Selected Acquisition Report (SAR)

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

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

As of December 31, 2012

Defense Acquisition Management
Information Retrieval
(DAMIR)

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Program Information

Program 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

Assistant Secretary of the Navy (Research, Development & Acquisition) (ASN(RDA)) Approved Acquisition Program Baseline (APB) dated November 7, 2012

Mission and Description

The AGM-88E Advanced Anti-Radiation Guided Missile (AARGM) program fields a major system upgrade to the AGM-88 High Speed Anti-Radiation Missile (HARM) inventory. The AARGM provides 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 is 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 has 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 also has 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 and complement 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 F-35 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. The program achieved Initial Operational Capability (IOC) July 2012 and was granted a successful FRP Decision August 20, 2012. The contract for the first phase of FRP was awarded September 10, 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 Officer 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 completed April 9, 2012. A Verification of Certification of Deficiencies (VCD) was completed June 21, 2012 for anomalies identified by Commander Operational Test and Evaluation Force (COTF) at end of IOT&E. A total of 12 live fires and 633 flight hours were completed.

The following accomplishments and developments occurred since the 2011 December SAR: successful FRP Decision Review held August 20, 2012; successful combined Production Readiness Review (PRR)/Material Readiness Assessment (MRA); an "all green" Independent Logistics Assessment Certification; one Program Management Review (PMR); two International Cooperative Program Steering Committee meetings; delivery of 45 Low Rate Initial Production (LRIP) missiles; award of the FRP I contract September 10, 2012; and IOC declared effective July 2012.

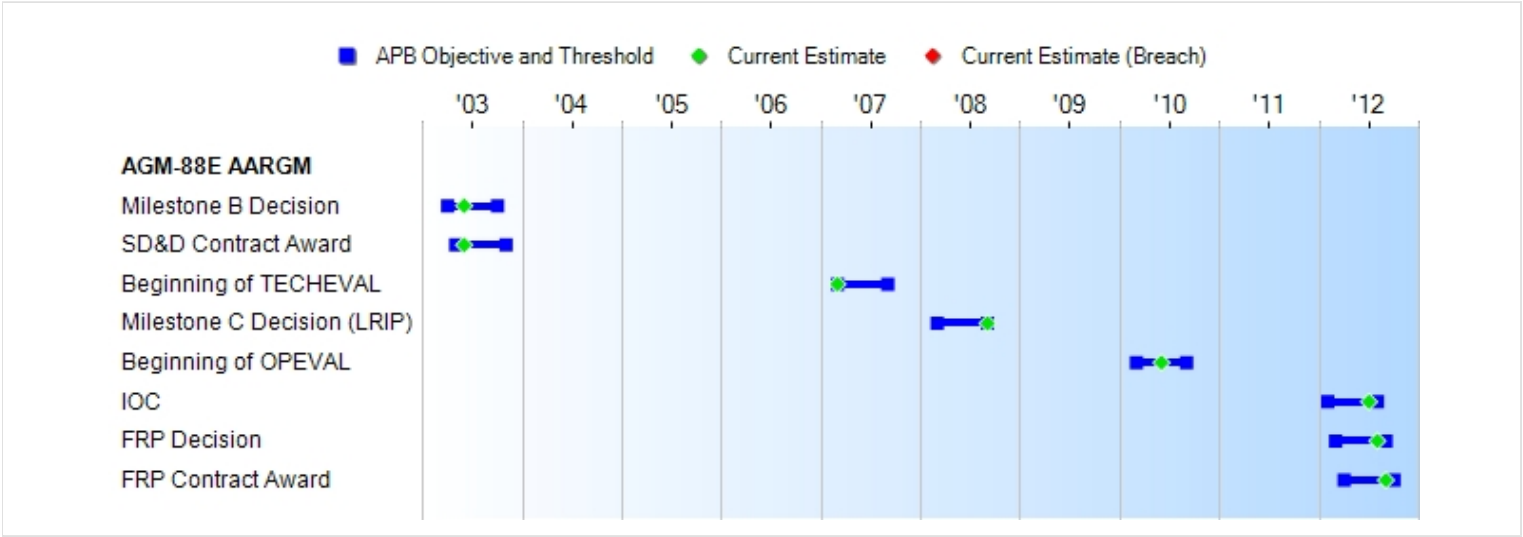
There are no significant software-related issues with this program at this time.

Threshold Breaches

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

Nunn-McCurdy Breaches		
Current UCR Baseline		
	PAUC	None
	APUC	None
Original UCR Baseline		
	PAUC	None
	APUC	None

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	JUL 2012	(Ch-1)
FRP Decision	JUL 2010	MAR 2012	SEP 2012	AUG 2012	(Ch-2)
FRP Contract Award	DEC 2010	APR 2012	OCT 2012	SEP 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 & Demonstration
TECHEVAL - Technical Evaluation

Change Explanations

(Ch-1) Current Estimate for IOC moved from April 2012 to July 2012. Actual date was July 2012. The date for completion of Initial Operational Test & Evaluation (IOT&E) moved from March 2012 to April 2012. This was followed by a Verification of Correction of Deficiencies, which completed June 21, 2012. This delayed the effective date for IOC.

