



Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-185



AMRAAM

As of December 31, 2010

Defense Acquisition Management
Information Retrieval
(DAMIR)

UNCLASSIFIED

Table of Contents

Program Information	3
Responsible Office	3
References	3
Mission and Description	4
Executive Summary	5
Threshold Breaches	7
Schedule	8
Performance	11
Track To Budget	13
Cost and Funding	15
Low Rate Initial Production	30
Nuclear Cost	30
Foreign Military Sales	30
Unit Cost	31
Cost Variance	34
Contracts	38
Deliveries and Expenditures	43
Operating and Support Cost	44

Program Information

Designation And Nomenclature (Popular Name)

AIM-120 Advanced Medium Range Air-to-Air Missile (AMRAAM)

DoD Component

Air Force

Joint Participants

Navy

Navy Program Director, JOSEPH R. PRISELLA
 Air Armament Center, Assigned: August 16, 2009
 AAC/EBA, DSN 875-0252, COMM (850) 883-0252
 Eglin AFB, FL 32542-6844, joseph.prisella@Eglin.af.mil

Responsible Office

Responsible Office

COL MICHAEL D. ANDERSEN	Phone	850-883-0343
AAC/EBA	Fax	850-882-9467
207 West D Ave	DSN Phone	875-0343
Suite 626	DSN Fax	872-9467
Eglin AFB, FL 32542-6844		
michael.andersen@eglin.af.mil	Date Assigned	July 16, 2008

References

SAR Baseline (Production Estimate)

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated January 17, 1992

Approved APB

Air Force Acquisition Executive Approved Acquisition Program Baseline (APB) dated May 19, 2008

Mission and Description

The Advanced Medium Range Air-to-Air Missile (AMRAAM) program provides for the acquisition of the most advanced all-weather, all-environment medium range air-to-air missile system in response to United States Air Force (USAF), United States Navy (USN), North Atlantic Treaty Organization (NATO), and other allied operational requirements through 2024. The system is an active radar guided intercept missile with inherent Electronic Protection (EP) capabilities for air-to-air applications against massed penetration aircraft and is designed to replace the AIM-7 Sparrow. The AIM-120D, planned to be fielded in FY 2012, will have improved accuracy via Global Positioning System (GPS) aided navigation, improved network compatibility, and enhanced aircrew survivability via a two-way datalink capability.

Executive Summary

AIM-120C-7: The AIM-120C-7 (Phase 3) was fielded in FY 2008. The program completed production of US missiles with the delivery of the last missile in January 2009. AIM-120C-7 missiles are presently being sold to Foreign Military Sale (FMS) customers.

AIM-120D DT/OT: The program began the year with work up missions, captive carry testing, and analysis in support of two successful Developmental Test/Operational Test (DT/OT) shot profiles, executed in March 2010. The shots resulted in one lethal fuze and one direct hit. The DT/OT shot profiles became increasingly more taxing in both technical and test complexities. The program office and contractor continued working through missile/aircraft weapon system maturity issues during this period. In June 2010, the Air Force and Navy Program Executive Officers (PEOs), in conjunction with OT agencies, agreed to postpone the third DT/OT shot until four outstanding missile issues were resolved. The program office and contractor established root cause investigation plans for each of the four issues, projected to complete by second quarter FY 2011 followed by an Operational Test Readiness Review (OTRR). Three of the four issues are expected to be resolved by software changes to the missile. For the fourth issue, both hardware margins as well as software performance shortfalls are being investigated. Since June 2010, significant progress has been made in resolving the four issues, although two of the issues have exceeded the established plan due to recent adverse test results. A meeting was held with both Air Force and Navy PEOs in January 2011, at which time the PEOs directed the final DT/OT shot to be held until root cause of the two remaining issues had been identified. The two remaining issues extend the final DT/OT shot to no earlier than March 2011, the OTRR to no earlier than April 2011, and commencing dedicated OT in third quarter FY 2011.

AIM-120D System Improvement Program (SIP): A contract was awarded in August 2009 for study and upgrade candidate evaluation of both software and hardware upgrades to AIM-120D missiles. The preliminary design review (PDR) for the initial Post-OT SIP software release was delayed due to resources being applied to resolution of the AIM-120D DT/OT issues. In addition to development of software candidates for the Post-OT SIP release, further evaluation of potential warfighter-priority hardware candidates will continue through FY 2011.

AIM-120C Electronic Protection Improvement Program (EPIP): The program has successfully progressed from a concept refinement risk reduction to the implementation phase, and is on track for DT/OT testing in FY 2012. A PDR was completed in February 2010, resulting in award of the implementation contract for electronic protection upgrades to the AIM-120C missiles. The program has aggressively approached testing, utilizing robust modeling and simulation, hardware in the loop (HWIL), and captive carry testing since April 2010. In November 2010, the program successfully completed a critical design review (CDR).

AIM-120C Software Upgrade Program (SWUP): A contract was awarded in March 2010 to facilitate candidate evaluation and development for software upgrades to the AIM-120C missile system. A PDR was held in October 2010 to review top priority candidates that can be included in the next EPIP software baseline. The SWUP program has also led to live shot testing and fielding for software upgrades to the AIM-120B and AIM-120C7 missiles in FY 2010.

AIM-120D Production: The initial limited production (Lot 20) contract was awarded in FY 2006 for missiles to support operational testing and to support training for the Air Force and Navy. Limited production lots 21-24 were awarded in fiscal years 2007-2010 respectively, for the Air Force and Navy operational inventory. A PEO Full Production Go-Ahead Decision for the AIM-120D was planned for the second quarter FY 2011 based on successful execution of AIM-120D OT. OTRR is now projected to be no earlier than April 2011. In light of the delay in OTRR, the Full Production Go-ahead Decision and the Acquisition Program Baseline (APB) threshold to meet Air Force Required Assets Available (RAA) are being revised. In the interim, until the Full Production Go-Ahead Decision is executed, approval of the annual AIM-120D production contract is retained by the PEOs based on an assessment of weapon system performance, progress in OT, manufacturing readiness, and funding availability. On January 27, 2011, the Raytheon Missile System team presented DT/OT status to the Air Force and Navy PEOs and the AMRAAM program office. Two issues, new Built-in-Test (BIT) failures and Global Positioning System (GPS) acquisition, need to be addressed before the final DT/OT shot and OTRR third quarter FY 2011. Both PEOs

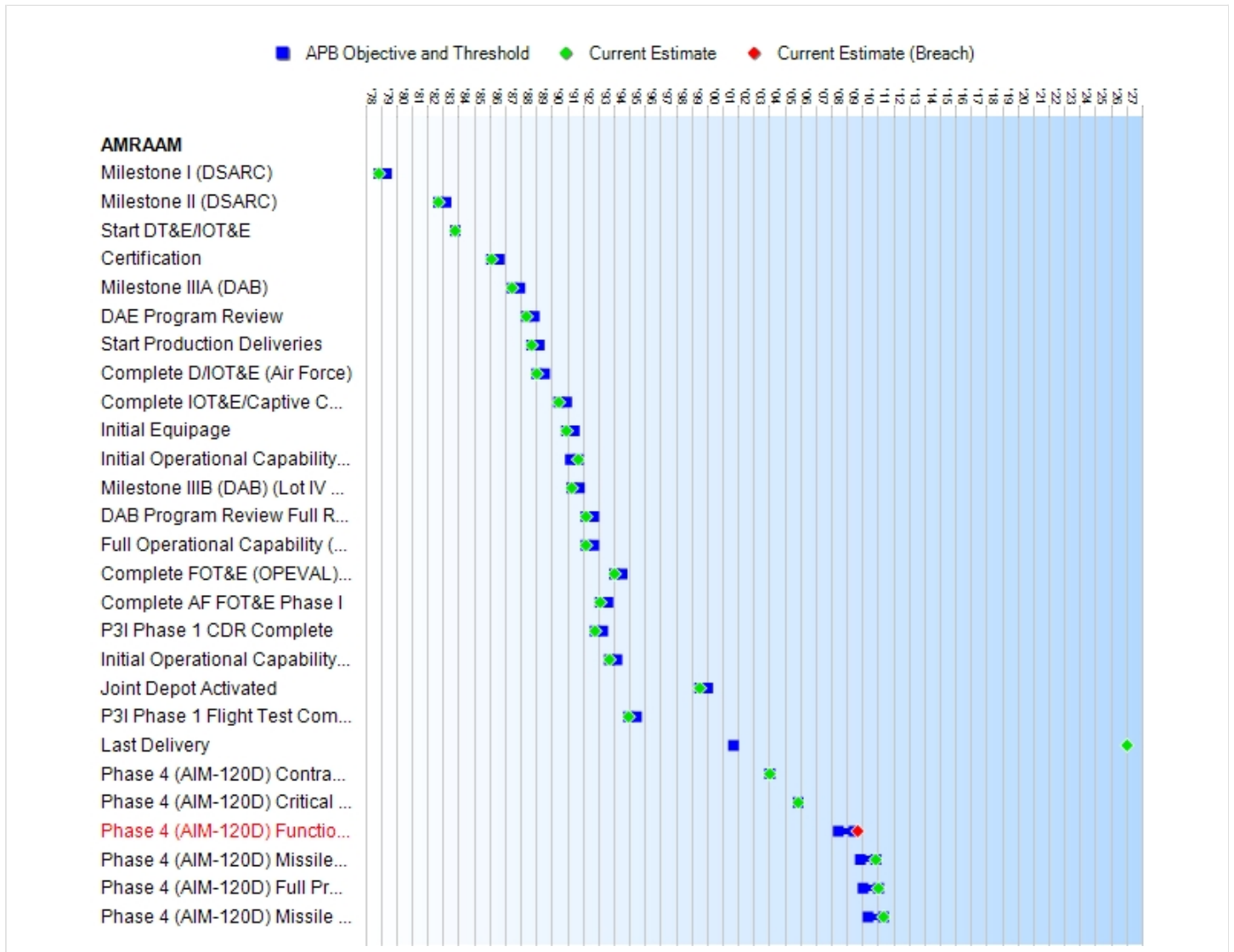
confirmed that readiness for OTRR was an entrance criterion for the execution of the Lot 25 procurement award.

