Selected Acquisition Report (SAR)

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

AGM-88E AARGM

As of December 31, 2010

Defense Acquisition Management
Information Retrieval
(DAMIR)

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Program Information

Designation And Nomenclature (Popular Name)

AGM-88E Advanced Anti-Radiation Guided Missile (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

NAE Approved Acquisition Program Baseline (APB) dated February 25, 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, 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, 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 including: (1) counter shutdown capability, (2) limited lethality against advanced threat air defense units, (3) limited captive carry life, (4) no impact reporting capability and (5) 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 JSF external carriage (post IOC).

Executive Summary

Transition to the Low Rate Initial Production (LRIP) phase occurred in September 2008 with a successful Milestone C Decision. Full Rate Production (FRP) Phase is scheduled for 2012- 2020. A total of 1,879 Advanced Anti-Radiation Guided Missiles (AARGMs) (including Captive Air Training Missiles and spare Guidance and Control Sections) are planned for production with Initial Operational Capability (IOC) in May 2011. In November 2009, a Cooperative Production, Sustainment and follow-on Development Memorandum of Agreement (MOA) between the U.S. and Italy went into effect after final signature by the Assistant Secretary of the Navy, Research, Development and Acquisition (ASN(RDA)).

The following accomplishments and developments have occurred since the 2009 Selected Acquisition Report (SAR): LRIP II contract awarded; initiated Independent Operational Test & Evaluation (IOT&E) June 2010/decertified September 2010; two Program Management Reviews (PMRs); two International Cooperative Program Steering Committee meetings; delivery of 13 missiles; establishment of an Alliant TechSystems (ATK)/Matra British Aerospace Engineering (BAE) Dynamics Alenia (MBDA) production agreement; and participated in a Gate 6 Sufficiency Review with ASN(RDA).

PEO(U&W) decertified AARGM from IOT&E as a result of intermittent hardware and software failures. The program is currently executing a plan to return to IOT&E. ITE flight testing with final IOT&E software configuration and rescreened LRIP assets started the first week of February 2011. System level and independent reviews have completed, and Operational Test anomalies have been corrected. A return to IOT&E is expected in 3rd quarter FY 2011.

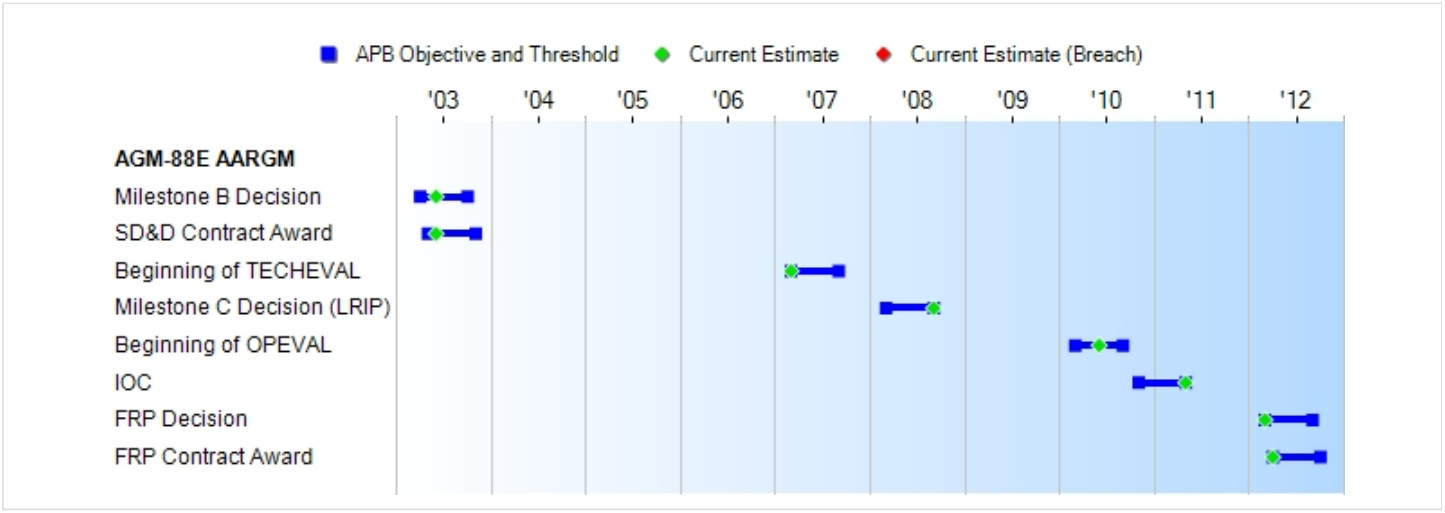
Based on over 70 hours of flight testing of the latest software, there are currently no significant software issues.

