Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-368

AGM-88E AARGM

As of December 31, 2011

Defense Acquisition Management
Information Retrieval
(DAMIR)

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Program Information

Designation And Nomenclature (Popular Name)

AGM-88E Advanced Anti-Radiation Guided Missile (AGM-88E AARGM)

DoD Component

Navy

Joint Participants

Italian Ministry of Defense

Responsible Office

Responsible Office

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Date Assigned June 25, 2009

References

SAR Baseline (Production Estimate)

Navy Acquisition Executive (NAE) Approved Acquisition Program Baseline (APB) dated January 21, 2009

Approved APB

Navy Acquisition Executive (NAE) Approved Acquisition Program Baseline (APB) dated November 14, 2011

Mission and Description

The AGM-88E Advanced Anti-Radiation Guided Missile (AARGM) program will field a major system upgrade to the AGM-88 High Speed Anti-Radiation Missile (HARM) inventory. The AARGM will provide a significant enhancement to Naval operational capability in the Offensive Counter Air/Suppression of Enemy Air Defenses (SEAD) mission area by technological upgrade to the HARM guidance system to counter enemy use of simple and cheap countermeasures and tactics such as mobility and radar shutdown. The AARGM will be employed in the Offensive Counter Air/SEAD role in direct support of all mission areas within the objective force (e.g., Strike Warfare, Amphibious Warfare, Anti-Surface Ship Warfare, and Command and Control Warfare and Information Warfare) providing a rapid, organic response to air defense threats ranging from Smaller Scale Contingencies (SSC) to Major Theater War (MTW). It will be employed by Naval aircraft operating from both sea and land bases.

The AGM-88E AARGM missile provides a new multi-mode guidance section and modified control section mated with existing HARM propulsion and warhead sections. The new guidance section will have a passive Anti-Radiation Homing (ARH) receiver and associated antennae, a Global Positioning System/Inertial Navigation System (GPS/INS) and Millimeter Wave (MMW) radar for terminal guidance capability. The AARGM will also have the capability to transmit terminal (end game) data via a Weapon Impact Assessment (WIA) transmitter to national satellites just before AARGM impacts its target. Additionally, a provision to receive off-board targeting information, via the Integrated Broadcast System (IBS), is incorporated in the weapon system.

The AARGM is the acquisition upgrade to HARM, the Navy's only Defense Suppression missile. Acquisition of AARGM is critical to addressing the limitations and shortcomings of HARM, which include counter shutdown capability, limited lethality against advanced threat air defense units, limited captive carry life, no impact reporting capability, and no off-board targeting reception capability.

The AGM-88E AARGM has been selected by the Navy for use on the F/A-18C/D and will be compatible with the F/A-18E/F, EA-6B (and follow-on aircraft), F-16C/J and Joint Strike Fighter (JSF) external carriage (post Initial Operational Capability (IOC)).

Executive Summary

The Full Rate Production (FRP) Phase is scheduled for 2012 - 2020. A total of 1,879 Advanced Anti-Radiation Guided Missiles (AARGM) (including Captive Air Training Missiles and spare Guidance and Control Sections) are planned for production, with Initial Operational Capability (IOC) in April 2012 and an FRP Decision and contract award expected in the third quarter of FY 2012. In November 2009, a Cooperative Production, Sustainment and follow-on Development Memorandum of Agreement (MOA) between the United States and Italy went into effect after final signature by the Assistant Secretary of the Navy (Research, Development, and Acquisition) (ASN(RD&A)).

In September 2010, the Program Executive Office for Unmanned Aviation and Strike Weapons (PEO(U&W)) decertified AARGM from Initial Operational Test & Evaluation (IOT&E) due to intermittent hardware and software failures. On July 20, 2011, the AARGM program held a successful Operational Test Readiness Review (OTRR) and received approval for re-entry into IOT&E. The program returned to IOT&E on August 10, 2011 and is expected to complete IOT&E in March 2012. As of December 31, 2011, six successful live-fires have been completed, and four are remaining. Additionally, the following accomplishments and developments occurred since the 2011 June quarterly SAR: one Program Management Review (PMR); one International Cooperative Program Steering Committee meeting; delivery of 34 missiles; award of the Low Rate Initial Production (LRIP) III contract on October 31, 2011; and West Coast consolidation of production workload. Furthermore, the team is preparing for the program's FRP Decision.