(Ch-2) Current Estimate for FRP Decision moved from July 2012 to August 2012. Actual date was August 20, 2012. The date for completion of IOT&E moved from March 2012 to April 2012. This was followed by a Verification of Correction of Deficiencies, which completed June 21, 2012. This delayed the FRP Decision date.

(Ch-3) Current Estimate for FRP Contract Award moved from July 2012 to September 2012. Actual award date was September 10, 2012. The FRP Decision moved from July 2012 to August 2012. This delayed award of the FRP contract.

Performance

Characteristics	SAR Baseline Prod Est	Current APB Production Objective/Threshold		Demonstrated Performance	Current Estimate	
Material Availability	>=0.95	>=0.95	>=0.9	.98	.98	(Ch-1)
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	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	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	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	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	(Ch-2)

	including availability, integrity, authentic-ation, confidential-ity, 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.	including availability, integrity, authentic-ation, confidential-ity, 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.	requirements including availability, integrity, authentic-ation, confidential-ity 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.	requirements including availability, integrity, authentica-tion, confidentiality and non-repudiation, and issuance of an IATO by the DAA; and 5) Operation-ally 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.	requirements including availability, integrity, authentica-tion, confidentiality and non-repudiation, and issuance of an IATO by the DAA; and 5) Operation-ally 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	0.95 PCID of available threshold emitters in the AARGM CPD Appendix D	0.95 PCID for all emitters in the AARGM CPD Appendix D	(Ch-3)

Requirements Source: Capabilty Production Document (CPD) dated April 1, 2010

Acronyms And Abbreviations

ATO - Authority to Operate
CPD - Capability 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
TV - Technical View

Change Explanations

(Ch-1) The Demonstrated Performance and Current Estimate for Material Availability were updated to reflect results from Initial Operational Test & Evaluation (IOT&E), which completed April 9, 2012. The Material Availability Key Performance Parameter (KPP) met the objective as defined in the AARGM CPD.

(Ch-2) The Demonstrated Performance and Current Estimate for the Net Ready KPP were updated to reflect the results from IOT&E, which completed April 9, 2012. The Net Ready KPP met the objective as defined in the AARGM CPD.

(Ch-3) The Demonstrated Performance and Current Estimate for PCID KPP were updated to reflect results from IOT&E, which completed 9 April 2012. The PCID KPP met the threshold as defined in the AARGM CPD.

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

Track To Budget

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

Appropriation	BY2003 $M			BY2003 $M	TY $M		
	SAR Baseline Prod Est	Current APB Production Objective/Threshold		Current Estimate	SAR Baseline Prod Est	Current APB Production Objective	Current Estimate
RDT&E	578.9	620.3	682.3	620.2	600.3	648.6	648.6
Procurement	949.6	1040.8	1123.7	1020.6	1261.1	1377.6	1364.4
Flyaway	858.5	--	--	966.5	1143.3	--	1295.5
Recurring	830.4	--	--	928.1	1108.2	--	1246.4
Non Recurring	28.1	--	--	38.4	35.1	--	49.1
Support	91.1	--	--	54.1	117.8	--	68.9
Other Support	84.1	--	--	47.0	109.2	--	60.4
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	1661.1	N/A	1640.8	1861.4	2026.2	2013.0

Confidence Level for Current APB Cost 50% -
The Acquisition Program Baseline (APB) cost estimate provides sufficient resources to execute the program under normal conditions, encountering average levels of technical, schedule, and programmatic risk and external interference. Based on the rigor in methods used in building estimates, strong adherence to the collection and use of historical cost information, and review of applied assumptions, the program office projects that it is about as likely the estimate will prove too low or too high for the program as described.

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
FY2014 President's Budget / December 2012 SAR (TY$ M)

Appropriation	Prior	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	To Complete	Total
RDT&E	648.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	648.6
Procurement	248.1	86.7	111.9	126.2	157.9	160.7	189.7	283.2	1364.4
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 2014 Total	896.7	86.7	111.9	126.2	157.9	160.7	189.7	283.2	2013.0
PB 2013 Total	891.6	86.7	112.0	126.3	158.1	160.8	164.1	306.1	2005.7
Delta	5.1	0.0	-0.1	-0.1	-0.2	-0.1	25.6	-22.9	7.3

Program funding and production quantities listed in this SAR are consistent with the FY 2014 President's Budget (PB). The FY 2014 PB did not reflect the enacted DoD appropriation for FY 2013, nor sequestration; it reflected the President's requested amounts for FY 2013.