AIM-120 Sustainment: Additionally, as per plan approved by the Service Acquisition Executive (SAE), Missile Availability had temporarily dipped below threshold in order to accomplish fleet swap-out of rocket motors. Joint missile availability as of January 1, 2011 improved to 89.5% against an APB threshold of 82%. Availability is expected to continue to improve with the completion of rocket motor swap-out, (March 2011) and Shortened Control Actuator System (SCAS) replacements (December 2011).

Threshold Breaches

APB Breaches			Explanation of Breach
Schedule		<input checked="" type="checkbox"/>	The AIM-120D program completed its Functional Configuration Audit (FCA) on September 29, 2009. The FCA was late to the Acquisition Program Baseline (APB) threshold date, but was completed according to the revised program plan that was approved by the Service Acquisition Executive (SAE) in July 2009.
Performance		<input type="checkbox"/>	
Cost	RDT&E	<input type="checkbox"/>	As briefed to the SAE on October 15, 2010, the January 2011 Full Production Go-Ahead date is no longer applicable to the program. An APB update is in process to remove the Full Production Go-Ahead decision and F-15 and F/A-18 Required Assets Available milestones. The revised APB will add milestones for F-15 and F/A-18 Initial Operational Capabilities.
	Procurement	<input type="checkbox"/>	
	MILCON	<input type="checkbox"/>	
	Acq O&M	<input type="checkbox"/>	
Unit Cost	PAUC	<input type="checkbox"/>	
	APUC	<input type="checkbox"/>	
Nunn-McCurdy Breaches			
Current UCR Baseline			
	PAUC	None	
	APUC	None	
Original UCR Baseline			
	PAUC	None	
	APUC	None	

Schedule



Milestones	SAR Baseline Prod Est	Current APB Production		Current Estimate	
		Objective/Threshold			
Milestone I (DSARC)	NOV 1978	NOV 1978	MAY 1979	NOV 1978	
Milestone II (DSARC)	SEP 1982	SEP 1982	MAR 1983	SEP 1982	
Start DT&E/IOT&E	OCT 1983	N/A	N/A	OCT 1983	
Certification	FEB 1986	FEB 1986	AUG 1986	FEB 1986	
Milestone IIIA (DAB)	JUN 1987	JUN 1987	DEC 1987	JUN 1987	
DAE Program Review	MAY 1988	MAY 1988	NOV 1988	MAY 1988	
Start Production Deliveries	SEP 1988	SEP 1988	MAR 1989	SEP 1988	
Complete D/IOT&E (Air Force)	JAN 1989	JAN 1989	JUL 1989	JAN 1989	
Complete IOT&E/Captive Carry Reliability Program w/Lot 1 Assets (Air Force)	JUN 1990	JUN 1990	DEC 1990	JUN 1990	
Initial Equipage	DEC 1990	DEC 1990	JUN 1991	DEC 1990	
Initial Operational Capability (IOC) Air Force	MAR 1991	MAR 1991	SEP 1991	SEP 1991	
Milestone IIIB (DAB) (Lot IV Full Go-Ahead Rate Production)	APR 1991	APR 1991	OCT 1991	APR 1991	(Ch-1)
DAB Program Review Full Rate Production Approval	MAR 1992	MAR 1992	SEP 1992	MAR 1992	(Ch-1)
Full Operational Capability (FOC) 1st F-16 Unit Fully Operational w/AMRAAMs	MAR 1992	MAR 1992	SEP 1992	MAR 1992	(Ch-1)
Complete FOT&E (OPEVAL) (Navy)	MAR 1992	JAN 1994	JUL 1994	JAN 1994	(Ch-1)
Complete AF FOT&E Phase I	MAR 1992	FEB 1993	AUG 1993	FEB 1993	(Ch-1)
P3I Phase 1 CDR Complete	OCT 1992	OCT 1992	APR 1993	OCT 1992	(Ch-1)
Initial Operational Capability (IOC) (Navy)	SEP 1992	SEP 1993	MAR 1994	SEP 1993	
Joint Depot Activated	SEP 1994	JUL 1999	JAN 2000	JUL 1999	
P3I Phase 1 Flight Test Completed	DEC 1994	DEC 1994	JUN 1995	DEC 1994	(Ch-1)
Last Delivery	SEP 2001	N/A	N/A	JAN 2027	
Phase 4 (AIM-120D) Contract Award	N/A	JAN 2004	JAN 2004	JAN 2004	
Phase 4 (AIM-120D) Critical Design Review (CDR)	N/A	NOV 2005	NOV 2005	NOV 2005	
Phase 4 (AIM-120D) Functional Configuration Audit (FCA)	N/A	JUN 2008	JUN 2009	SEP 2009 ¹	
Phase 4 (AIM-120D) Missiles Deliveries to Meet F/A-18 RAA	N/A	NOV 2009	NOV 2010	NOV 2010	(Ch-2)
Phase 4 (AIM-120D) Full Production Go-ahead	N/A	JAN 2010	JAN 2011	JAN 2011	
Phase 4 (AIM-120D) Missile Deliveries to Meet F-15C/D RAA	N/A	MAY 2010	MAY 2011	MAY 2011	(Ch-2)

¹APB Breach

Acronyms And Abbreviations

APB - Acquisition Program Baseline

BIT - Built in Test

CDR - Critical Design Review

DAB - Defense Acquisition Board
DAE - Defense Acquisition Executive
DSARC - Defense Systems Acquisition Review Council
DT&E - Development Test and Evaluation
DT/OT - Development Test/Operational Test
EPIP - Electronic Protection Improvement Program
FCA - Functional Configuration Audit
FOC - Full Operational Capability
FOT&E - Follow-on Test and Evaluation
GPS - Global Positioning System
HWIL - Hardware in the Loop
IOC - Initial Operational Capability
IOT&E - Initial Operational Test and Evaluation
LRIP - Low-Rate Initial Production
OPEVAL - Operational Evaluation
OTRR - Operational Test Ready Review
P3I - Pre-Planned Product Improvement
PDR - Preliminary Design Review
PEO - Program Executive Officer
RAA - Required Assets Available
RMS - Raytheon Missile Systems
SAE - Service Acquisition Executive
SCAS - Shortened Control Actuator System
SIP - System Improvement Program
SWUP - Software Upgrade Program

Change Explanations

(Ch-1) Current estimate milestones corrected to reflect actual completion date.