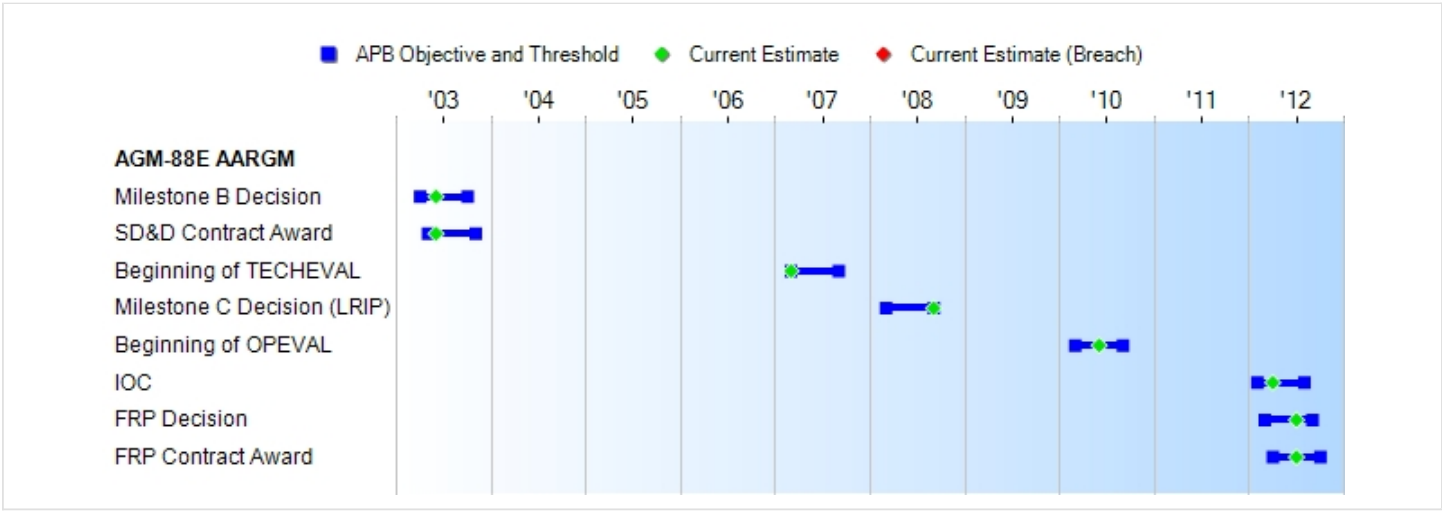
Based on over 300 hours of flight testing of the latest software, there are no significant software-related issues with this program at this time.

Threshold Breaches

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

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 Objective/Threshold		Current Estimate	
Milestone B Decision	APR 2003	APR 2003	OCT 2003	JUN 2003	
SD&D Contract Award	MAY 2003	MAY 2003	NOV 2003	JUN 2003	
Beginning of TECHEVAL	MAR 2007	MAR 2007	SEP 2007	MAR 2007	
Milestone C Decision (LRIP)	MAR 2008	MAR 2008	SEP 2008	SEP 2008	
Beginning of OPEVAL	MAR 2009	MAR 2010	SEP 2010	JUN 2010	
IOC	NOV 2010	FEB 2012	AUG 2012	APR 2012	(Ch-1)
FRP Decision	JUL 2010	MAR 2012	SEP 2012	JUL 2012	(Ch-2)
FRP Contract Award	DEC 2010	APR 2012	OCT 2012	JUL 2012	(Ch-2)

Acronyms And Abbreviations

FRP - Full Rate Production
IOC - Initial Operational Capability
LRIP - Low Rate Initial Production
OPEVAL - Operational Evaluation
SD&D - System Development and Demonstration
TECHEVAL - Technical Evaluation

Change Explanations

(Ch-1) The expected date for Initial Operational Capability (IOC) moved from February 2012 to April 2012. The estimated completion date of Operational Evaluation (OPEVAL) moved from February 2012 to March 2012 and influenced the delay in IOC somewhat. However, the April IOC was selected by operational units to meet their needs.

(Ch-2) Due to changes to the schedule for OPEVAL, the expected date for a Full Rate Production (FRP) decision

and the expected date for an FRP contract award moved from March 2012 and April 2012, respectively, to July 2012. A Beyond Low Rate Initial Production (LRIP) report is expected in June 2012.