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	(Ch-1)
IOC	NOV 2010	NOV 2010	MAY 2011	MAY 2011	(Ch-2)
FRP Decision	JUL 2010	MAR 2012	SEP 2012	MAR 2012	(Ch-3)
FRP Contract Award	DEC 2010	APR 2012	OCT 2012	APR 2012	(Ch-3)

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) An Operational Test Readiness Review (OTRR) was held in January 2010. Due to Director of Test and Evaluation (DOT&E) concerns over the use of Production Representative Models (PRMs) for Operational Evaluation (OPEVAL), the start of test message for OPEVAL was released in June 2010. This moved the current estimate for OPEVAL from March 2010 to June 2010.

(Ch-2) The delays in OPEVAL moved the expected Initial Operational Capability (IOC) estimate from March 2011 to

May 2011.

(Ch-3) As a result of OPEVAL delays, the estimated date for a Full Rate Production (FRP) Decision moved from April 2011 to March 2012, and the estimated date for a FRP Contract Award moved from April 2011 to April 2012. To prevent a break in production, the incorporation of a third Low Rate Initial Production (LRIP) lot into AARGM's acquisition strategy was approved 18 January 2011 by the Assistant Secretary of the Navy, Research, Development and Acquisition (ASN(RDA)) at the Gate 6 Sufficiency Review.

Performance

Characteristics	SAR Baseline Prod Est	Current APB Production Objective/Threshold		Demonstrated Performance	Current Estimate
Material Availability	>=0.95	>=0.95	>=0.9	TBD	>=0.91
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.		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.
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, OPNAV serial number 808-88-10.

Acronyms And Abbreviations

ATO - Approval to Operate
CPD - Capabilities Production Document
DAA - Designated Approval Authority

DISR - DoD IT Standards Registry
GIG - Global Information Grid
IA - Information Assurance
IATO - Interim Approval 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 (PCID)
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 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)

Procurement

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

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	604.5	600.3	600.3	631.0
Procurement	949.6	949.6	1044.6	987.7	1261.1	1261.1	1277.7
Flyaway	858.5	--	--	896.3	1143.3	--	1161.5
Recurring	830.4	--	--	866.2	1108.2	--	1124.7
Non Recurring	28.1	--	--	30.1	35.1	--	36.8
Support	91.1	--	--	91.4	117.8	--	116.2
Other Support	84.1	--	--	84.2	109.2	--	107.7
Initial Spares	7.0	--	--	7.2	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	1592.2	1861.4	1861.4	1908.7

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
FY2012 President's Budget / December 2010 SAR (TY$ M)

Appropriation	Prior	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	To Complete	Total
RDT&E	623.2	7.8	0.0	0.0	0.0	0.0	0.0	0.0	631.0
Procurement	117.0	56.1	73.4	88.9	131.9	136.1	158.3	516.0	1277.7
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	740.2	63.9	73.4	88.9	131.9	136.1	158.3	516.0	1908.7
PB 2011 Total	724.9	56.0	84.8	113.4	132.6	136.8	152.8	450.4	1851.7
Delta	15.3	7.9	-11.4	-24.5	-0.7	-0.7	5.5	65.6	57.0

Quantity	Undistributed	Prior	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	To Complete	Total
Development	40	0	0	0	0	0	0	0	0	40
Production	0	65	47	72	104	194	227	274	896	1879
PB 2012 Total	40	65	47	72	104	194	227	274	896	1919
PB 2011 Total	40	65	47	92	152	199	232	274	818	1919
Delta	0	0	0	-20	-48	-5	-5	0	78	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	--	--	--	--	--	--	2.6
1996	--	--	--	--	--	--	33.1
1997	--	--	--	--	--	--	32.6
1998	--	--	--	--	--	--	32.8
1999	--	--	--	--	--	--	20.2
2000	--	--	--	--	--	--	25.0
2001	--	--	--	--	--	--	21.8
2002	--	--	--	--	--	--	18.3
2003	--	--	--	--	--	--	46.4
2004	--	--	--	--	--	--	30.4
2005	--	--	--	--	--	--	84.8
2006	--	--	--	--	--	--	76.5
2007	--	--	--	--	--	--	90.0
2008	--	--	--	--	--	--	45.5
2009	--	--	--	--	--	--	26.7
2010	--	--	--	--	--	--	14.5
2011	--	--	--	--	--	--	7.8
Subtotal	**40**	**--**	**--**	**--**	**--**	**--**	**631.0**