(Ch-2) As briefed to Senior Acquisition Executive on October 15, 2010, the January 2011 Full Production Go-Ahead date is no longer applicable to the program. An Acquisition Program Budget (APB) update is in process to remove the Full Production Go-Ahead decision and F-15 and F/A-18 Required Assets Available milestones. The revised APB Acquisition Program Budget will add milestones for F-15 and F/A-18 Initial Operational Capabilities.

Memo

The AIM-120D program completed Functional Configuration Audit on September 29, 2009. The FCA was late to the Acquisition Program Budget threshold date, but was completed according to the revised program plan that was approved by the Service Acquisition Executive in July 2009.

Performance

Characteristics	SAR Baseline Prod Est	Current APB Production Objective/Threshold		Demonstrated Performance	Current Estimate
Weight (lbs)	327	327	350	344	345
Reliability					
Ready Storage (hrs) (mature msl - 90K operational flight hours)	60000	60000	45000	N/A	45000
Availability (%)	86	86	82	89.5	90
Captive-Carry (MTBM- Type I) (hrs)	600	600	450	1199	1200
On Alert Storage MTBM	30000	30000	22500	TBD	30000
Aircraft Configure/ Load - 3 Man Load Crew					
Install 4 Rail Launchers (mins)	20	20	25	21	21
Load 4 Missiles from trailer (mins)	15	15	20	18	18
Load 4 Missiles from container (mins)	20	20	30	22	22
Missile checks (mins)	1	1	5	1	1
All Weather Capability	Day, Night, Rain, Clouds	Day, Night, Rain, Clouds	Day, Night, Rain, Clouds	Day, Night, Rain, Clouds	Day, Night, Rain, Clouds
Aircraft Compatibility	F-15, F-16, F-14, F/A-18	F-15, F-16, F-14, F/A- 18	F-15, F-16, F-14, F/A- 18	F-15, F-16, F-14, F/A-18	F-15, F-16, F-14, F/A-18
All-Up Round	Control Surfaces field installed	Control Surfaces field installed	Control Surfaces field installed	Control Surfaces field installed	Control Surfaces field installed
Net Ready	N/A	Satisfies NCOW-RM and GIG Information assurance reqmts	Satisfies 100% of enterprise level or critical information reqmts	Satisfies 100% of enterprise level or critical information reqmts	Satisfies 100% of enterprise level or critical information reqmts
Shipboard Survivability	N/A	Compatible in aircraft carrier electro- magnetic environment	Compatible in aircraft carrier electro- magnetic environment	Compatible in aircraft carrier electromagn etic environment	Compatible in aircraft carrier electromagn etic environment

Requirements Source: JSOR: USAF 009-76: Advanced Medium Range Air-to-Air Missile (U), classified SECRET, dated May 22, 1991.

ORD: Operational Requirement Document CAF (USAF) 009-76-III/III-A, for AMRAAM Pre-Planned Product Improvement (P3 I) Program (U), classified SECRET, dated March 10, 1997, revised January 21, 2004.

CPD: Capability Production Document for AMRAAM Phase 4 (AIM-120D) (U), classified SECRET/NOFORN, dated 16 Jun 05.

Acronyms And Abbreviations

hrs - Hours
ICD - Interface Control Documents
JSOR - Joint Service Operational Requirement
K - Thousand
lbs - Pounds
Mins - Minutes
MTBM - Mean Time Between Maintenance

Change Explanations

None

Memo

Weight: The Current Estimate weight parameter of 345 lbs. applies to AIM-120A/B/C-3/C-4 configuration missiles. The maximum weight for AIM-120C-5/C-6/C-7 versions is 356 lbs. The maximum weight for the AIM-120D is 358 lbs. All configurations satisfy their weight requirements and are consistent with approved aircraft/missile Interface Control Documents (ICDs).

Availability: Overall missile availability has increased steadily from a beginning of year low of 81% to 89.5%. Rocket motor replacements for Navy missiles (309) began in the second quarter of CY 2010 and should be complete by the end of the year. Faulty Shortened Control Actuator Systems on approximately 349 Air Force and Navy AIM-120C-5/C-6 missiles will be repaired (under warranty) no later than December 2011. The Air Force and Navy SCAS remove & replace has begun (164 complete). Until repaired, these missiles remain in J-code (suspended from issue/use) status. The demonstrated AMRAAM inventory availability is 89.5% expect to achieve 90% overall availability by June 30, 2011.

Captive-Carry (MTBM-Type 1) (hrs): The observed missile Mean Time Between Maintenance - Type 1 (MTBM-1) remains very good at over 1,100 hours; no new trends have been identified. The demonstrated MTBM-1 is 1,199, the Joint Service Operational Requirement (JSOR) for the missile is 450 hours.

Net Ready and Shipboard Survivability: Both AIM-120D (Phase 4) performance parameters were signed off at the Functional Configuration Audit completed on September 29, 2009 as demonstrated.

Other classified Performance Characteristics are contained in an annex that was delivered to SAF/AQX as part of the December 31, 2007 AMRAAM Selected Acquisition Report.

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

Track To Budget**RDT&E**

APPN 1319	BA 07	PE 0207163N	(Navy)	
	Project 0981			
APPN 1319	BA 07	PE 0603370N	(Navy)	
		Beyond Visual Range, Air-to-Air Missile (BVRAAM), FY 1978- 1981.		(Sunk)
APPN 1319	BA 07	PE 0604314N	(Navy)	
		(AMRAAM), FY 1982-1992		(Sunk)
APPN 3600	BA 07	PE 0207163F	(Air Force)	
	Project 673777			
APPN 3600	BA 07	PE 0603370F	(Air Force)	
		(AMRAAM), FY 1978-1982		(Sunk)
APPN 3600	BA 07	PE 0604314F	(Air Force)	
		(AMRAAM), FY 1982-1992		(Sunk)

Procurement

APPN 1507	BA 02	PE 0204162N	(Navy)	
	ICN 220600			
APPN 1507	BA 02	PE 0206138M	(Navy)	
	ICN 220600			
APPN 3020	BA 04	PE 0207163F	(Air Force)	
	ICN 000999		(Shared)	
	ICN 00099A			(Sunk)
	ICN 00099K			(Sunk)

APPN 3020	BA 01	PE 0207163F	(Air Force)	
	ICN 00099L		(Shared)	(Sunk)
APPN 3020	BA 02	PE 0207163F	(Air Force)	
	ICN MAMRAO			

Cost and Funding

Cost Summary

Total Acquisition Cost and Quantity

Appropriation	BY1992 \$M			BY1992 \$M	TY \$M		
	SAR Baseline Prod Est	Current APB Production Objective/Threshold	Current Estimate	Current Estimate	SAR Baseline Prod Est	Current APB Production Objective	Current Estimate
RDT&E	1725.7	2481.6	2729.8	2713.1	1350.6	2355.4	2692.1
Procurement	10552.5	13231.6	14554.8	14010.9	11761.8	17061.9	17788.5
Flyaway	10038.3	--	--	13143.9	11190.8	--	16637.7
Recurring	10038.3	--	--	11265.5	11190.8	--	14738.8
Non Recurring	0.0	--	--	1878.4	0.0	--	1898.9
Support	514.2	--	--	867.0	571.0	--	1150.8
Other Support	378.2	--	--	772.4	420.0	--	1048.7
Initial Spares	136.0	--	--	94.6	151.0	--	102.1
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	12278.2	15713.2	N/A	16724.0	13112.4	19417.3	20480.6

Cost estimate reflects the FY 2012 President's Budget authorized quantities.