Performance

Characteristics	SAR Baseline Prod Est	Current APB Production Objective/Threshold		Demonstrated Performance	Current Estimate
Material Availability	>=0.95	>=0.95	>=0.9	TBD	>=0.98
Net Ready	The system must fully support execution of all operational activities identified in the applicable joint and system integrated architectures and the system must satisfy the technical requirements for Net-Centric military operations to include (1) DISR-mandated GIG IT standards and profiles identified in the TV-1; (2) DISR-man dated GIG KIPs identified in the KIP declaration table; (3) NCOW RM Enterprise Services; (4) IA requirements including availability, integrity,	The system must fully support execution of all operational activities identified in the applicable joint and system integrated architectures and the system must satisfy the technical requirements for Net-Centric military operations to include (1) DISR-mandated GIG IT standards and profiles identified in the TV-1; (2) DISR-man dated GIG KIPs identified in the KIP declaration table; (3) NCOW RM Enterprise Services; (4) IA requirements including availability, integrity,	The system must fully support execution of joint critical operational activities identified in the applicable joint and system intregrated architectures and the system must satisfy the technical requirements for transition to Net-Centric military operations to include 1) DISR - mandated GIG IT standards and profiles indentified in the TV-1; 2) DISR-mandated GIG KIPs identified in the KIP declaration table; 3) NCOW RM Enterprise Services; 4) IA requirements including availability,	TBD	The system must fully support execution of all operational activities identified in the applicable joint and system integrated architectures and the system must satisfy the technical requirements for Net-Centric military operations to include (1) DISR-mandated GIG IT standards and profiles identified in the TV-1; (2) DISR-man dated GIG KIPs identified in the KIP declaration table; (3) NCOW RM Enterprise Services; (4) IA requirements including availability, integrity,

	authentication, confidentiality, and non-repudiation, and issuance of an ATO by the DAA; and 5) Operationally effective IEs, and mission critical performance and IA attributes, data correctness, data availability, and consistent data processing specified in the applicable joint and system integrated architecture views.	authentic-ation, confidentiality, and non-repudiation, and issuance of an ATO by the DAA; and 5) Operationally effective IEs, and mission critical performance and IA attributes, data correctness, data availability, and consistent data processing specified in the applicable joint and system integrated architecture views.	integrity, authentication, confidentiality and non-repudiation, and issuance of an IATO by the DAA; and 5) Operationally effective IEs; and mission critical performance and IA attributes, data correctness, data availability, and consistent data processing specified in the applicable joint and system integrated architecture views.		authenti-cation, confidentiality, and non-repudiation, and issuance of an ATO by the DAA; and 5) Operationally effective IEs, and mission critical performance and IA attributes, data correctness, data availability, and consistent data processing specified in the applicable joint and system integrated architecture views.
Probability of Correct Identification (PCID) of a Target Emitter	>=0.99 PCID for all emitters in the AARGM CPD Appendix D	>=0.99 PCID for all emitters in the AARGM CPD Appendix D	>=0.95 PCID of available threshold emitters in the AARGM CPD Appendix D	TBD	>=0.95 PCID for all emitters in the AARGM CPD Appendix D

Requirements Source:
AARGM Capabilties Production Document (CPD) Change 1, approved April 1, 2010.

Acronyms And Abbreviations

ATO - Authority to Operate
CPD - Capabilities Production Document
DAA - Designated Approval Authority
DISR - DoD IT Standards Registry
GIG - Global Information Grid

IA - Information Assurance
IATO - Interim Authority to Operate
IE - Information Exchange
IT - Information Technology
KIP - Key Interface Profile
NCOW RM - Net Centric Operations and Warfare Reference Model
PCID - Probability of Correct Identification
TBD - To Be Determined
TV - Technical View

Change Explanations

None

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

Track To Budget

General Memo

Procurement funding includes both funding from the High-Speed Anti-Radiation Guided Missile (HARM) Mods program element (BA 02) and the AARGM Initial Spares program element (BA 06).