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	--	--	--	--	--	--	2.8
1996	--	--	--	--	--	--	35.6
1997	--	--	--	--	--	--	34.6
1998	--	--	--	--	--	--	34.6
1999	--	--	--	--	--	--	21.0
2000	--	--	--	--	--	--	25.7
2001	--	--	--	--	--	--	22.1
2002	--	--	--	--	--	--	18.3
2003	--	--	--	--	--	--	45.8
2004	--	--	--	--	--	--	29.2
2005	--	--	--	--	--	--	79.4
2006	--	--	--	--	--	--	69.5
2007	--	--	--	--	--	--	79.8
2008	--	--	--	--	--	--	39.6
2009	--	--	--	--	--	--	23.0
2010	--	--	--	--	--	--	12.3
2011	--	--	--	--	--	--	6.5
Subtotal	**40**	**--**	**--**	**--**	**--**	**--**	**604.5**

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

Fiscal Year	Quantity	End Item Recurring Flyaway TY $M	Non End Item Recurring Flyaway TY $M	Non Recurring Flyaway TY $M	Total Flyaway TY $M	Total Support TY $M	Total Program TY $M
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	39.4	--	1.0	40.4	10.4	50.8
2011	47	43.3	--	4.0	47.3	8.8	56.1
2012	72	56.9	--	8.3	65.2	8.2	73.4
2013	104	71.8	--	8.2	80.0	8.9	88.9
2014	194	114.0	--	8.2	122.2	9.7	131.9
2015	227	126.0	--	--	126.0	10.1	136.1
2016	274	145.4	--	--	145.4	12.9	158.3
2017	276	144.5	--	--	144.5	16.6	161.1
2018	297	152.8	--	--	152.8	9.7	162.5
2019	242	127.8	--	--	127.8	8.0	135.8
2020	81	53.7	--	--	53.7	2.9	56.6
Subtotal	**1879**	**1124.7**	**--**	**36.8**	**1161.5**	**116.2**	**1277.7**

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	--	5.2	33.4	2.0	35.4
2009	4	14.0	--	0.9	14.9	6.6	21.5
2010	36	33.2	--	0.8	34.0	8.8	42.8
2011	47	35.9	--	3.3	39.2	7.3	46.5
2012	72	46.4	--	6.8	53.2	6.7	59.9
2013	104	57.6	--	6.6	64.2	7.2	71.4
2014	194	90.0	--	6.5	96.5	7.6	104.1
2015	227	97.8	--	--	97.8	7.8	105.6
2016	274	111.0	--	--	111.0	9.8	120.8
2017	276	108.4	--	--	108.4	12.5	120.9
2018	297	112.7	--	--	112.7	7.2	119.9
2019	242	92.7	--	--	92.7	5.8	98.5
2020	81	38.3	--	--	38.3	2.1	40.4
Subtotal	**1879**	**866.2**	**--**	**30.1**	**896.3**	**91.4**	**987.7**

Procurement funding includes both funding from the 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	187
Reference	ADM dated September 30, 2008	ADM dated September 30, 2008
Start Year	2008	2008
End Year	2010	2011

There are three planned phases of Low Rate Initial Production (LRIP). Deliveries for LRIP I are scheduled to be completed in 2011. The LRIP II Firm-Fixed-Price (FFP) contract was awarded July 30, 2010 at target unit cost, and deliveries are scheduled to be completed in 2012. The incorporation of a third LRIP into AARGM's acquisition strategy was approved January 18, 2011 by ASN(RDA) at the Gate 6 Sufficency Review. The LRIP III contract award is anticipated in 3rd quarter FY 2011, with deliveries anticipated to be completed 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 US was signed November 15, 2005. Cooperative Production, Sustainment and Follow-on Development MOA between Italy and the US was signed November 18, 2009. The quantity of 232 represents total number of missiles that Italy is expected to receive through Full Rate Production.