Quantity	SAR Baseline Prod Est	Current APB Production	Current Estimate
RDT&E	0	0	0
Procurement	15450	17024	16716
Total	15450	17024	16716

Cost and Funding**Funding Summary**

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

Appropriation	Prior	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	To Complete	Total
RDT&E	2044.4	65.5	80.7	98.0	85.5	60.2	37.8	220.0	2692.1
Procurement	9186.1	511.5	498.7	693.4	688.4	710.2	632.5	4867.7	17788.5
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 2012 Total	11230.5	577.0	579.4	791.4	773.9	770.4	670.3	5087.7	20480.6
PB 2011 Total	11236.0	577.0	567.3	765.5	776.9	787.3	799.7	5773.6	21283.3
Delta	-5.5	0.0	12.1	25.9	-3.0	-16.9	-129.4	-685.9	-802.7

Quantity	Undistributed	Prior	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	To Complete	Total
Development	0	0	0	0	0	0	0	0	0	0
Production	0	10290	328	379	573	557	608	511	3470	16716
PB 2012 Total	0	10290	328	379	573	557	608	511	3470	16716
PB 2011 Total	0	10298	347	412	634	624	655	658	4212	17840
Delta	0	-8	-19	-33	-61	-67	-47	-147	-742	-1124

Cost and Funding

Annual Funding By Appropriation

Annual Funding TY\$

1319 | RDT&E | Research, Development, Test, and Evaluation, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway TY \$M	Non End Item Recurring Flyaway TY \$M	Non Recurring Flyaway TY \$M	Total Flyaway TY \$M	Total Support TY \$M	Total Program TY \$M
1978	--	--	--	--	--	--	6.0
1979	--	--	--	--	--	--	18.3
1980	--	--	--	--	--	--	27.3
1981	--	--	--	--	--	--	24.2
1982	--	--	--	--	--	--	3.3
1983	--	--	--	--	--	--	4.3
1984	--	--	--	--	--	--	7.3
1985	--	--	--	--	--	--	7.8
1986	--	--	--	--	--	--	4.2
1987	--	--	--	--	--	--	5.0
1988	--	--	--	--	--	--	22.3
1989	--	--	--	--	--	--	12.4
1990	--	--	--	--	--	--	6.9
1991	--	--	--	--	--	--	3.5
1992	--	--	--	--	--	--	2.5
1993	--	--	--	--	--	--	3.1
1994	--	--	--	--	--	--	--
1995	--	--	--	--	--	--	7.8
1996	--	--	--	--	--	--	4.3
1997	--	--	--	--	--	--	2.1
1998	--	--	--	--	--	--	5.5
1999	--	--	--	--	--	--	4.5
2000	--	--	--	--	--	--	12.8
2001	--	--	--	--	--	--	11.3
2002	--	--	--	--	--	--	9.7
2003	--	--	--	--	--	--	7.7
2004	--	--	--	--	--	--	8.7
2005	--	--	--	--	--	--	8.5
2006	--	--	--	--	--	--	3.4
2007	--	--	--	--	--	--	6.1
2008	--	--	--	--	--	--	2.5
2009	--	--	--	--	--	--	6.7
2010	--	--	--	--	--	--	3.6
2011	--	--	--	--	--	--	2.6
2012	--	--	--	--	--	--	2.9
2013	--	--	--	--	--	--	2.9

2014	--	--	--	--	--	--	3.0
2015	--	--	--	--	--	--	3.1
2016	--	--	--	--	--	--	3.1
2017	--	--	--	--	--	--	3.2
2018	--	--	--	--	--	--	3.3
2019	--	--	--	--	--	--	3.3
2020	--	--	--	--	--	--	3.4
2021	--	--	--	--	--	--	3.5
2022	--	--	--	--	--	--	3.6
2023	--	--	--	--	--	--	3.7
2024	--	--	--	--	--	--	3.7
Subtotal	--	--	--	--	--	--	308.9

Annual Funding BY\$

1319 | RDT&E | Research, Development, Test, and Evaluation, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway BY 1992 \$M	Non End Item Recurring Flyaway BY 1992 \$M	Non Recurring Flyaway BY 1992 \$M	Total Flyaway BY 1992 \$M	Total Support BY 1992 \$M	Total Program BY 1992 \$M
1978	--	--	--	--	--	--	11.9
1979	--	--	--	--	--	--	33.5
1980	--	--	--	--	--	--	45.0
1981	--	--	--	--	--	--	36.0
1982	--	--	--	--	--	--	4.6
1983	--	--	--	--	--	--	5.7
1984	--	--	--	--	--	--	9.3
1985	--	--	--	--	--	--	9.7
1986	--	--	--	--	--	--	5.1
1987	--	--	--	--	--	--	5.8
1988	--	--	--	--	--	--	25.1
1989	--	--	--	--	--	--	13.3
1990	--	--	--	--	--	--	7.2
1991	--	--	--	--	--	--	3.5
1992	--	--	--	--	--	--	2.4
1993	--	--	--	--	--	--	3.0
1994	--	--	--	--	--	--	--
1995	--	--	--	--	--	--	7.2
1996	--	--	--	--	--	--	3.9
1997	--	--	--	--	--	--	1.9
1998	--	--	--	--	--	--	4.9
1999	--	--	--	--	--	--	4.0
2000	--	--	--	--	--	--	11.1
2001	--	--	--	--	--	--	9.7
2002	--	--	--	--	--	--	8.2
2003	--	--	--	--	--	--	6.4
2004	--	--	--	--	--	--	7.1
2005	--	--	--	--	--	--	6.7
2006	--	--	--	--	--	--	2.6
2007	--	--	--	--	--	--	4.6
2008	--	--	--	--	--	--	1.8
2009	--	--	--	--	--	--	4.9
2010	--	--	--	--	--	--	2.6
2011	--	--	--	--	--	--	1.8
2012	--	--	--	--	--	--	2.0
2013	--	--	--	--	--	--	2.0
2014	--	--	--	--	--	--	2.0
2015	--	--	--	--	--	--	2.1
2016	--	--	--	--	--	--	2.0
2017	--	--	--	--	--	--	2.1
2018	--	--	--	--	--	--	2.1

2019	--	--	--	--	--	--	2.1
2020	--	--	--	--	--	--	2.1
2021	--	--	--	--	--	--	2.1
2022	--	--	--	--	--	--	2.1
2023	--	--	--	--	--	--	2.1
2024	--	--	--	--	--	--	2.1
Subtotal	--	--	--	--	--	--	337.4

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
1977	--	--	--	--	--	--	4.8
1978	--	--	--	--	--	--	6.7
1979	--	--	--	--	--	--	16.1
1980	--	--	--	--	--	--	26.2
1981	--	--	--	--	--	--	22.9
1982	--	--	--	--	--	--	137.9
1983	--	--	--	--	--	--	212.9
1984	--	--	--	--	--	--	197.3
1985	--	--	--	--	--	--	206.6
1986	--	--	--	--	--	--	91.1
1987	--	--	--	--	--	--	37.7
1988	--	--	--	--	--	--	26.7
1989	--	--	--	--	--	--	--
1990	--	--	--	--	--	--	11.9
1991	--	--	--	--	--	--	17.9
1992	--	--	--	--	--	--	30.3
1993	--	--	--	--	--	--	38.9
1994	--	--	--	--	--	--	64.8
1995	--	--	--	--	--	--	63.8
1996	--	--	--	--	--	--	44.2
1997	--	--	--	--	--	--	9.7
1998	--	--	--	--	--	--	39.2
1999	--	--	--	--	--	--	33.5
2000	--	--	--	--	--	--	49.4
2001	--	--	--	--	--	--	50.4
2002	--	--	--	--	--	--	53.5
2003	--	--	--	--	--	--	39.3
2004	--	--	--	--	--	--	31.0
2005	--	--	--	--	--	--	31.9
2006	--	--	--	--	--	--	25.1
2007	--	--	--	--	--	--	33.4
2008	--	--	--	--	--	--	36.4
2009	--	--	--	--	--	--	39.5
2010	--	--	--	--	--	--	49.8
2011	--	--	--	--	--	--	62.9
2012	--	--	--	--	--	--	77.8
2013	--	--	--	--	--	--	95.1
2014	--	--	--	--	--	--	82.5
2015	--	--	--	--	--	--	57.1
2016	--	--	--	--	--	--	34.7
2017	--	--	--	--	--	--	26.8

2018	--	--	--	--	--	--	22.4
2019	--	--	--	--	--	--	22.8
2020	--	--	--	--	--	--	23.2
2021	--	--	--	--	--	--	23.6
2022	--	--	--	--	--	--	24.1
2023	--	--	--	--	--	--	24.5
2024	--	--	--	--	--	--	24.9
Subtotal	--	--	--	--	--	--	2383.2