RDT&E

APPN 1319	BA 07	PE 0205601N	(Navy)	
	Project 2185	HARM Improvement/AARGM	(Shared)	(Sunk)

Procurement

APPN 1507	BA 02	PE 0204162N	(Navy)	
	ICN 23270	HARM Mods		
APPN 1507	BA 06	PE 0204162N	(Navy)	
	ICN 61202	Initial Spares	(Shared)	(Sunk)

Cost and Funding

Cost Summary

Total Acquisition Cost and Quantity

	BY2003 $M			BY2003 $M	TY $M		
Appropriation	SAR Baseline Prod Est	Current APB Production Objective/Threshold		Current Estimate	SAR Baseline Prod Est	Current APB Production Objective	Current Estimate
RDT&E	578.9	578.9	636.8	620.3	600.3	600.3	648.6
Procurement	949.6	949.6	1044.6	1026.7	1261.1	1261.1	1357.1
Flyaway	858.5	--	--	948.6	1143.3	--	1256.1
Recurring	830.4	--	--	912.7	1108.2	--	1209.9
Non Recurring	28.1	--	--	35.9	35.1	--	46.2
Support	91.1	--	--	78.1	117.8	--	101.0
Other Support	84.1	--	--	71.0	109.2	--	92.5
Initial Spares	7.0	--	--	7.1	8.6	--	8.5
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	1528.5	1528.5	N/A	1647.0	1861.4	1861.4	2005.7

Quantity	SAR Baseline Prod Est	Current APB Production	Current Estimate
RDT&E	40	40	40
Procurement	1879	1879	1879
Total	1919	1919	1919

Cost and Funding

Funding Summary

Appropriation and Quantity Summary
FY2013 President's Budget / December 2011 SAR (TY$ M)

Appropriation	Prior	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	To Complete	Total
RDT&E	648.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	648.6
Procurement	171.3	71.7	86.7	112.0	126.3	158.1	160.8	470.2	1357.1
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 2013 Total	819.9	71.7	86.7	112.0	126.3	158.1	160.8	470.2	2005.7
PB 2012 Total	804.1	73.4	88.9	131.9	136.1	158.3	161.1	354.9	1908.7
Delta	15.8	-1.7	-2.2	-19.9	-9.8	-0.2	-0.3	115.3	97.0

Quantity	Undistributed	Prior	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	To Complete	Total
Development	40	0	0	0	0	0	0	0	0	40
Production	0	112	72	100	143	188	252	263	749	1879
PB 2013 Total	40	112	72	100	143	188	252	263	749	1919
PB 2012 Total	40	112	72	104	194	227	274	276	620	1919
Delta	0	0	0	-4	-51	-39	-22	-13	129	0

Cost and Funding

Annual Funding By Appropriation

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

Fiscal Year	Quantity	End Item Recurring Flyaway TY $M	Non End Item Recurring Flyaway TY $M	Non Recurring Flyaway TY $M	Total Flyaway TY $M	Total Support TY $M	Total Program TY $M
1993	--	--	--	--	--	--	9.6
1994	--	--	--	--	--	--	12.4
1995	--	--	--	--	--	--	4.3
1996	--	--	--	--	--	--	33.0
1997	--	--	--	--	--	--	32.6
1998	--	--	--	--	--	--	32.8
1999	--	--	--	--	--	--	20.2
2000	--	--	--	--	--	--	25.0
2001	--	--	--	--	--	--	26.6
2002	--	--	--	--	--	--	18.2
2003	--	--	--	--	--	--	46.4
2004	--	--	--	--	--	--	30.1
2005	--	--	--	--	--	--	84.0
2006	--	--	--	--	--	--	76.4
2007	--	--	--	--	--	--	90.0
2008	--	--	--	--	--	--	48.8
2009	--	--	--	--	--	--	26.5
2010	--	--	--	--	--	--	15.5
2011	--	--	--	--	--	--	16.2
Subtotal	**40**	**--**	**--**	**--**	**--**	**--**	**648.6**

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

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2003 $M	Non End Item Recurring Flyaway BY 2003 $M	Non Recurring Flyaway BY 2003 $M	Total Flyaway BY 2003 $M	Total Support BY 2003 $M	Total Program BY 2003 $M
1993	--	--	--	--	--	--	10.9
1994	--	--	--	--	--	--	13.8
1995	--	--	--	--	--	--	4.7
1996	--	--	--	--	--	--	35.5
1997	--	--	--	--	--	--	34.6
1998	--	--	--	--	--	--	34.6
1999	--	--	--	--	--	--	21.0
2000	--	--	--	--	--	--	25.7
2001	--	--	--	--	--	--	26.9
2002	--	--	--	--	--	--	18.2
2003	--	--	--	--	--	--	45.8
2004	--	--	--	--	--	--	28.9
2005	--	--	--	--	--	--	78.6
2006	--	--	--	--	--	--	69.4
2007	--	--	--	--	--	--	79.8
2008	--	--	--	--	--	--	42.5
2009	--	--	--	--	--	--	22.8
2010	--	--	--	--	--	--	13.1
2011	--	--	--	--	--	--	13.5
Subtotal	**40**	**--**	**--**	**--**	**--**	**--**	**620.3**

FY 1995, 1996, 2001, 2002, 2004, and 2008 - 2010 were revised to reflect correct prior year Major Defense Acquisition Program (MDAP) funds for the AARGM program.