Nuclear Cost

None

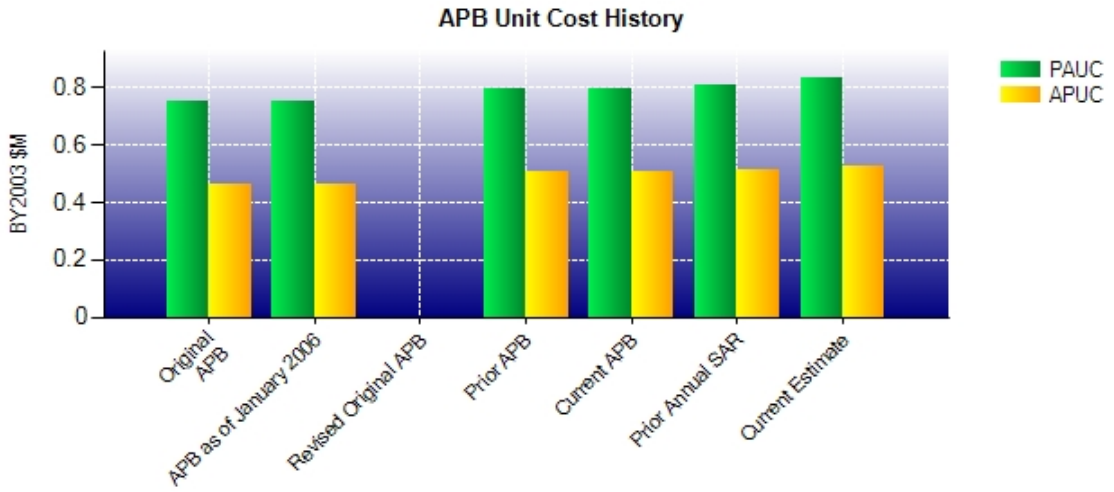
Unit Cost

Unit Cost Report

Unit Cost	BY2003 $M Current UCR Baseline (APR 2010 APB)	BY2003 $M Current Estimate (DEC 2010 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	1528.5	1592.2	
Quantity	1919	1919	
Unit Cost	0.797	0.830	+4.14
Average Procurement Unit Cost (APUC)			
Cost	949.6	987.7	
Quantity	1879	1879	
Unit Cost	0.505	0.526	+4.16

Unit Cost	BY2003 $M Original UCR Baseline (JUL 2003 APB)	BY2003 $M Current Estimate (DEC 2010 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	1339.8	1592.2	
Quantity	1790	1919	
Unit Cost	0.748	0.830	+10.96
Average Procurement Unit Cost (APUC)			
Cost	806.5	987.7	
Quantity	1750	1879	
Unit Cost	0.461	0.526	+14.10

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	APR 2010	0.797	0.505	0.970	0.671
Current APB	FEB 2011	0.797	0.505	0.970	0.671
Prior Annual SAR	DEC 2009	0.808	0.513	0.965	0.662
Current Estimate	DEC 2010	0.830	0.526	0.995	0.680

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	0.017	-0.025	0.030	0.022	0.085	0.000	0.022	0.151	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	-0.022	0.000	0.003	0.012	0.033	0.000	-0.001	0.025	0.995

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	0.010	-0.007	0.029	0.000	0.070	0.000	0.022	0.124	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	-0.023	0.000	0.003	0.000	0.030	0.000	-0.001	0.009	0.680

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	MAY 2011
Total Cost (TY $M)	N/A	1510.9	1861.4	1908.7
Total Quantity	N/A	1790	1919	1919
Prog. Acq. Unit Cost (PAUC)	N/A	0.844	0.970	0.995

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	--	-40.9	--	-40.9
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	+7.9	+45.2	--	+53.1
Other	--	--	--	--
Support	--	-21.9	--	-21.9
Subtotal	+7.9	-17.6	--	-9.7
Current Changes				
Economic	+0.3	-2.2	--	-1.9
Quantity	--	--	--	--
Schedule	--	+5.3	--	+5.3
Engineering	+22.8	--	--	+22.8
Estimating	-0.3	+10.8	--	+10.5
Other	--	--	--	--
Support	--	+20.3	--	+20.3
Subtotal	+22.8	+34.2	--	+57.0
Total Changes	+30.7	+16.6	--	+47.3
CE - Cost Variance	631.0	1277.7	--	1908.7
CE - Cost & Funding	631.0	1277.7	--	1908.7

