Selected Acquisition Report (SAR)

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

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

As of FY 2019 President's Budget

Defense Acquisition Management
Information Retrieval
(DAMIR)

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Sensitivity Originator

No originator info Available at this time.

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

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

DoD Component

Navy

Joint Participants

Air Force

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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 August 31, 2015

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

Program Highlights Since Last Report

The AIM-9X Block II awarded its third full rate production contract (Lot 17) in March 2017 for the procurement of United States Navy (USN), United States Air Force (USAF), and FMS missiles. The program met another key milestone this year with the production cut-in of the AIM-9X Block II+ variant. The Block II+ provides increased survivability over the Block II for the F-35. Both the USN and USAF contracted for 50 Block II+ missiles each (a total of 100 missiles) through a modification to the Lot 17 production contract in December 2017. Additional Block II+ missiles will be procured in future production contracts.

FOC was declared in October 2016. The USN declared IOC in March 2015. The USAF fielded the missile in April 2016 and declared IOC in September 2016.

The integration of AIM-9X onto 5th generation aircraft continued this year. The USAF took two successful Block II live fires in support of F-22 integration activities. The F-35 test program took 15 shots in support of Block I and limited Block II integration activities.

Follow-on development of the AIM-9X Block II missile continued with the System Improvement Program III (SIP III). This development includes hardware to address obsolescence and sustainability and a software load to improve performance. The missile software upgrades include increased performance in the presence of infra-red and electro-magnetic countermeasures and an Air-to-Ground capability.

Since late FY 2015, the SIP III effort has experienced two major delays. The first was caused by a late contract award that came as the result of issues identified in the FY 2013 AIM-9X Block II Initial Operational Test and Evaluation and the resulting re-work. The second delay came as a result of difficulties in the integration of the replacement missile processor. As a result of these delays, the SIP III funding required re-phasing, which was accomplished this year via the FY 2019 budget. Production cut-in of the replacement missile processor will occur in late FY 2020. These delays will not affect the AIM-9X production line and the program has sufficient hardware to endure an additional 12 months of delay with no production impact.

AIM-9X Captive Air Training Missile availability is increasing due to numerous readiness improvement initiatives. The execution of $2.1M in FY 2017 Overseas Contingency Operation (OCO) funding resulted in the induction of all remaining Non-Ready for Issue (NRFI) assets from the field into the depot. O&M, Navy funding has been increased to match current AIM-9X failure rates, and spares controls have increased across the FYDP starting in FY 2018 to make up for historical funding shortfalls. In the interim, the focus has shifted to increasing the supply chain throughput to balance out resource shortages and restore readiness. These initiatives include shrinking in transit time, repair time, and Ready for Issue sell off time, while exploring organic missile sectionalization options and alternate Package, Handling, Storage and Transportation solutions. These actions have resulted in a 30 percent increase to material availability over the last 12 months.

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**
June 2011	AIM-9X Block II was designated a separate ACAT IC program entering the acquisition process at Milestone C.
June 2011	AIM-9X Block II received approval for Milestone C LRIP I & II.
August 2012	AIM-9X Block II received LRIP III approval.
June 2014	AIM-9X Block II received approval for LRIP IV.
March 2015	The U.S. Navy declared IOC for AIM-9X Block II.
August 2015	AIM-9X Block II received approval to enter FRP.
September 2016	The U.S. Air Force declared IOC for AIM-9X Block II.
October 2016	The Program declared FOC for AIM-9X Block II.

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

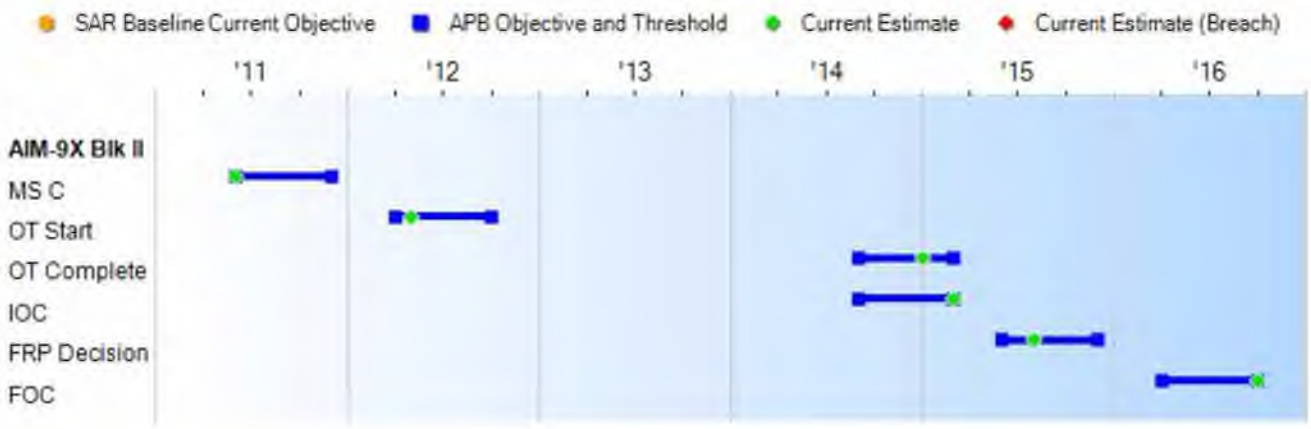
The AIM-9X Block II program has breached its cost threshold for RDT&E funding, but continues to remain well below PAUC and APUC objectives.