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
2008	25	32.7	--	6.0	38.7	2.3	41.0
2009	4	16.4	--	1.1	17.5	7.7	25.2
2010	36	39.5	--	1.0	40.5	10.2	50.7
2011	47	43.4	--	4.0	47.4	7.0	54.4
2012	72	58.9	--	6.7	65.6	6.1	71.7
2013	100	72.2	--	8.2	80.4	6.3	86.7
2014	143	96.8	--	8.2	105.0	7.0	112.0
2015	188	118.5	--	--	118.5	7.8	126.3
2016	252	149.0	--	--	149.0	9.1	158.1
2017	263	151.3	--	--	151.3	9.5	160.8
2018	273	154.3	--	--	154.3	9.8	164.1
2019	271	153.6	--	4.0	157.6	9.9	167.5
2020	205	123.3	--	7.0	130.3	8.3	138.6
Subtotal	**1879**	**1209.9**	**--**	**46.2**	**1256.1**	**101.0**	**1357.1**

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

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2003 $M	Non End Item Recurring Flyaway BY 2003 $M	Non Recurring Flyaway BY 2003 $M	Total Flyaway BY 2003 $M	Total Support BY 2003 $M	Total Program BY 2003 $M
2008	25	28.2	--	5.1	33.3	2.0	35.3
2009	4	13.9	--	0.9	14.8	6.6	21.4
2010	36	33.0	--	0.8	33.8	8.5	42.3
2011	47	35.6	--	3.3	38.9	5.7	44.6
2012	72	47.5	--	5.3	52.8	5.0	57.8
2013	100	57.2	--	6.5	63.7	5.0	68.7
2014	143	75.4	--	6.3	81.7	5.5	87.2
2015	188	90.6	--	--	90.6	6.0	96.6
2016	252	112.0	--	--	112.0	6.8	118.8
2017	263	111.7	--	--	111.7	7.0	118.7
2018	273	111.9	--	--	111.9	7.1	119.0
2019	271	109.4	--	2.8	112.2	7.1	119.3
2020	205	86.3	--	4.9	91.2	5.8	97.0
Subtotal	**1879**	**912.7**	**--**	**35.9**	**948.6**	**78.1**	**1026.7**

Procurement funding includes both funding from the High-Speed Anti-Radiation Guided Missile (HARM) Mods program element (BA 02) and the AARGM Initial Spares program element (BA 06).

Low Rate Initial Production

	Initial LRIP Decision	Current Total LRIP
Approval Date	9/30/2008	9/30/2008
Approved Quantity	187	112
Reference	ADM dated September 30, 2008	Third LRIP approved by Assistant Secretary of the Navy, Research, Development & Acquisition (ASN(RDA)) on January 18, 2011 at the AARGM Gate 6 Sufficiency Review.
Start Year	2008	2008
End Year	2010	2011

Acquisition Decision Memorandum (ADM) of September 30, 2008 originally granted Low Rate Initial Production (LRIP) authority utilizing FY 2008 - FY 2010 funding, with a not-to-exceed quantity of 187 units. Deliveries for phase I of LRIP (LRIP I), utilizing FY 2008 and FY 2009 funding, completed in October 2011. The LRIP II Firm-Fixed-Price (FFP) contract, utilizing FY 2010 funding, was awarded on July 30, 2010 at the Government's cost goal, and deliveries are scheduled to complete in 2012. Due to delays in Initial Operational Test & Evaluation (IOT&E), and to avoid a production line break, the incorporation of a third LRIP into the AARGM acquisition strategy, utilizing FY 2011 funding, was approved on January 18, 2011 by the Assistant Secretary of the Navy (Research, Development, and Acquisition) (ASN(RD&A)) at the Gate 6 Sufficiency Review. The total LRIP quantity remains under the not-to-exceed quantity of 187 units, which does not exceed the 10% threshold. The LRIP III FFP contract was awarded on October 31, 2011 at the Government's cost goal, with deliveries anticipated to complete in 2013.