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

Fiscal Year	Quantity	End Item Recurring Flyaway BY 1992 \$M	Non End Item Recurring Flyaway BY 1992 \$M	Non Recurring Flyaway BY 1992 \$M	Total Flyaway BY 1992 \$M	Total Support BY 1992 \$M	Total Program BY 1992 \$M
1977	--	--	--	--	--	--	10.3
1978	--	--	--	--	--	--	13.2
1979	--	--	--	--	--	--	29.5
1980	--	--	--	--	--	--	43.2
1981	--	--	--	--	--	--	34.1
1982	--	--	--	--	--	--	192.0
1983	--	--	--	--	--	--	283.2
1984	--	--	--	--	--	--	252.7
1985	--	--	--	--	--	--	255.9
1986	--	--	--	--	--	--	110.2
1987	--	--	--	--	--	--	43.6
1988	--	--	--	--	--	--	30.1
1989	--	--	--	--	--	--	--
1990	--	--	--	--	--	--	12.4
1991	--	--	--	--	--	--	18.0
1992	--	--	--	--	--	--	29.6
1993	--	--	--	--	--	--	37.2
1994	--	--	--	--	--	--	60.9
1995	--	--	--	--	--	--	58.9
1996	--	--	--	--	--	--	40.1
1997	--	--	--	--	--	--	8.7
1998	--	--	--	--	--	--	34.8
1999	--	--	--	--	--	--	29.5
2000	--	--	--	--	--	--	42.8
2001	--	--	--	--	--	--	43.1
2002	--	--	--	--	--	--	45.2
2003	--	--	--	--	--	--	32.8
2004	--	--	--	--	--	--	25.2
2005	--	--	--	--	--	--	25.3
2006	--	--	--	--	--	--	19.3
2007	--	--	--	--	--	--	25.1
2008	--	--	--	--	--	--	26.8
2009	--	--	--	--	--	--	28.7
2010	--	--	--	--	--	--	35.8
2011	--	--	--	--	--	--	44.6
2012	--	--	--	--	--	--	54.4
2013	--	--	--	--	--	--	65.4
2014	--	--	--	--	--	--	55.8
2015	--	--	--	--	--	--	38.0
2016	--	--	--	--	--	--	22.7
2017	--	--	--	--	--	--	17.2

2018	--	--	--	--	--	--	14.2
2019	--	--	--	--	--	--	14.2
2020	--	--	--	--	--	--	14.2
2021	--	--	--	--	--	--	14.2
2022	--	--	--	--	--	--	14.2
2023	--	--	--	--	--	--	14.2
2024	--	--	--	--	--	--	14.2
Subtotal	--	--	--	--	--	--	2375.7

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
1989	26	26.0	--	2.7	28.7	2.5	31.2
1990	85	61.5	--	18.7	80.2	4.9	85.1
1991	300	191.5	--	52.9	244.4	17.5	261.9
1992	191	115.3	--	38.0	153.3	41.2	194.5
1993	165	72.5	--	20.3	92.8	12.4	105.2
1994	75	26.7	--	21.5	48.2	8.6	56.8
1995	106	40.5	--	24.6	65.1	9.9	75.0
1996	115	35.2	--	28.5	63.7	10.0	73.7
1997	100	30.4	--	16.3	46.7	6.0	52.7
1998	120	38.1	--	10.1	48.2	6.3	54.5
1999	100	36.5	--	9.0	45.5	5.4	50.9
2000	91	33.5	--	10.0	43.5	2.5	46.0
2001	63	25.3	--	9.1	34.4	3.4	37.8
2002	55	20.4	--	12.9	33.3	3.5	36.8
2003	76	34.4	--	12.5	46.9	3.5	50.4
2004	42	18.5	--	15.0	33.5	3.8	37.3
2005	37	16.4	--	9.4	25.8	3.0	28.8
2006	48	40.4	--	30.2	70.6	3.2	73.8
2007	42	60.4	--	25.0	85.4	3.4	88.8
2008	52	75.8	--	7.5	83.3	2.7	86.0
2009	57	80.3	--	2.4	82.7	2.6	85.3
2010	71	134.3	--	--	134.3	4.3	138.6
2011	101	150.8	--	--	150.8	5.3	156.1
2012	161	183.6	--	--	183.6	5.5	189.1
2013	210	223.7	--	--	223.7	4.8	228.5
2014	216	231.9	--	1.5	233.4	4.1	237.5
2015	244	257.5	--	--	257.5	3.8	261.3
2016	232	259.8	--	--	259.8	5.4	265.2
2017	234	262.2	--	--	262.2	4.5	266.7
2018	150	180.3	--	2.0	182.3	4.6	186.9
2019	150	185.4	--	--	185.4	4.7	190.1
2020	150	189.7	--	--	189.7	4.7	194.4
2021	150	194.2	--	8.0	202.2	4.8	207.0
2022	150	196.6	--	--	196.6	4.9	201.5
2023	150	201.5	--	4.5	206.0	5.0	211.0
2024	146	223.7	--	--	223.7	14.6	238.3
Subtotal	4461	4154.8	--	392.6	4547.4	237.3	4784.7

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

Fiscal Year	Quantity	End Item Recurring Flyaway BY 1992 \$M	Non End Item Recurring Flyaway BY 1992 \$M	Non Recurring Flyaway BY 1992 \$M	Total Flyaway BY 1992 \$M	Total Support BY 1992 \$M	Total Program BY 1992 \$M
1989	26	26.4	--	2.8	29.2	2.5	31.7
1990	85	61.3	--	18.6	79.9	4.9	84.8
1991	300	185.4	--	51.2	236.6	17.0	253.6
1992	191	110.3	--	36.4	146.7	39.4	186.1
1993	165	68.0	--	19.1	87.1	11.6	98.7
1994	75	24.5	--	19.8	44.3	7.9	52.2
1995	106	36.9	--	22.4	59.3	9.0	68.3
1996	115	31.6	--	25.6	57.2	9.0	66.2
1997	100	26.9	--	14.5	41.4	5.3	46.7
1998	120	33.4	--	8.9	42.3	5.5	47.8
1999	100	31.6	--	7.8	39.4	4.7	44.1
2000	91	28.7	--	8.5	37.2	2.2	39.4
2001	63	21.5	--	7.7	29.2	2.9	32.1
2002	55	17.0	--	10.7	27.7	3.0	30.7
2003	76	28.4	--	10.3	38.7	2.9	41.6
2004	42	14.9	--	12.1	27.0	3.1	30.1
2005	37	12.9	--	7.3	20.2	2.4	22.6
2006	48	30.8	--	23.1	53.9	2.4	56.3
2007	42	45.0	--	18.6	63.6	2.5	66.1
2008	52	55.4	--	5.5	60.9	2.0	62.9
2009	57	58.0	--	1.7	59.7	1.9	61.6
2010	71	95.6	--	--	95.6	3.1	98.7
2011	101	105.8	--	--	105.8	3.8	109.6
2012	161	126.9	--	--	126.9	3.8	130.7
2013	210	152.0	--	--	152.0	3.3	155.3
2014	216	155.0	--	1.0	156.0	2.7	158.7
2015	244	169.2	--	--	169.2	2.5	171.7
2016	232	167.9	--	--	167.9	3.4	171.3
2017	234	166.6	--	--	166.6	2.8	169.4
2018	150	112.6	--	1.2	113.8	3.0	116.8
2019	150	113.9	--	--	113.9	2.9	116.8
2020	150	114.6	--	--	114.6	2.8	117.4
2021	150	115.3	--	4.8	120.1	2.8	122.9
2022	150	114.8	--	--	114.8	2.9	117.7
2023	150	115.7	--	2.6	118.3	2.9	121.2
2024	146	126.3	--	--	126.3	8.2	134.5
Subtotal	4461	2901.1	--	342.2	3243.3	193.0	3436.3