The program has received additional United States Air Force (USAF) RDT&E funding to develop a Flight Termination System (FTS) that was not included in the current APB. The FTS will improve Weapon Standardization Evaluation Program (WSEP) range safety, expand the WSEP parameters for firing a missile, and reduce damage to target drones. The FTS will not be included on fleet All Up Round (AUR) missiles.

Additionally, the cost breach is attributed to USAF RDT&E funding that has been removed from the program via Below Threshold Reprogramming (BTRs) during execution but continues to be included in the funding controls for the program. However, this funding is no longer available to the program as part of its budget authority. The USAF is in the process of moving the reprogrammed funding to the designated program, at which time it will be removed from the AIM-9X funding controls.

A Program Deviation Report is forthcoming. The program is currently evaluating the need to request a revision to the APB to revise the RDT&E Cost threshold.

Schedule



Schedule Events				
Events	SAR Baseline Production Estimate	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	Sep 2014	Mar 2015	Jan 2015
IOC	Sep 2014	Sep 2014	Mar 2015	Mar 2015
FRP Decision	Dec 2013	Jun 2015	Dec 2015	Aug 2015
FOC	Oct 2015	Apr 2016	Oct 2016	Oct 2016

Change Explanations

None

Acronyms and Abbreviations

MS - Milestone
OT - Operational Test

Performance

Performance Characteristics				
SAR Baseline Production Estimate	**Current APB Production Objective/Threshold**		**Demonstrated Performance**	**Current Estimate**
AIM-9X Day/Night Capability				
Yes	Yes	Yes	Yes	Yes
AIM-9X Aircraft Interface/Interoperability Missile Weight (lbs.)				
≤ 192	≤ 192	≤ 210	186.2	≤ 192
AIM-9X Aircraft Interface/Interoperability Missile Length (in.)				
≤ 115	≤ 115	≤ 123	119.2	≤ 123
AIM-9X Aircraft Interface/Interoperability Missile Box Size (in.)				
≤ 12.5 X 12.5	≤ 12.5 X 12.5	≤ 12.5 X 12.5	12.5 X 12.5	≤ 12.5 X 12.5
AIM-9X Aircraft Interface/Interoperability Missile Diameter (in.)				
≤ 5	≤ 5	≤ 7	≤ 5	≤ 5
AIM-9X Aircraft Interface/Interoperability Interface				
Mid body umbilical only	Mid body umbilical only	Digital.	Digital	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.	Yes	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	0.81	>.or.=0.60
AIM-9X Detect Non-Operational Missile (BIT-able Components) (%)				
>.or.=0.95	>.or.=0.95	>.or.=0.90	0.92	>.or.=0.90
AIM-9X Mean Time Between False Alarms (hr.)				
>.or.=25	>.or.=25	<.or.=16	>.or.=18	>.or.=16
AIM-9X BIT Time (sec.)				
≤ 20	≤ 20	≤ 20	≤ 15	≤ 20
EMI Compatibility				
Threshold= Objective	Threshold= Objective	Not incur damage to electrical components while in the electromagnetic	Yes	Threshold= Objective

		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	0.98	No less than (.99) after 35,000 flight hours	(Ch-1)
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 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	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	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 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	Meets Threshold	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	

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, authenticat-ion, confident-iality, and non-repudiation, and issuance of an IATO or ATO by the DAA and 5) Supportabil-ity requirements to include SAASM Spectrum and JTRS requirements	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, authenticat-ion, confidential-ity, and non-repudiation, and issuance of an IATO or ATO by the DAA and 5) Supportabil-ity requirements to include SAASM Spectrum and JTRS requirements	Guidance to 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, authenticat-ion, confidential-ity, and non-repudiation, and issuance of an IATO or ATO by the DAA and 5) Supportabil-ity requirements to include SAASM, Spectrum and JTRS necessary to meet all operational requirements specified in the DoD Enterprise Architecture and solution architecture views		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 implementa-tion 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, authentica-tion, confidentiality and non-repudiation, and issuance of an IATO or ATO by the DAA and 5) Support-ability requirements to include SAASM Spectrum and JTRS requirements	
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	0.86	No less than (.86) after 100,000 flight hours	
Material Availability (Am)					
Threshold= Objective	Threshold= Objective	No less than (.82)	0.98	0.98	(Ch-2)

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

Requirements Reference

CPD dated May 20, 2011

Change Explanations

(Ch-1) Ao - AUR Current Estimate changed from No less than (.93) after 35,000 flight hours to No less than (.99) after 35,000 flight hours.
(Ch-2) Material Availability (Am) Current Estimate changed from Threshold=Objective to 0.98.

Notes

Material Availability - Per the CPD, this requirement only pertains to AURs.

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

RDT&E

Appn		BA	PE
Navy	1319	07	0207161N

Project	Name
0457	AIM-9X

Appn		BA	PE
Air Force	3600	07	0207161F

Project	Name
674132	AIM-9 Product Improvement

Procurement

Appn		BA	PE
Navy	1507	02	0204162N

Line Item	Name
2209	Sidewinder

Appn		BA	PE
Navy	1507	02	0206138M

Line Item	Name
2209	Sidewinder

Notes: USMC funding received as WPN

Appn		BA	PE
Navy	1507	06	0204162N

Line Item	Name	
6120	Spares and Repair Parts	(Shared)

Appn		BA	PE
Air Force	3020	04	0207161F

Line Item	Name	
000999	Initial Spares/Repair Parts	(Shared)

Appn		BA	PE
Air Force	3020	02	0207161F

Line Item	Name
M09HAI	Sidewinder (AIM-9X)

Notes

Funding contained in the Shared Budget Line Items are shared with other non-AIM-9X Block II programs.