Foreign Military Sales

Country	Date of Sale	Quantity	Total Cost $M	Memo
Italy	11/15/2005	232	58.7	Cooperative Development Memorandum of Agreement (MOA) between Italy and the United States was signed on November 15, 2005. Cooperative Production, Sustainment and Follow-on Development MOA between Italy and the United States was signed on November 18, 2009. The quantity of 232 represents the total number of missiles that Italy is expected to receive through Full Rate Production.

Nuclear Cost

None

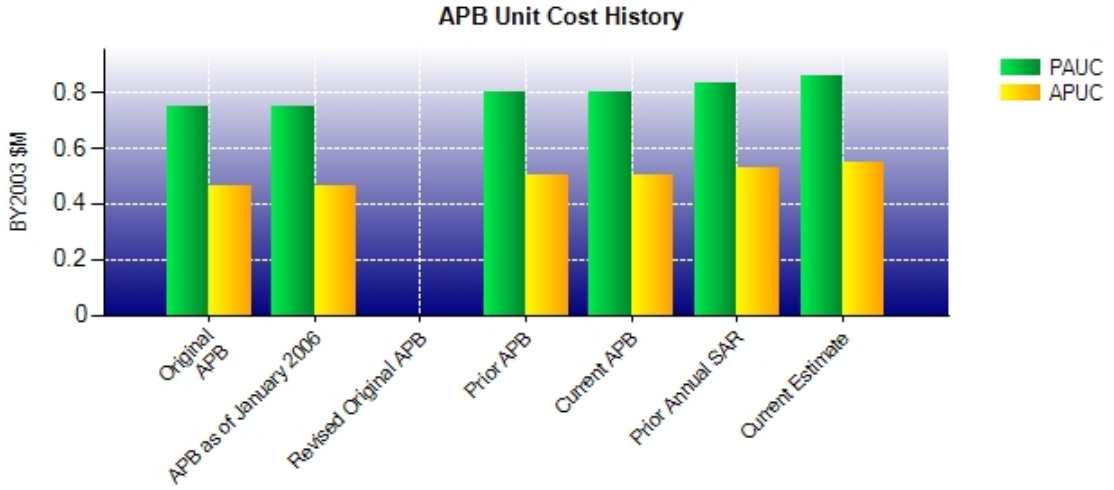
Unit Cost

Unit Cost Report

Unit Cost	BY2003 $M Current UCR Baseline (NOV 2011 APB)	BY2003 $M Current Estimate (DEC 2011 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	1528.5	1647.0	
Quantity	1919	1919	
Unit Cost	0.797	0.858	+7.65
Average Procurement Unit Cost (APUC)			
Cost	949.6	1026.7	
Quantity	1879	1879	
Unit Cost	0.505	0.546	+8.12

Unit Cost	BY2003 $M Original UCR Baseline (JUL 2003 APB)	BY2003 $M Current Estimate (DEC 2011 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	1339.8	1647.0	
Quantity	1790	1919	
Unit Cost	0.748	0.858	+14.71
Average Procurement Unit Cost (APUC)			
Cost	806.5	1026.7	
Quantity	1750	1879	
Unit Cost	0.461	0.546	+18.44

Unit Cost History



		BY2003 $M		TY $M	
	Date	PAUC	APUC	PAUC	APUC
Original APB	JUL 2003	0.748	0.461	0.844	0.556
APB as of January 2006	JUL 2003	0.748	0.461	0.844	0.556
Revised Original APB	N/A	N/A	N/A	N/A	N/A
Prior APB	FEB 2011	0.797	0.505	0.970	0.671
Current APB	NOV 2011	0.797	0.505	0.970	0.671
Prior Annual SAR	DEC 2010	0.830	0.526	0.995	0.680
Current Estimate	DEC 2011	0.858	0.546	1.045	0.722

SAR Unit Cost History

Initial SAR Baseline to Current SAR Baseline (TY $M)

Initial PAUC Dev Est	Changes								PAUC Prod Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
0.844	0.039	-0.026	0.028	0.010	0.053	0.000	0.022	0.126	0.970

Current SAR Baseline to Current Estimate (TY $M)

PAUC Prod Est	Changes								PAUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
0.970	-0.012	0.000	0.020	0.015	0.062	0.000	-0.010	0.075	1.045