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
1984	--	--	--	29.2	29.2	--	29.2
1985	--	--	--	74.1	74.1	--	74.1
1986	--	--	--	193.8	193.8	4.1	197.9
1987	180	405.2	--	170.4	575.6	20.5	596.1
1988	400	535.5	--	160.6	696.1	15.2	711.3
1989	874	667.3	--	102.6	769.9	16.3	786.2
1990	803	576.3	--	88.4	664.7	17.9	682.6
1991	600	397.5	--	190.2	587.7	24.2	611.9
1992	700	438.5	--	73.2	511.7	18.1	529.8
1993	1000	422.2	--	140.5	562.7	30.6	593.3
1994	983	347.1	--	81.5	428.6	18.4	447.0
1995	412	123.3	--	75.5	198.8	31.7	230.5
1996	291	146.2	--	21.7	167.9	11.9	179.8
1997	133	93.6	--	10.8	104.4	8.2	112.6
1998	173	53.6	--	44.6	98.2	4.8	103.0
1999	180	67.0	--	22.4	89.4	1.0	90.4
2000	163	68.4	--	6.2	74.6	9.2	83.8
2001	170	75.3	--	9.4	84.7	10.6	95.3
2002	190	80.5	--	7.1	87.6	12.6	100.2
2003	124	69.9	--	4.1	74.0	11.0	85.0
2004	159	84.6	--	--	84.6	13.8	98.4
2005	159	87.7	--	--	87.7	19.2	106.9
2006	84	99.9	--	--	99.9	2.2	102.1
2007	59	103.9	--	--	103.9	11.6	115.5
2008	133	167.2	--	--	167.2	27.2	194.4
2009	133	162.6	--	--	162.6	42.3	204.9
2010	170	249.3	--	--	249.3	23.5	272.8
2011	227	330.4	--	--	330.4	25.0	355.4
2012	218	275.1	--	--	275.1	34.5	309.6
2013	363	434.6	--	--	434.6	30.3	464.9
2014	341	420.0	--	--	420.0	30.9	450.9
2015	364	414.4	--	--	414.4	34.5	448.9
2016	279	331.7	--	--	331.7	35.6	367.3
2017	280	337.3	--	--	337.3	36.2	373.5
2018	268	343.1	--	--	343.1	36.7	379.8
2019	268	348.5	--	--	348.5	37.8	386.3
2020	267	354.1	--	--	354.1	38.8	392.9
2021	265	359.5	--	--	359.5	40.0	399.5
2022	263	365.3	--	--	365.3	41.0	406.3
2023	287	370.7	--	--	370.7	42.5	413.2
2024	292	376.7	--	--	376.7	43.6	420.3

Subtotal	12255	10584.0	--	1506.3	12090.3	913.5	13003.8
-----------------	--------------	----------------	-----------	---------------	----------------	--------------	----------------

Annual Funding BY\$

3020 | Procurement | Missile Procurement, Air Force

Fiscal Year	Quantity	End Item Recurring Flyaway BY 1992 \$M	Non End Item Recurring Flyaway BY 1992 \$M	Non Recurring Flyaway BY 1992 \$M	Total Flyaway BY 1992 \$M	Total Support BY 1992 \$M	Total Program BY 1992 \$M
1984	--	--	--	36.0	36.0	--	36.0
1985	--	--	--	88.9	88.9	--	88.9
1986	--	--	--	222.1	222.1	4.7	226.8
1987	180	445.0	--	187.1	632.1	22.6	654.7
1988	400	567.6	--	170.2	737.8	16.1	753.9
1989	874	677.3	--	104.0	781.3	16.6	797.9
1990	803	574.4	--	88.1	662.5	17.8	680.3
1991	600	384.9	--	184.2	569.1	23.4	592.5
1992	700	419.5	--	70.0	489.5	17.3	506.8
1993	1000	395.9	--	131.8	527.7	28.7	556.4
1994	983	319.1	--	75.0	394.1	16.9	411.0
1995	412	112.3	--	68.7	181.0	28.9	209.9
1996	291	131.4	--	19.5	150.9	10.7	161.6
1997	133	83.0	--	9.5	92.5	7.3	99.8
1998	173	47.1	--	39.1	86.2	4.2	90.4
1999	180	58.1	--	19.4	77.5	0.9	78.4
2000	163	58.6	--	5.3	63.9	8.0	71.9
2001	170	63.9	--	8.0	71.9	8.9	80.8
2002	190	67.2	--	5.9	73.1	10.5	83.6
2003	124	57.6	--	3.4	61.0	9.1	70.1
2004	159	68.3	--	--	68.3	11.1	79.4
2005	159	68.8	--	--	68.8	15.1	83.9
2006	84	76.2	--	--	76.2	1.7	77.9
2007	59	77.3	--	--	77.3	8.7	86.0
2008	133	122.3	--	--	122.3	19.9	142.2
2009	133	117.4	--	--	117.4	30.5	147.9
2010	170	177.5	--	--	177.5	16.8	194.3
2011	227	231.9	--	--	231.9	17.5	249.4
2012	218	190.1	--	--	190.1	23.8	213.9
2013	363	295.4	--	--	295.4	20.6	316.0
2014	341	280.7	--	--	280.7	20.6	301.3
2015	364	272.3	--	--	272.3	22.7	295.0
2016	279	214.3	--	--	214.3	23.0	237.3
2017	280	214.3	--	--	214.3	23.0	237.3
2018	268	214.3	--	--	214.3	23.0	237.3
2019	268	214.1	--	--	214.1	23.2	237.3
2020	267	213.9	--	--	213.9	23.4	237.3
2021	265	213.5	--	--	213.5	23.8	237.3
2022	263	213.3	--	--	213.3	24.0	237.3
2023	287	212.9	--	--	212.9	24.4	237.3
2024	292	212.7	--	--	212.7	24.6	237.3

Subtotal	12255	8364.4	--	1536.2	9900.6	674.0	10574.6
-----------------	--------------	---------------	-----------	---------------	---------------	--------------	----------------

Low Rate Initial Production

	Initial LRIP Decision	Current Total LRIP
Approval Date	6/4/1987	6/4/1987
Approved Quantity	810	4159
Reference	Milestone IIIA	Milestone IIIB
Start Year	1987	1987
End Year	1989	1992

The Advanced Medium Range Air-to-Air Missile (AMRAAM) received a favorable Low Rate Initial Production (LRIP) decision during the Milestone IIIA review by the Defense Acquisition Board (DAB) in June 1987. The original plan was to procure 810 LRIP missiles. On May 23, 1991, DAB IIIB extended LRIP from FY 1987 through FY 1992 (Lot VI) with a quantity of 4,159 missiles, adding 3,349 missiles to the LRIP quantities. The follow-on DAB Program Review, held on April 23, 1992, approved Full-Rate Production for Lot VII (FY 1993) procurement.

Foreign Military Sales

Classified Foreign Military Sales information is provided in the classified annex to this submission.

Nuclear Cost

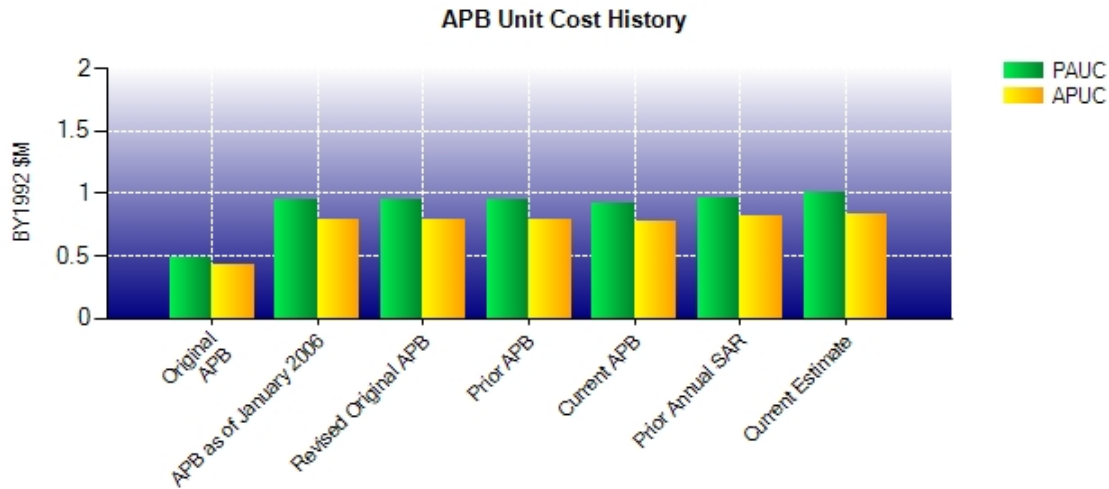
Classified Nuclear Cost information is provided in the classified annex to this submission.