Cost and Funding

Cost Summary

Total Acquisition Cost							
Appropriation	BY 2011 $M			BY 2011 $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	168.8	504.9	555.4	576.9[1]	175.7	547.1	632.5
Procurement	3798.5	2821.5	3103.7	2617.3	4680.4	3324.4	3033.8
Flyaway	--	--	--	2520.3	--	--	2921.9
Recurring	--	--	--	2360.8	--	--	2741.8
Non Recurring	--	--	--	159.5	--	--	180.1
Support	--	--	--	97.0	--	--	111.9
Other Support	--	--	--	37.0	--	--	41.7
Initial Spares	--	--	--	60.0	--	--	70.2
MILCON	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
Total	3967.3	3326.4	N/A	3194.2	4856.1	3871.5	3666.3

[1] *APB Breach*

Current APB Cost Estimate Reference

FRP Joint Component Cost Position dated August 03, 2015

Cost Notes

In accordance with Section 842 of the National Defense Authorization Act for FY 2017, which amended title 10 U.S.C. § 2334, the Director of Cost Assessment and Program Evaluation, and the Secretary of the military department concerned or the head of the Defense Agency concerned, must issue guidance requiring a discussion of risk, the potential impacts of risk on program costs, and approaches to mitigate risk in cost estimates for MDAPs and major subprograms. The information required by the guidance is to be reported in each SAR. This guidance is not yet available; therefore, the information on cost risk is not contained in this SAR.

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

Cost and Funding

Funding Summary

Appropriation Summary									
FY 2019 President's Budget / December 2017 SAR (TY$ M)									
Appropriation	Prior	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
RDT&E	371.0	77.9	77.3	48.4	27.1	16.4	14.4	0.0	632.5
Procurement	1315.4	214.0	205.3	249.9	257.9	205.5	222.6	363.2	3033.8
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 2019 Total	1686.4	291.9	282.6	298.3	285.0	221.9	237.0	363.2	3666.3
PB 2018 Total	1689.5	291.8	265.4	229.9	277.7	232.3	176.5	413.4	3576.5
Delta	-3.1	0.1	17.2	68.4	7.3	-10.4	60.5	-50.2	89.8

Quantity Summary										
FY 2019 President's Budget / December 2017 SAR (TY$ M)										
Quantity	Undistributed	Prior	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Development	0	0	0	0	0	0	0	0	0	0
Production	0	2772	495	448	553	539	376	341	476	6000
PB 2019 Total	0	2772	495	448	553	539	376	341	476	6000
PB 2018 Total	0	2717	495	477	489	583	431	331	477	6000
Delta	0	55	0	-29	64	-44	-55	10	-1	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	--	--	--	--	--	--	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	--	--	--	--	--	--	16.5
2015	--	--	--	--	--	--	36.4
2016	--	--	--	--	--	--	37.1
2017	--	--	--	--	--	--	54.7
2018	--	--	--	--	--	--	42.9
2019	--	--	--	--	--	--	40.1
2020	--	--	--	--	--	--	20.1
2021	--	--	--	--	--	--	7.6
2022	--	--	--	--	--	--	0.4
2023	--	--	--	--	--	--	0.4
Subtotal	--	--	--	--	--	--	308.9

Annual Funding 1319 | RDT&E | Research, Development, Test, and Evaluation, Navy							
Fiscal Year	Quantity	BY 2011 $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
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	--	--	--	--	--	--	17.1
2014	--	--	--	--	--	--	15.5
2015	--	--	--	--	--	--	33.9
2016	--	--	--	--	--	--	33.9
2017	--	--	--	--	--	--	49.2
2018	--	--	--	--	--	--	38.0
2019	--	--	--	--	--	--	34.8
2020	--	--	--	--	--	--	17.1
2021	--	--	--	--	--	--	6.3
2022	--	--	--	--	--	--	0.3
2023	--	--	--	--	--	--	0.3
Subtotal	--	--	--	--	--	--	282.5

Annual Funding 3600 | RDT&E | Research, Development, Test, and Evaluation, Air Force							
		TY $M					
Fiscal Year	Quantity	End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
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	--	--	--	--	--	--	12.4
2015	--	--	--	--	--	--	28.8
2016	--	--	--	--	--	--	26.0
2017	--	--	--	--	--	--	51.5
2018	--	--	--	--	--	--	35.0
2019	--	--	--	--	--	--	37.2
2020	--	--	--	--	--	--	28.3
2021	--	--	--	--	--	--	19.5
2022	--	--	--	--	--	--	16.0
2023	--	--	--	--	--	--	14.0
Subtotal	--	--	--	--	--	--	323.6

