning in the third year of operations). Unit level consumption primarily relates to the annual training firings (Non Combat Expenditures Allowances) for the Navy and Weapon System Evaluation Program for the Air Force) and transportation cycle time of failed assets to and from the Depot. The estimate spans a period of 36 years, beginning with FY 2014 and ending with FY 2049. Contractor support is required to repair All-Up-Round (AUR)/Captive Air Training Missile (CATM)/container failures as a result of normal use, combat damage, catastrophic events, government misuse, abuse, or failure to exercise due diligence in testing, storing, or maintaining the item in accordance with approved procedures and specifications. This cost includes the required repair for out of AUR/CATM containers, software support, and technical publication revisions.

Sustainment Strategy:

The sustaining support consists of systems engineering, program management support, failure analysis and Ordnance Assessment Program. The cost estimate considers a 20-year service life for AUR and a 13 year service life for the CATM. The estimate assumes operational utilization AURs and CATMs as indicated in the following table:

Type	Service	Yearly Qty In-Use	Yearly Flight Hours
CATM	USN	All	310
	USAF	All	297
AUR	USN	188	226
	USAF	225	33

Antecedent Information:

The AIM-9X Block I is the antecedent system to the AIM-9X Block II. Antecedent costs were derived based on historical data collected via the Visibility and Management of Operating and Support Costs database and estimated through the remainder of the life (FY 2032). A total of 3,097 AIM-9X Block I missiles were procured. The last year of procurement was FY 2010. There is a 20-year service life assumption for the AIM-9X Block I AUR and a 13-year service life assumption for the CATM. The AIM-9X Block I system included a warranty period that accounted for missile repair costs. The AIM-9X Block II system did not include a warranty and was estimated accordingly.

Unitized O&S Costs BY2011 $M		
Cost Element	**AIM-9X Blk II Average Annual Cost of all Missiles**	**AIM-9X (Antecedent) Average Annual Cost of all Missiles**
Unit-Level Manpower	0.000	0.000
Unit Operations	0.900	2.200
Maintenance	8.200	5.300
Sustaining Support	5.700	5.800
Continuing System Improvements	4.600	5.000
Indirect Support	0.100	0.100
Other	0.000	0.000
Total	19.500	18.400

Unitized Cost Comments:
Average Annual Cost is calculated using the total cost divided by the number of years for sustainment.

	Total O&S Cost $M			
	Current Production APB Objective/Threshold		Current Estimate	
	AIM-9X Blk II		AIM-9X Blk II	AIM-9X (Antecedent)
Base Year	977.5	1075.3	700.4	531.9
Then Year	1593.6	N/A	950.1	620.0

Total O&S Costs Comments:
The increase in sustainment cost for the AIM-9X Block II missile from the AIM-9X Block I missile is that the sustainment period went from 29 years for Navy only missile sustainment for Block I to 36 years for Block II based on the quantity of 3,097 Navy missiles being sustained for the Block I program versus the remaining 6,000 Navy and Air Force missiles that will be sustained for the Block II program. The other reason for the increase is using a different Mean-Time-Between-Failure (MTBF) to calculate repair costs. The specification MTBF was used for Block II and the actual MTBF was used to calculate the Block I.

The current estimate is lower than the APB values as the program was plussed up over 600 missiles from FY 2014 through FY 2019. This change enabled the program to procure more missiles earlier than planned so the total years of sustainment is reduced.

O&S Cost Variance		
Category	**Base Year 2011 $M**	**Change Explanation**
Prior SAR Total O&S Estimate December 2012	838.8	
Cost Estimating Methodology	0.0	
Cost Data Update	0.0	
Labor Rate	0.0	
Energy Rate	0.0	
Technical Input	0.0	

Programmatic/Planning Factors	-138.4	Change in USAF production profile which in turn reduces the sustainment period.
Other	0.0	
Total Changes	-138.4	
Current Estimate	700.4	

Disposal Costs:

Disposal costs are not identified at this time.