Unit Cost**Unit Cost Report**

	BY1992 \$M	BY1992 \$M	
Unit Cost	Current UCR Baseline (MAY 2008 APB)	Current Estimate (DEC 2010 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	15713.2	16724.0	
Quantity	17024	16716	
Unit Cost	0.923	1.000	+8.34
Average Procurement Unit Cost (APUC)			
Cost	13231.6	14010.9	
Quantity	17024	16716	
Unit Cost	0.777	0.838	+7.85

	BY1992 \$M	BY1992 \$M	
Unit Cost	Revised Original UCR Baseline (SEP 1996 APB)	Current Estimate (DEC 2010 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	12302.9	16724.0	
Quantity	13038	16716	
Unit Cost	0.944	1.000	+5.93
Average Procurement Unit Cost (APUC)			
Cost	10205.7	14010.9	
Quantity	13038	16716	
Unit Cost	0.783	0.838	+7.02

Unit Cost History



	Date	BY1992 \$M		TY \$M	
		PAUC	APUC	PAUC	APUC
Original APB	DEC 1988	0.490	0.421	0.477	0.422
APB as of January 2006	SEP 1996	0.944	0.783	1.022	0.883
Revised Original APB	SEP 1996	0.944	0.783	1.022	0.883
Prior APB	SEP 1996	0.944	0.783	1.022	0.883
Current APB	MAY 2008	0.923	0.777	1.141	1.002
Prior Annual SAR	DEC 2009	0.965	0.813	1.193	1.042
Current Estimate	DEC 2010	1.000	0.838	1.225	1.064

SAR Unit Cost History

Current SAR Baseline to Current Estimate (TY \$M)

Initial PAUC Prod Est	Changes								PAUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
0.849	-0.027	0.014	0.166	0.070	0.116	0.000	0.037	0.376	1.225

Current SAR Baseline to Current Estimate (TY \$M)

Initial APUC Prod Est	Changes								APUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
0.761	-0.024	0.022	0.166	0.031	0.071	0.000	0.037	0.303	1.064

SAR Baseline History

Item/Event	SAR Planning Estimate (PE)	SAR Development Estimate (DE)	SAR Production Estimate (PdE)	Current Estimate
Milestone I	N/A	NOV 1978	NOV 1978	NOV 1978
Milestone II	N/A	NOV 1982	SEP 1982	SEP 1982
Milestone III	N/A	DEC 1984	APR 1991	APR 1991
IOC	N/A	SEP 1986	SEP 1992	SEP 1993
Total Cost (TY \$M)	N/A	11591.6	13112.4	20480.6
Total Quantity	N/A	24335	15450	16716
Prog. Acq. Unit Cost (PAUC)	N/A	0.476	0.849	1.225

The Initial Operational Capability (IOC) reported above is for the Air Force; the Navy IOC was September 1993.

Cost Variance**Cost Variance Summary**

Summary Then Year \$M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Prod Est)	1350.6	11761.8	--	13112.4
Previous Changes				
Economic	-49.8	-404.4	--	-454.2
Quantity	--	+2029.6	--	+2029.6
Schedule	-7.3	+3085.8	--	+3078.5
Engineering	+643.8	+562.7	--	+1206.5
Estimating	+759.4	+910.4	--	+1669.8
Other	--	--	--	--
Support	--	+640.7	--	+640.7
Subtotal	+1346.1	+6824.8	--	+8170.9
Current Changes				
Economic	-1.1	+9.7	--	+8.6
Quantity	--	-711.0	--	-711.0
Schedule	--	-303.1	--	-303.1
Engineering	--	-43.0	--	-43.0
Estimating	-3.5	+276.6	--	+273.1
Other	--	--	--	--
Support	--	-27.3	--	-27.3
Subtotal	-4.6	-798.1	--	-802.7
Total Changes	+1341.5	+6026.7	--	+7368.2
CE - Cost Variance	2692.1	17788.5	--	20480.6
CE - Cost & Funding	2692.1	17788.5	--	20480.6

Summary Base Year 1992 \$M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Prod Est)	1725.7	10552.5	--	12278.2
Previous Changes				
Economic	--	--	--	--
Quantity	--	+1239.0	--	+1239.0
Schedule	-8.1	+1571.1	--	+1563.0
Engineering	+510.9	+406.3	--	+917.2
Estimating	+484.3	+356.5	--	+840.8
Other	--	--	--	--
Support	--	+371.4	--	+371.4
Subtotal	+987.1	+3944.3	--	+4931.4
Current Changes				
Economic	--	--	--	--
Quantity	--	-408.5	--	-408.5
Schedule	--	-222.6	--	-222.6
Engineering	--	-24.7	--	-24.7
Estimating	+0.3	+188.5	--	+188.8
Other	--	--	--	--
Support	--	-18.6	--	-18.6
Subtotal	+0.3	-485.9	--	-485.6
Total Changes	+987.4	+3458.4	--	+4445.8
CE - Cost Variance	2713.1	14010.9	--	16724.0
CE - Cost & Funding	2713.1	14010.9	--	16724.0

Previous Estimate: December 2009

RDT&E	\$M	
	Base Year	Then Year
Current Change Explanations		
Revised escalation indices. (Economic)	N/A	-1.1
Reduction in contract support (Navy). (Estimating)	-0.4	-0.5
Working Capital Fund rate adjustment for product development and Test and Evaluation (Navy). (Estimating)	-0.4	-0.6
Reprogramming of funds for Electronic Protection software (Air Force). (Estimating)	+2.9	+3.9
Small Business Innovation Research reduction (Air Force). (Estimating)	-0.7	-0.9
Recission of funding (Air Force). (Estimating)	-3.0	-4.1
Congressional General Reduction (Air Force). (Estimating)	-0.1	-0.2
Acceleration of Electronic Protection improvement program (Air Force). (Estimating)	+42.0	+60.8
Reduction on Non-pay, Non-fuel purchases (Air Force). (Estimating)	-0.7	-1.1
Reduced out-year funding to align with warfighter needs (Air Force). (Estimating)	-39.3	-60.8
RDT&E Subtotal	+0.3	-4.6

Procurement	\$M	
	Base Year	Then Year
Current Change Explanations		
Revised escalation indices. (Economic)	N/A	+9.7
Total Quantity variance resulting from a decrease of 1124 missiles from 13379 to 12255 (Air Force). (Subtotal)	-608.1	-1058.5
Quantity variance resulting from a decrease of 1124 missiles from 13379 to 12255 (Air Force). (Quantity)	(-408.5)	(-711.0)
Allocation to Schedule resulting from Quantity change. (Schedule) (QR)	(-135.1)	(-235.2)
Allocation to Engineering resulting from Quantity change. (Engineering) (QR)	(-24.7)	(-43.0)
Allocation to Estimating resulting from Quantity change. (Estimating) (QR)	(-39.8)	(-69.3)
Navy decrease due to schedule variance resulting from realignment of missile buy profile from FY2010 through FY2024 (Navy). (Schedule)	0.0	-3.3
Adjustment to schedule variance resulting from realignment of missile buy profile from FY2010 through FY2024 (Navy). (Schedule)	+29.2	+52.2
Air Force increase due to schedule variance resulting from a decrease of 1124 missiles from FY2010 through FY2024 (Air Force). (Schedule)	0.0	+76.7
Adjustment to schedule variance resulting from a decrease of 1124 missiles from FY2010 through FY2024 (Air Force). (Schedule)	-116.7	-193.5
Adjustment for current and prior escalation. (Estimating)	-1.0	-1.6
Increase in factory Tooling and Test Equipment due to change in estimating methodology (Navy). (Estimating)	+13.0	+20.4
Increase in Diminishing Manufacturing Sources (DMS) requirements (Navy). (Estimating)	+80.9	+124.4
Decrease in Production test and technical support requirements (Navy). (Estimating)	-25.9	-42.6
Increase in DMS requirement (Air Force). (Estimating)	+204.9	+314.4
Decrease in Production Test requirements estimate (Air Force). (Estimating)	-43.8	-69.3
Adjustment for current and prior escalation. (Support)	-0.1	-0.1
Decrease in Other Support due to reduction in Integrated Logistic Support requirements (Navy). (Support)	-8.4	-13.5

Decrease in Initial Spares cost due to reduction of spares requirements (Navy). (Support)	-0.8	-1.2
Decrease in Other Support due to reduction in Telemetry equipment requirements and reduced Logistics Support activity (Air Force). (Support)	-9.2	-12.4
Increase in Initial Spares estimate (Air Force). (Support)	+0.1	+0.1
Correction to align support and flyaway. (Subtotal)	0.0	0.0
(Support)	(-0.2)	(-0.2)
(Estimating)	(+0.2)	(+0.2)
Procurement Subtotal	-485.9	-798.1

(QR) Quantity Related

Contracts

Appropriation: Procurement

Contract Name	Raytheon Lot 20
Contractor	Raytheon Company
Contractor Location	Tucson, AZ 85734-1377
Contract Number, Type	FA8675-06-C-0003, FFP
Award Date	February 17, 2006
Definitization Date	February 17, 2006

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
176.0	N/A	166	184.8	N/A	166	184.8	184.8

Cost And Schedule Variance Explanations

Cost and Schedule variance reporting is not required on this FFP contract.