Annual Funding 3600 | RDT&E | Research, Development, Test, and Evaluation, Air Force							
Fiscal Year	Quantity	BY 2011 $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
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	--	--	--	--	--	--	11.7
2015	--	--	--	--	--	--	26.9
2016	--	--	--	--	--	--	24.0
2017	--	--	--	--	--	--	46.6
2018	--	--	--	--	--	--	31.2
2019	--	--	--	--	--	--	32.5
2020	--	--	--	--	--	--	24.3
2021	--	--	--	--	--	--	16.4
2022	--	--	--	--	--	--	13.2
2023	--	--	--	--	--	--	11.3
Subtotal	--	--	--	--	--	--	294.4

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	--	--	--	0.9	0.9	--	0.9
2010	--	--	--	11.4	11.4	--	11.4
2011	63	46.0	--	3.1	49.1	1.2	50.3
2012	69	39.2	--	7.6	46.8	1.7	48.5
2013	150	60.1	--	3.6	63.7	6.8	70.5
2014	216	88.5	--	2.3	90.8	6.6	97.4
2015	156	59.9	--	1.8	61.7	3.4	65.1
2016	212	77.9	--	8.8	86.7	2.3	89.0
2017	147	68.7	--	1.3	70.0	1.0	71.0
2018	185	74.6	--	3.6	78.2	4.7	82.9
2019	192	74.8	--	1.9	76.7	3.0	79.7
2020	198	78.3	--	2.0	80.3	4.9	85.2
2021	200	84.0	--	3.8	87.8	3.2	91.0
2022	192	88.4	--	2.1	90.5	4.6	95.1
2023	192	96.1	--	2.1	98.2	4.1	102.3
2024	159	96.5	--	4.0	100.5	4.0	104.5
2025	148	100.3	--	2.2	102.5	4.0	106.5
2026	147	102.4	--	2.3	104.7	4.1	108.8
2027	22	39.4	--	--	39.4	4.0	43.4
Subtotal	2648	1275.1	--	64.8	1339.9	63.6	1403.5

Annual Funding 1507 | Procurement | Weapons Procurement, Navy							
Fiscal Year	Quantity	BY 2011 $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2009	--	--	--	0.9	0.9	--	0.9
2010	--	--	--	11.3	11.3	--	11.3
2011	63	44.7	--	3.0	47.7	1.2	48.9
2012	69	37.5	--	7.3	44.8	1.7	46.5
2013	150	56.8	--	3.4	60.2	6.4	66.6
2014	216	82.5	--	2.1	84.6	6.2	90.8
2015	156	55.0	--	1.7	56.7	3.1	59.8
2016	212	70.4	--	7.9	78.3	2.1	80.4
2017	147	61.0	--	1.2	62.2	0.9	63.1
2018	185	65.1	--	3.1	68.2	4.1	72.3
2019	192	64.0	--	1.6	65.6	2.6	68.2
2020	198	65.7	--	1.7	67.4	4.1	71.5
2021	200	69.1	--	3.2	72.3	2.6	74.9
2022	192	71.3	--	1.7	73.0	3.7	76.7
2023	192	76.0	--	1.7	77.7	3.2	80.9
2024	159	74.8	--	3.1	77.9	3.1	81.0
2025	148	76.3	--	1.7	78.0	3.0	81.0
2026	147	76.3	--	1.7	78.0	3.1	81.1
2027	22	28.8	--	--	28.8	2.9	31.7
Subtotal	2648	1075.3	--	58.3	1133.6	54.0	1187.6

Annual Funding 3020 | Procurement | Missile Procurement, Air Force							
Fiscal Year	Quantity	TY $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2009	--	--	--	1.9	1.9	--	1.9
2010	--	--	--	14.2	14.2	--	14.2
2011	106	60.5	--	3.7	64.2	1.4	65.6
2012	127	75.8	--	9.1	84.9	1.7	86.6
2013	150	62.3	--	4.2	66.5	7.4	73.9
2014	225	92.6	--	5.5	98.1	6.2	104.3
2015	333	125.7	--	3.4	129.1	1.7	130.8
2016	531	195.7	--	2.5	198.2	0.6	198.8
2017	287	111.8	--	14.7	126.5	8.7	135.2
2018	310	121.8	--	3.5	125.3	5.8	131.1
2019	256	116.4	--	4.8	121.2	4.4	125.6
2020	355	158.0	--	2.3	160.3	4.4	164.7
2021	339	159.2	--	5.7	164.9	2.0	166.9
2022	184	101.6	--	6.8	108.4	2.0	110.4
2023	149	85.3	--	33.0	118.3	2.0	120.3
Subtotal	3352	1466.7	--	115.3	1582.0	48.3	1630.3

Annual Funding 3020 | Procurement | Missile Procurement, Air Force							
Fiscal Year	Quantity	BY 2011 $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2009	--	--	--	1.9	1.9	--	1.9
2010	--	--	--	14.2	14.2	--	14.2
2011	106	59.2	--	3.6	62.8	1.4	64.2
2012	127	73.0	--	8.8	81.8	1.6	83.4
2013	150	58.7	--	4.0	62.7	6.9	69.6
2014	225	86.0	--	5.1	91.1	5.8	96.9
2015	333	115.5	--	3.1	118.6	1.6	120.2
2016	531	176.8	--	2.3	179.1	0.5	179.6
2017	287	99.0	--	13.1	112.1	7.7	119.8
2018	310	106.0	--	3.0	109.0	5.1	114.1
2019	256	99.4	--	4.0	103.4	3.8	107.2
2020	355	132.3	--	1.9	134.2	3.7	137.9
2021	339	130.6	--	4.7	135.3	1.7	137.0
2022	184	81.7	--	5.5	87.2	1.6	88.8
2023	149	67.3	--	26.0	93.3	1.6	94.9
Subtotal	3352	1285.5	--	101.2	1386.7	43.0	1429.7