Initial SAR Baseline to Current SAR Baseline (TY $M)

Initial APUC Dev Est	Changes								APUC Prod Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
0.556	0.033	-0.006	0.026	0.000	0.039	0.000	0.023	0.115	0.671

Current SAR Baseline to Current Estimate (TY $M)

APUC Prod Est	Changes								APUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
0.671	-0.013	0.000	0.020	0.000	0.054	0.000	-0.010	0.051	0.722

SAR Baseline History

Item/Event	SAR Planning Estimate (PE)	SAR Development Estimate (DE)	SAR Production Estimate (PdE)	Current Estimate
Milestone A	N/A	N/A	N/A	N/A
Milestone B	N/A	APR 2003	APR 2003	JUN 2003
Milestone C	N/A	MAR 2008	MAR 2008	SEP 2008
IOC	N/A	MAY 2010	NOV 2010	APR 2012
Total Cost (TY $M)	N/A	1510.9	1861.4	2005.7
Total Quantity	N/A	1790	1919	1919
Prog. Acq. Unit Cost (PAUC)	N/A	0.844	0.970	1.045

Cost Variance

Cost Variance Summary

Summary Then Year $M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Prod Est)	600.3	1261.1	--	1861.4
Previous Changes				
Economic	+0.3	-43.1	--	-42.8
Quantity	--	--	--	--
Schedule	--	+5.3	--	+5.3
Engineering	+22.8	--	--	+22.8
Estimating	+7.6	+56.0	--	+63.6
Other	--	--	--	--
Support	--	-1.6	--	-1.6
Subtotal	+30.7	+16.6	--	+47.3
Current Changes				
Economic	+0.2	+18.8	--	+19.0
Quantity	--	--	--	--
Schedule	--	+32.5	--	+32.5
Engineering	+6.8	--	--	+6.8
Estimating	+10.6	+44.8	--	+55.4
Other	--	--	--	--
Support	--	-16.7	--	-16.7
Subtotal	+17.6	+79.4	--	+97.0
Total Changes	+48.3	+96.0	--	+144.3
CE - Cost Variance	648.6	1357.1	--	2005.7
CE - Cost & Funding	648.6	1357.1	--	2005.7

Summary Base Year 2003 $M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Prod Est)	578.9	949.6	--	1528.5
Previous Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	+19.3	--	--	+19.3
Estimating	+6.3	+37.8	--	+44.1
Other	--	--	--	--
Support	--	+0.3	--	+0.3
Subtotal	+25.6	+38.1	--	+63.7
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	+19.1	--	+19.1
Engineering	+5.8	--	--	+5.8
Estimating	+10.0	+33.2	--	+43.2
Other	--	--	--	--
Support	--	-13.3	--	-13.3
Subtotal	+15.8	+39.0	--	+54.8
Total Changes	+41.4	+77.1	--	+118.5
CE - Cost Variance	620.3	1026.7	--	1647.0
CE - Cost & Funding	620.3	1026.7	--	1647.0

Previous Estimate: June 2011

RDT&E	$M	
Current Change Explanations	**Base Year**	**Then Year**
Revised escalation indices. (Economic)	N/A	+0.2
Adjustment for current and prior escalation. (Estimating)	-0.2	-0.2
Additional funding received to continue development of Phase 3 Capabilities Production Document (CPD) requirements, in particular, Key Performance Parameter (KPP)-3. (Engineering)	+5.8	+6.8
Correction to funding reported in prior years. (Estimating)	+8.1	+8.2
Additional funding received for system engineering efforts. (Estimating)	+0.8	+1.0
Additional funding received to complete Initial Operational Test & Evaluation (IOT&E). (Estimating)	+1.3	+1.6
RDT&E Subtotal	+15.8	+17.6

Procurement	$M	
Current Change Explanations	**Base Year**	**Then Year**
Revised escalation indices. (Economic)	N/A	+18.8
Delays in procurement buy profile due to budget marks which moved missiles to out-years. (Schedule)	+19.1	+32.5
Increase in estimated recurring flyaway due to applying actuals in the cost model. (Estimating)	+36.0	+48.2
Adjustment for current and prior escalation. (Estimating)	-1.5	-1.8
Decrease in non-recurring flyaway due to budget reduction in FY 2013 - FY 2015. (Estimating)	-1.3	-1.6
Adjustment for current and prior escalation. (Support)	-0.2	-0.3
Decrease in Other Support due to adjusted estimate for program support. (Support)	-13.1	-16.4
Procurement Subtotal	+39.0	+79.4

Change Explanations Memo

Procurement funding includes both funding from the High-Speed Anti-Radiation Guided Missile (HARM) Mods program element (BA 02) and the AARGM Initial Spares program element (BA 06).