Contract Comments

The contract is over 90% complete and will no longer be reported. The difference between the initial contract price and the current contract price is due in large part to the addition of Production Transition tasks in November 2006; the addition of Guided Weapons Test Sets in March 2007; the addition of the Processor Replacement Risk Reduction Study in July 2007.

Appropriation: Procurement

Contract Name	Raytheon Lot 21
Contractor	Raytheon Company
Contractor Location	Tucson, AZ 85734-1377
Contract Number, Type	FA8675-07-C-0055, FFP
Award Date	April 13, 2007
Definitization Date	April 13, 2007

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
194.1	N/A	104	377.7	N/A	143	377.7	377.7

Cost And Schedule Variance Explanations

Cost and Schedule variance reporting is not required on this FFP contract.

Contract Comments

The difference between the initial contract price and the current contract price is due in large part to the addition of the Integrated Test Vehicle and Guidance Section in June 2007; procurement of Captive Air Training Missiles and Navy Rocket Motors in September 2007; the addition of Foreign Military Sales (FMS) requirements and Processor Replacement Program (PRP) Phase I in July 2008; the addition of Guided Weapons Test Set in November 2008; FMS Offset Administration in December 2008, and PRP Phase II in February 2009.

Appropriation: Procurement

Contract Name	Raytheon Lot 22
Contractor	Raytheon Company
Contractor Location	Tucson, AZ 85706
Contract Number, Type	FA8675-08-C-0049, FFP
Award Date	May 28, 2008
Definitization Date	May 28, 2008

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
416.4	N/A	413	444.3	N/A	413	444.3	444.3

Cost And Schedule Variance Explanations

Cost and Schedule variance reporting is not required on this FFP contract.

Contract Comments

The difference between the initial contract price and the current contract price is due in large part to the purchase of additional Telemetry units in July 2008, the addition of Rocket Motors for Foreign Military Sales and US customers in January 2009, and the addition of Lean Cost Reduction Initiatives to qualify lower cost components for future missiles in April 2009.

Appropriation: Procurement

Contract Name	Raytheon Lot 23
Contractor	Raytheon Company
Contractor Location	Tucson, AZ 85706
Contract Number, Type	FA8675-09-C-0052, FFP
Award Date	April 28, 2009
Definitization Date	April 28, 2009

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
521.2	N/A	685	702.6	N/A	689	702.6	702.6

Cost And Schedule Variance Explanations

Cost and Schedule variance reporting is not required on this FFP contract.

Contract Comments

The difference between the initial contract price and the current contract price is due in large part to the addition of Navy F-18 missiles, Government Furnished Equipment requirements, and Telemetry units in July 2009; the addition of Foreign Military Sales (FMS) Rocket Motors in September 2009; the procurement of the AIM-120D AMRAAM Captive Equipment Pod and the Foreign Military Sales Offset Administration in December 2009. In calendar year 2010 we added Processor Replacement Program (PRP) FMS overarching software; four months of System Engineering Program Management (SEPM) to cover the delay in awarding Lot 24; PRP Phase 3; a Radome Phase 2 AMRAAM Pyroceram Restart; and several smaller items.

Appropriation: Procurement

Contract Name	Raytheon Lot 24
Contractor	Raytheon Company
Contractor Location	Tucson, AZ 85706
Contract Number, Type	FA8675-10-C-0014, FFP
Award Date	August 05, 2010
Definitization Date	August 05, 2010

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
492.4	N/A	505	538.5	N/A	523	538.5	538.5

Cost And Schedule Variance Explanations

Cost and Schedule variance reporting is not required on this FFP contract.

Contract Comments

This is the first time this contract is being reported. The difference between the initial price and the current contract price was the addition of AIM-120D missile for US and next generation guidance section test position in 2010.

Deliveries and Expenditures

Deliveries To Date	Plan To Date	Actual To Date	Total Quantity	Percent Delivered
Development	0	0	0	--
Production	9754	9670	16716	57.85%
Total Program Quantities Delivered	9754	9670	16716	57.85%

Expenditures and Appropriations (TY \$M)			
Total Acquisition Cost	20480.6	Years Appropriated	35
Expenditures To Date	10359.4	Percent Years Appropriated	72.92%
Percent Expended	50.58%	Appropriated to Date	11807.5
Total Funding Years	48	Percent Appropriated	57.65%

Operating and Support Cost

Assumptions And Ground Rules

The AMRAAM replaced the AIM-7 and was integrated and maintained using existing support resources with no additional manpower requirements. The All-Up-Round (AUR) maintenance concept calls for aircraft loading/unloading, removal/replacement of wings and fins and missile Built-In-Test (BIT). A missile failing BIT will be sent to the Intermediate-Level Shop for test verification on the Missile Bit Test Set (MBTS – Air Force only), Common Field-Level Memory Reprogramming Equipment (CFMRE), or Common Munitions BIT Reprogramming Equipment Plus (CMBRE). Failed missiles will be returned to the contractor depot for repair.

The Operation and Support (O&S) costs are the direct costs for the tactical missile and the Captive Carry Missile (CCM) associated with operating, supporting, and maintaining the AMRAAM missile over a 30-year deployment phase starting in FY 1991 for the Air Force and FY 1992 for the Navy. The Air Force estimate covers base operations including CCM, AUR fault verification, operational firings, depot repairs (seven year Interim Contractor Support (ICS)), supply/item management, transportation, replenishment spares, and field software updates. The Navy estimate includes AMRAAM fleet operations and support, depot rework (five years ICS), technical support (fleet support, engineering services, quality surveillance, program management), supply support, replenishment spares, and contractor augmented support. The Total Acquisition Cost includes Development for the Air Force and United States Navy (FY 1977-2024), Air Force Production (FY 1984-2024), and Navy Production (FY 1989-2024). There never was an initial Acquisition Program Baseline (APB) Objective or Current APB Objective/Threshold Cost Estimate for O&S. The O&S Cost of \$1,310.3M (TY\$M), \$894.0M (BY92\$M) (see breakout below) is for 40 years (through 2030 for the AMRAAM service life). The Total Acquisition Cost includes Development and Production for Air Force and Navy. There is no initial APB Objective or Current APB Objective/Threshold Cost Estimate for O&S.

The O&S Cost of \$1,310.3M (TY\$M), \$894.0M (BY92\$M) see breakout below) is for 40 years (through 2030 for the AMRAAM service life).

The O&S Cost includes:

- 1) Contractor Logistics Support (CLS) labor and material. CLS covers the repair cost after the warranty period has expired.
- 2) Maintenance: includes inspections, periodic tests, and 30-day function check.
- 3) Second Destination Transportation (SDT).
- 4) Material management / item entry.
- 5) Container maintenance.
- 6) Sustaining engineering support.
- 7) Travel (TDY) test costs at Weapons System Evaluation Program (WSEP).
- 8) Miscellaneous personnel support costs.

O&S Cost does not include warranty costs; however, the number of years for warranty is used to adjust detected failures by lot. The warranty costs are included in the production costs.

The O&S cost estimate was updated January 2011 by Air Dominance Production/Sustainment Branch. The Production Air Force quantities were updated to be consistent with the FY 2012 President's Budget (PB). Telemetry (TM) units budgeted for support of the WSEP were removed from the O&S estimate because they are included in the Production estimate. There is no antecedent system therefore no antecedent cost entered.

Costs BY1992 \$M		
Cost Element	AMRAAM Average Annual Cost For All Missiles	Antecedent Average Annual Cost For All Missiles
Unit-Level Manpower	0.3	0.0
Unit Operations	0.9	0.0
Maintenance	6.8	0.0
Sustaining Support	13.6	0.0
Continuing System Improvements	0.6	0.0
Indirect Support	0.1	0.0
Other	0.0	0.0
Total Unitized Cost (Base Year 1992 \$)	22.3	--

Total O&S Costs \$M	AMRAAM	Antecedent
Base Year	894.0	0.0
Then Year	1310.3	0.0