Low Rate Initial Production

Item	Initial LRIP Decision	Current Total LRIP
Approval Date	6/30/2011	6/5/2014
Approved Quantity	361	1140
Reference	Milestone C ADM	LRIP IV ADM
Start Year	2011	2011
End Year	2012	2014

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

Foreign Military Sales

Country	Date of Sale	Quantity	Total Cost $M	Description
Netherlands	12/14/2017	17	12.0	FMS Case NE-P-AGE-A3. 17 Tactical Missiles.
South Korea	9/24/2017	60	47.1	FMS Case KS-P-AMA. 60 Tactical Missiles.
Qatar	6/16/2017	240	133.5	FMS Case QA-P-AAG. 200 Tactical Missiles and 40 Captive Air Training Missiles.
Poland	12/22/2016	97	78.4	FMS Case PL-P-AAV. 93 Tactical Missiles and 4 Captive Air Training Missiles.
Romania	12/16/2016	34	19.2	FMS Case RO-P-AAA. 22 Tactical Missiles and 12 Captive Air Training Missiles.
Belgium	11/28/2016	3	2.1	FMS Case BE-P-QBA. 3 Tactical Missiles.
Australia	7/11/2016	172	101.5	FMS Case AT-P-AYY. 157 Tactical Missiles and 15 Special Air Training Missiles.
Indonesia	5/4/2016	34	16.9	FMS Case ID-P-AAU. 14 Tactical Missiles and 20 Captive Air Training Missiles.
Netherlands	2/16/2016	71	26.4	FMS Case NE-P-AGE. 28 Tactical Missiles, 40 Captive Air Training Missiles and 3 Special Air Training Missiles.
Australia	12/22/2015	32	16.3	FMS Case AT-P-AYW. 12 Tactical Missiles, 14 Captive Air Training Missiles and 6 Special Air Training Missiles.
Japan	12/11/2015	10	4.5	FMS Case JA-P-ASL. 4 Tactical Missiles and 6 Captive Air Training Missiles
Turkey	12/10/2015	18	7.0	FMS Case TK-P-AHX-A6. 18 Captive Air Training Missiles
South Korea	10/30/2015	72	52.3	FMS Case KS-P-ALE. 62 Tactical Missiles and 10 Captive Air Training Missiles
Norway	10/28/2015	120	65.8	FMS Case NO-P-AHV. 90 Tactical Missiles and 30 Captive Air Training Missiles
Taiwan	9/10/2015	85	54.9	FMS Case TW-D-QBZ. 40 Tactical Missiles, 40 Captive Air Training Missiles and 5 Special Air Training Missiles.
Australia	2/9/2015	78	27.6	FMS Case AT-P-AZT. 68 Captive Air Training Missiles and 10 Special Air Training Missiles.
Israel	12/17/2014	10	3.7	FMS Case IS-P-AUH. 5 Tactical Missiles and 5 Captive Air Training Missiles
Japan	12/1/2014	9	4.5	FMS Case JA-P-LZB. 9 Tactical Missiles.
South Korea	8/27/2014	78	54.1	FMS Case KS-P-ALC. 76 Tactical Missiles and 2 Captive Air Training Missiles
Belgium	1/6/2014	60	24.6	FMS Case BE-P-ACX. 30 Tactical Missiles and 30 Captive Air Training Missiles.
Singapore	12/18/2013	28	9.7	FMS Case SN-P-ADF. 20 Tactical Missiles and 8 Captive Air Training Missiles.
Turkey	9/3/2013	117	47.0	FMS Case TK-P-AHX-A5. 117 Tactical Missiles.
Oman	3/11/2013	74	20.7	FMS Case MU-P-LAO. 50 Tactical Missiles and 24 Captive Air Training Missiles.
Kuwait	2/28/2013	100	29.1	FMS Case KU-P-ABI. 80 Tactical Missiles and 20

				Captive Air Training Missiles.
Malaysia	5/29/2012	28	8.0	FMS Case MF-P-AAD. 20 Tactical Missiles and 8 Captive Air Training Missiles.
Morocco	3/29/2012	32	8.4	FMS Case MO-P-AAK. 20 Tactical Missiles and 12 Captive Air Training Missiles.
Saudi Arabia	12/25/2011	154	85.0	FMS Case SR-D-SAI. 120 Tactical Missiles and 34 Captive Air Training Missiles.
South Korea	12/20/2011	19	9.0	FMS Case KS-P-AKR. 19 Tactical Missiles.

Notes

Some AIM-9X Block II (AIM-9X-2) FMS missiles were procured with Yockey waiver USD (AT&L) approval to offer a weapon system under development. Effective August 2015, Yockey approval for FMS AIM-9X Block II missiles is no longer required because AIM-9X is in FRP.

The first FMS Block II missile shipments to international partners began in 1st quarter FY 2017.