Contracts

Appropriation: Procurement

Contract Name	**AARGM LRIP II**
Contractor	Alliant TechSystems (ATK)
Contractor Location	Woodland Hills, CA 91367
Contract Number, Type	N00019-10-C-0065, FFP
Award Date	July 30, 2010
Definitization Date	July 30, 2010

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
50.1	N/A	40	50.1	N/A	40	50.1	50.1

Cost And Schedule Variance Explanations

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

Contract Comments

The contract target price of $50.1M includes $11.9M of Italian requirements for two All-Up-Rounds (AUR), two Captive Air Training Missiles (CATM), and the facilitization of an Italian subcontractor, Matra British Aerospace Engineering (BAE) Dynamics Alenia (MBDA). The quantity reflects United States and Italian quantities.

Appropriation: Procurement

Contract Name	**AARGM LRIP III**
Contractor	Alliant TechSystems (ATK)
Contractor Location	21301 Burbank Blvd, Ste. 100 Woodland Hills, CA 91367
Contract Number, Type	N00019-12-C-2005, FFP
Award Date	October 31, 2011
Definitization Date	October 31, 2011

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
54.4	N/A	54	54.4	N/A	54	54.4	54.4

Cost And Schedule Variance Explanations

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

Contract Comments

The contract price of $54.4M includes $7.25M of Italian requirements for five All-Up-Rounds (AUR), two Captive Air Training Missiles (CATM), and the facilitization of an Italian subcontractor, Matra British Aerospace Engineering (BAE) Dynamics Alenia (MBDA). The quantity reflects United States and Italian quantities.

Deliveries and Expenditures

Deliveries To Date	Plan To Date	Actual To Date	Total Quantity	Percent Delivered
Development	40	40	40	100.00%
Production	36	36	1879	1.92%
Total Program Quantities Delivered	76	76	1919	3.96%

Expenditures and Appropriations (TY $M)			
Total Acquisition Cost	2005.7	Years Appropriated	20
Expenditures To Date	699.0	Percent Years Appropriated	71.43%
Percent Expended	34.85%	Appropriated to Date	891.6
Total Funding Years	28	Percent Appropriated	44.45%

Operating and Support Cost

Assumptions And Ground Rules

All costs were estimated in constant FY 2003 dollars, the base year of the estimate. The date of the Operating and Support (O&S) cost estimate is August 2008 and was prepared by Naval Air Systems Command (NAVAIR) 4.2 for the program's Milestone C decision.

For this estimate, full benefit of concurrency with High Speed Anti-Radiation Missile (HARM) is assumed with this estimate concentrating on the AARGM unique components (guidance and control sections). Common costs for System Engineering and Program Management, Support Equipment, Container procurement and repair, and Technical Data management costs for the HARM AGM-88 are assumed to be included under the HARM program.

O&S costs were modeled using the NAVAIR-4.2 Joint Munitions Operating and Support (JMOS) Cost Model, which has been tailored for AARGM unique requirements. This model is structured to follow the work breakdown structure guidance provided in the Operating and Support Cost-Estimating Guide issued from the Office of the Secretary of Defense Cost Analysis Improvement Group, May 1992. Disposal costs are included under Sustaining Support.

Weapon Service Life is 15 years per AARGM All-Up Round (AUR) vice 20 years per HARM.

Total missile costs are calculated by multiplying the average annual cost for all missiles by the weapon service life years (15).

Costs BY2003 $M		
Cost Element	AGM-88E AARGM Avg Annual Cost for All Missiles	AGM-88 HARM Avg Annual Cost for All Missiles
Unit-Level Manpower	2.540	0.122
Unit Operations	1.812	0.592
Maintenance	4.439	0.878
Sustaining Support	3.094	1.489
Continuing System Improvements	2.640	1.147
Indirect Support	0.234	0.014
Other	--	--
Total Unitized Cost (Base Year 2003 $)	14.759	4.242

Total O&S Costs $M	AGM-88E AARGM	AGM-88 HARM
Base Year	221.4	84.3
Then Year	382.3	129.7