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	--	--	--	--
Estimating	+6.6	+30.3	--	+36.9
Other	--	--	--	--
Support	--	-15.3	--	-15.3
Subtotal	+6.6	+15.0	--	+21.6
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	+19.3	--	--	+19.3
Estimating	-0.3	+7.5	--	+7.2
Other	--	--	--	--
Support	--	+15.6	--	+15.6
Subtotal	+19.0	+23.1	--	+42.1
Total Changes	+25.6	+38.1	--	+63.7
CE - Cost Variance	604.5	987.7	--	1592.2
CE - Cost & Funding	604.5	987.7	--	1592.2

Previous Estimate: December 2009

RDT&E	$M	
Current Change Explanations	**Base Year**	**Then Year**
Revised escalation indices. (Economic)	N/A	+0.3
Adjustment for current and prior escalation. (Estimating)	-0.3	-0.3
Software changes required to correct anomalies discovered during Initial Operational Test & Evaluation (IOT&E) (Engineering)	+19.3	+22.8
RDT&E Subtotal	+19.0	+22.8

Procurement	$M	
Current Change Explanations	**Base Year**	**Then Year**
Revised escalation indices. (Economic)	N/A	-2.2
Stretch-out of procurement buy profile from FY 2019 to FY 2020 due to budget reductions. (Schedule)	0.0	+5.3
Budget marks added an additional year of production resulting in an increase of flyaway costs. (Estimating)	+7.5	+10.8
Additional Other Support due to stretch-out of procurement buy profile. (Support)	+15.3	+20.0
Increase in Initial Spares based on negotiated contract cost. (Support)	+0.3	+0.3
Procurement Subtotal	+23.1	+34.2

Contracts

Appropriation: Procurement	
Contract Name	**AGM-88E AARGM LRIP I**
Contractor	Alliant TechSystems (ATK)
Contractor Location	Woodland Hills, CA 91367
Contract Number, Type	N00019-09-C-0026, FPIF
Award Date	December 23, 2008
Definitization Date	September 30, 2009

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
55.1	61.3	29	55.1	61.3	29	53.4	55.1

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date	-5.2	-0.3
Previous Cumulative Variances	0.0	0.0
Net Change	-5.2	-0.3

Cost And Schedule Variance Explanations

The net unfavorable change in cost and schedule is due to schedule delays beginning in January 2010 when the contractor experienced technical issues due to production yield issues and a complex design creating a cost growth and a schedule slip. A contractual change was generated to modify the delivery schedule as result of production challenges. Since June, the contractor has provided government consideration in terms of invested capital and uncharged labor. Additionally, the contractor has been able to meet the modified schedule and control their costs. Earned Value data improved after the deliveries and has improved slightly from that point in time.

This is the last time this contract will be reported in the SAR. The contract is 90% complete.

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 2 All-Up-Rounds (AURs), 2 Captive Air Training Missiles (CATMs), and the facilitization of an Italian subcontractor, Matra British Aerospace Engineering (BAE) Dynamics Alenia (MBDA). The quantity reflects US and Italian quantities.

This is the first time this contract is being reported.

Deliveries and Expenditures

Deliveries To Date	Plan To Date	Actual To Date	Total Quantity	Percent Delivered
Development	40	39	40	97.50%
Production	1879	13	1879	0.69%
Total Program Quantities Delivered	1919	52	1919	2.71%

Expenditures and Appropriations (TY $M)			
Total Acquisition Cost	1908.7	Years Appropriated	19
Expenditures To Date	644.1	Percent Years Appropriated	67.86%
Percent Expended	33.75%	Appropriated to Date	804.1
Total Funding Years	28	Percent Appropriated	42.13%

Development: Only 39 were delivered. One unit was not delivered to the government as the contractor purchased the asset to reduce government share of cost growth on the SDD contract.

Operating and Support Cost

Assumptions And Ground Rules

All costs were estimated in constant FY2003 dollars, the base year of the estimate. The date of the O&S estimate is August 2008.

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 AIR-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.

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