The DoD Nonrecurring Cost (NC) recoupment charges for the AIM-9X Block II Sidewinder missile and Guidance Units, to include the AIM-9X Block II+ (AIM-9X-3) Tactical missile, was established on January 17, 2017 by Defense Security Cooperation Agency. Block II+ will only be offered to nations that operate JSF. The first FMS Block II+ missile Letters of Offer and Acceptance will be offered in CY 2017 with a targeted FY 2018 missile procurement contract; deliveries will occur no later than March 2022.

To date, all AIM-9X FMS missiles have been sold under FMS procedures with waivers for NC recoupment charges.

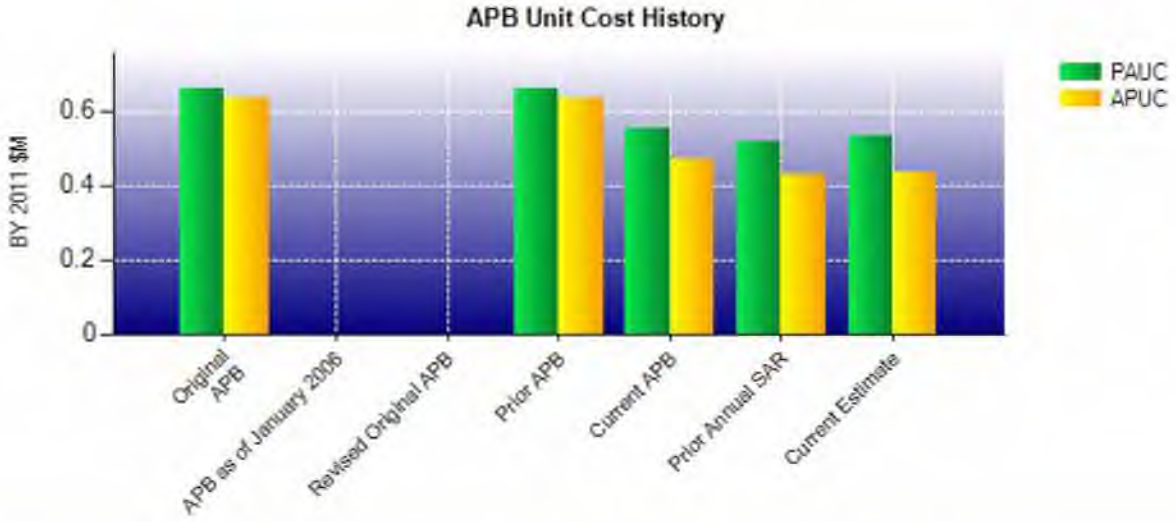
Nuclear Costs

None

Unit Cost

Current UCR Baseline and Current Estimate (Base-Year Dollars)			
Item	BY 2011 $M Current UCR Baseline (Aug 2015 APB)	BY 2011 $M Current Estimate (Dec 2017 SAR)	% Change
Program Acquisition Unit Cost			
Cost	3326.4	3194.2	
Quantity	6000	6000	
Unit Cost	0.554	0.532	-3.97
Average Procurement Unit Cost			
Cost	2821.5	2617.3	
Quantity	6000	6000	
Unit Cost	0.470	0.436	-7.23

Original UCR Baseline and Current Estimate (Base-Year Dollars)			
Item	BY 2011 $M Original UCR Baseline (Dec 2011 APB)	BY 2011 $M Current Estimate (Dec 2017 SAR)	% Change
Program Acquisition Unit Cost			
Cost	3967.3	3194.2	
Quantity	6000	6000	
Unit Cost	0.661	0.532	-19.52
Average Procurement Unit Cost			
Cost	3798.5	2617.3	
Quantity	6000	6000	
Unit Cost	0.633	0.436	-31.12



APB Unit Cost History					
Item	Date	BY 2011 $M		TY $M	
		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	Dec 2011	0.661	0.633	0.809	0.780
Current APB	Aug 2015	0.554	0.470	0.645	0.554
Prior Annual SAR	Dec 2016	0.516	0.432	0.596	0.504
Current Estimate	Dec 2017	0.532	0.436	0.611	0.506

SAR Unit Cost History

Current SAR Baseline to Current Estimate (TY $M)									
PAUC Production Estimate	Changes								PAUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
0.809	0.015	0.000	-0.123	0.051	-0.124	0.000	-0.017	-0.198	0.611

Current SAR Baseline to Current Estimate (TY $M)									
Initial APUC Production Estimate	Changes								APUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
0.780	0.016	0.000	-0.137	-0.001	-0.136	0.000	-0.017	-0.275	0.506

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	N/A	N/A	N/A
Milestone C	N/A	N/A	Jun 2011	Jun 2011
IOC	N/A	N/A	Sep 2014	Mar 2015
Total Cost (TY $M)	N/A	N/A	4856.1	3666.3
Total Quantity	N/A	N/A	6000	6000
PAUC	N/A	N/A	0.809	0.611

Cost Variance

Summary TY $M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Production Estimate)	175.7	4680.4	--	4856.1
Previous Changes				
Economic	-3.1	+115.0	--	+111.9
Quantity	--	--	--	--
Schedule	--	-815.8	--	-815.8
Engineering	+307.8	-7.8	--	+300.0
Estimating	+72.1	-862.8	--	-790.7
Other	--	--	--	--
Support	--	-85.0	--	-85.0
Subtotal	+376.8	-1656.4	--	-1279.6
Current Changes				
Economic	-1.7	-18.1	--	-19.8
Quantity	--	--	--	--
Schedule	+72.3	-4.4	--	+67.9
Engineering	+8.4	--	--	+8.4
Estimating	+1.0	+47.2	--	+48.2
Other	--	--	--	--
Support	--	-14.9	--	-14.9
Subtotal	+80.0	+9.8	--	+89.8
Total Changes	+456.8	-1646.6	--	-1189.8
CE - Cost Variance	632.5	3033.8	--	3666.3
CE - Cost & Funding	632.5	3033.8	--	3666.3

Summary BY 2011 $M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Production Estimate)	168.8	3798.5	--	3967.3
Previous Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	-407.6	--	-407.6
Engineering	+274.3	-7.4	--	+266.9
Estimating	+64.7	-737.4	--	-672.7
Other	--	--	--	--
Support	--	-55.7	--	-55.7
Subtotal	+339.0	-1208.1	--	-869.1
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	+61.1	--	--	+61.1
Engineering	+7.0	--	--	+7.0
Estimating	+1.0	+38.9	--	+39.9
Other	--	--	--	--
Support	--	-12.0	--	-12.0
Subtotal	+69.1	+26.9	--	+96.0
Total Changes	+408.1	-1181.2	--	-773.1
CE - Cost Variance	576.9	2617.3	--	3194.2
CE - Cost & Funding	576.9	2617.3	--	3194.2

Previous Estimate: December 2016

RDT&E	$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-1.7
Schedule variance change to reflect re-phasing of the System Improvement Program III (SIP III) to align with the development and testing schedule of upgraded hardware (Navy). (Schedule)	+27.2	+32.1
Schedule variance change to reflect re-phasing of SIP III to align with the development and testing schedule of upgraded hardware (Air Force). (Schedule)	+33.9	+40.2
Additional funding for new requirement of Flight Termination System (Air Force). (Engineering)	+7.0	+8.4
Adjustment for current and prior escalation. (Estimating)	+1.0	+1.0
RDT&E Subtotal	+69.1	+80.0

Procurement	$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-18.1
Acceleration of procurement profile buy of one missile from FY 2027 to FY 2019 (Navy). (Schedule)	0.0	-1.1
Acceleration of procurement buy profile of 89 missiles from FY 2023 through FY 2024 to FY 2015 through FY 2020 (Air Force). (Schedule)	0.0	-3.3
Revised hardware estimates based on contract negotiation data (Navy). (Estimating)	-18.9	-26.9
Revised hardware estimates based on contract negotiation data (Air Force). (Estimating)	+29.2	+38.6
Increase reflects realignment between Air Force estimate and actual program costs (Air Force). (Estimating)	+24.3	+30.9
Adjustment for current and prior escalation. (Estimating)	+4.3	+4.6
Adjustment for current and prior escalation. (Support)	0.0	+0.2
Decrease in Other Support due to change in requirements of Special Air Training Missiles (Navy). (Support)	-3.7	-4.1
Decrease in Other Support due to change in requirements of Special Air Training Missiles (Air Force). (Support)	-1.2	-1.4
Decrease in Initial Spares due to change in procurement profile (Navy). (Support)	-7.1	-9.2
Decrease in Initial Spares due to change in procurement profile (Air Force). (Support)	0.0	-0.4
Procurement Subtotal	+26.9	+9.8

Contracts

Contract Identification

Appropriation: Procurement
Contract Name: AIM-9X Block II Lot 14 Production
Contractor: Raytheon Company
Contractor Location: 1151 East Hermans Road
Tucson, AZ 85756
Contract Number: N00019-14-C-0053
Contract Type: Fixed Price Incentive(Firm Target) (FPIF)
Award Date: June 26, 2014
Definitization Date: June 26, 2014

Contract Price							
Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
223.1	229.7	677	227.6	234.5	692	227.6	227.6

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to the procurement of additional AIM-9X Block II Guidance Unit covers in support of the United States Navy (USN), United States Air Force (USAF) and FMS (Netherlands, Singapore, Turkey, and Morocco), as well as the procurement of additional AIM-9X Block II missiles and containers for USAF.

Cost and Schedule Variance Explanations

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

General Contract Variance Explanation

Cost and schedule variances are not reported for this contract, because an earned value management waiver was granted by Office of the Assistant Secretary of the Navy (Research, Development and Acquisition) Deputy Assistant of the Navy (Acquisition and Procurement) on June 20, 2014 due to the utilization of other methods to monitor contract performance (i.e., a Cost and Software Data Reporting requirement).

Notes

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

Contract Identification

Appropriation: Procurement
Contract Name: AIM-9X Block II Lot 15-17 Production
Contractor: Raytheon
Contractor Location: 1151 East Hermans Road
Tucson, AZ 85756
Contract Number: N00019-15-C-0092
Contract Type: Fixed Price Incentive(Firm Target) (FPIF)
Award Date: March 26, 2015
Definitization Date: March 26, 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
26.0	26.0	0	867.0	888.6	2203		867.0

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to awarding the final Lot 15 quantities, Lot 16, Lot 17, the Lot 17 Option, additional FMS quantities, Guidance Units, Programmable Advanced System Interface Simulator Plus (PASIS+) and spares for AIM-9X Block II Full Rate Production which includes missiles, containers and spare parts in support of the United States Navy, United States Air Force and several FMS customers.

Cost and Schedule Variance Explanations

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

General Contract Variance Explanation

Cost and schedule variances are not reported for this contract, because an earned value management waiver was granted by Office of the Assistant Secretary of the Navy (Research, Development and Acquisition) Deputy Assistant of the Navy (Acquisition and Procurement) on May 26, 2015 due to the utilization of other methods to monitor contract performance (i.e., a Cost and Software Data Reporting requirement).

Notes

Quantities reflects Tacticals and Captive Air Training Missiles (CATMs).

Contract Identification

Appropriation: RDT&E
Contract Name: AIM-9X Block II System Improvement Plan III
Contractor: Raytheon
Contractor Location: 1151 East Hermans Road
Tucson, AZ 85756
Contract Number: N00019-15-C-0121/1
Contract Type: Cost Plus Fixed Fee (CPFF)
Award Date: September 25, 2015
Definitization Date: September 25, 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
264.8	N/A	0	279.2	N/A	0	279.2	279.2

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to adding Circuit Card Assemblies for Environmental Qualification, missile qualification on EA-18G and Australian Growlers and the procurement of test missiles and components for testing of FMS software.

Contract Variance		
Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (12/31/2017)	-6.5	-6.7
Previous Cumulative Variances	-2.3	-8.6
Net Change	-4.2	+1.9

Cost and Schedule Variance Explanations

The unfavorable net change in the cost variance is due to the additional support required to get the 9.4 Software Development completed and to resolve technical challenges within the Missile Processor Unit Development.

The favorable net change in the schedule variance is due to Propulsion Steering Section material for Block II+ was received earlier than planned and the recovery of 9.4 Software Development activities that were previously delayed.

Deliveries and Expenditures

Deliveries				
Delivered to Date	Planned to Date	Actual to Date	Total Quantity	Percent Delivered
Development	0	0	0	--
Production	1565	1703	6000	28.38%
Total Program Quantity Delivered	1565	1703	6000	28.38%

Expended and Appropriated (TY $M)			
Total Acquisition Cost	3666.3	Years Appropriated	15
Expended to Date	1312.1	Percent Years Appropriated	62.50%
Percent Expended	35.79%	Appropriated to Date	1978.3
Total Funding Years	24	Percent Appropriated	53.96%

The above data is current as of February 12, 2018.

Planned to date reflects actual contractual obligation for United States Navy & United States Air Force Tactical and Captive Air Training Missiles through December 2017.

The delta between planned to date and actual to date is that Raytheon is delivering Lot 16 missiles ahead of contract requirement. Lot 16 missiles are not due until March 2019.

Operating and Support Cost

Cost Estimate Details

Date of Estimate:	January 10, 2018
Source of Estimate:	POE
Quantity to Sustain:	6000
Unit of Measure:	Total Quantity
Service Life per Unit:	20.00 Years
Fiscal Years in Service:	FY 2014 - FY 2050

The sustaining support consists of systems engineering, program management support, failure analysis, and surveillance/quality/obsolescence evaluation program. The cost estimate considers a service life stated in the service life letter 8810 dated July 24, 2013 for the All Up Round (AUR) and letter dated September 15, 2010 for the Captive Air Training Missile (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	281
	USAF	All	275
AUR	USN	250	227
	USAF	300	33

Sustainment Strategy

The sustainment strategy for the AIM-9X Block II is essentially the same as the previous AIM-9X missile configurations. The key focus areas include maintenance of key performance requirements, decreasing life cycle costs and ensuring asset availability for warfighters. Specific sustainment initiatives include depot maintenance and repairs, sustaining/systems engineering, program management support, failure analysis and ordnance assessment and continuing system improvement, primarily software support.

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 Naval 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 does not include a warranty and was estimated accordingly.

Annual O&S Costs BY2011 $M		
Cost Element	**AIM-9X Blk II Average Annual Cost Per Total Quantity**	**AIM-9X Block I (Antecedent) Average Annual Cost Per Total Quantity**
Unit-Level Manpower	0.000	0.000
Unit Operations	0.000	2.200
Maintenance	11.580	5.300
Sustaining Support	7.500	5.800
Continuing System Improvements	4.900	5.000
Indirect Support	0.000	0.100
Other	0.000	0.000
Total	23.980	18.400

Item	Total O&S Cost $M			
	AIM-9X Blk II			AIM-9X Block I (Antecedent)
	Current Production APB Objective/Threshold		Current Estimate	
Base Year	826.8	909.5	887.3	531.9
Then Year	1274.0	N/A	1402.8	N/A

Equation to Translate Annual Cost to Total Cost

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

Total Cost / Total Years of Sustainment = Average Annual Cost.

$887.3M / 37 years = $23.98M average annual cost

O&S Cost Variance		
Category	**BY 2011 $M**	**Change Explanations**
Prior SAR Total O&S Estimates - Dec 2016 SAR	886.2	
Programmatic/Planning Factors	0.4	Increase due to adjusted production profile which moved quantities from the FYDP to outside the FYDP.
Cost Estimating Methodology	0.0	
Cost Data Update	0.7	Increase due to inclusion of Block II actuals and cost factor updates.
Labor Rate	0.0	
Energy Rate	0.0	
Technical Input	0.0	
Other	0.0	
Total Changes	1.1	

Current Estimate	887.3

Disposal Estimate Details

Date of Estimate:

Source of Estimate:

Disposal/Demilitarization Total Cost (BY 2011 $M):

Disposal costs will be available December 2018.