Quantity	Undistributed	Prior	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	To Complete	Total
Development	40	0	0	0	0	0	0	0	0	40
Production	0	184	100	143	188	252	263	312	437	1879
PB 2014 Total	40	184	100	143	188	252	263	312	437	1919
PB 2013 Total	40	184	100	143	188	252	263	273	476	1919
Delta	0	0	0	0	0	0	0	39	-39	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	--	--	--	--	--	--	13.4
Subtotal	**40**	**--**	**--**	**--**	**--**	**--**	**620.2**

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	59.0	--	9.4	68.4	8.4	76.8
2013	100	74.1	--	9.2	83.3	3.4	86.7
2014	143	99.6	--	8.4	108.0	3.9	111.9
2015	188	118.4	--	3.4	121.8	4.4	126.2
2016	252	151.3	--	1.9	153.2	4.7	157.9
2017	263	154.3	--	1.6	155.9	4.8	160.7
2018	312	184.0	--	0.9	184.9	4.8	189.7
2019	315	184.2	--	0.7	184.9	4.8	189.7
2020	122	89.5	--	1.5	91.0	2.5	93.5
Subtotal	**1879**	**1246.4**	**--**	**49.1**	**1295.5**	**68.9**	**1364.4**

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	32.9	--	0.8	33.7	8.6	42.3
2011	47	35.4	--	3.3	38.7	5.6	44.3
2012	72	47.2	--	7.4	54.6	6.8	61.4
2013	100	58.1	--	7.2	65.3	2.7	68.0
2014	143	76.7	--	6.4	83.1	3.0	86.1
2015	188	89.4	--	2.6	92.0	3.3	95.3
2016	252	112.2	--	1.4	113.6	3.4	117.0
2017	263	112.2	--	1.2	113.4	3.5	116.9
2018	312	131.4	--	0.6	132.0	3.4	135.4
2019	315	129.0	--	0.5	129.5	3.4	132.9
2020	122	61.5	--	1.0	62.5	1.8	64.3
Subtotal	**1879**	**928.1**	**--**	**38.4**	**966.5**	**54.1**	**1020.6**

Low Rate Initial Production

	Initial LRIP Decision	Current Total LRIP
Approval Date	9/30/2008	1/18/2011
Approved Quantity	187	112
Reference	ADM	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. Deliveries for LRIP II, a Firm-Fixed-Price (FFP) contract utilizing FY 2010 funding, completed November 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 remained under the not-to-exceed quantity of 187 units, which does not exceed the 10% guideline. The LRIP III FFP contract was awarded on October 31, 2011 at the Government's cost goal. Deliveries for LRIP III began in December 2012 and are expected to complete in December 2013.

Foreign Military Sales

Country	Date of Sale	Quantity	Total Cost $M	Memo
Italy	11/15/2005	232	127.7	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

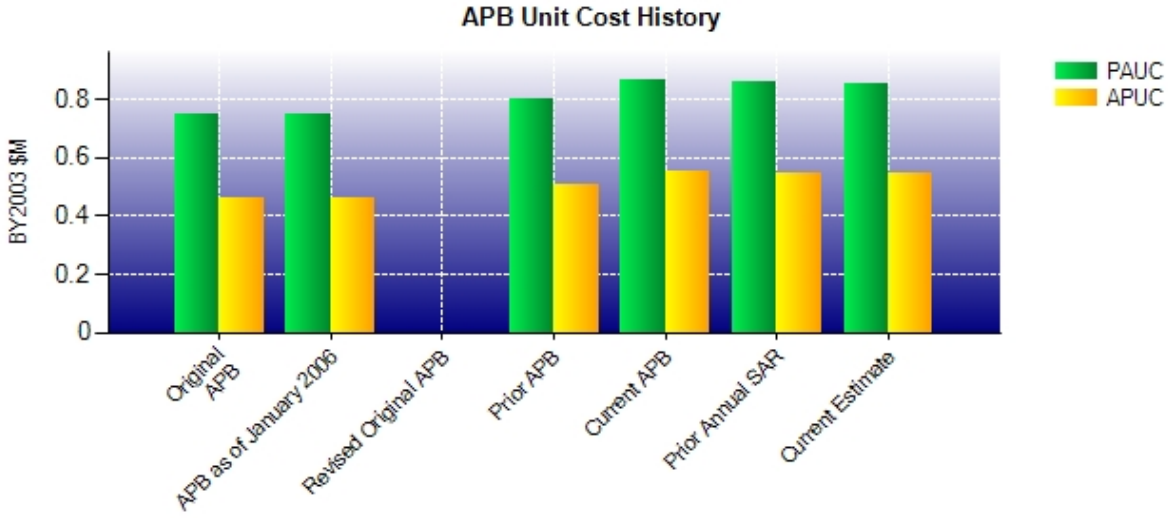
Unit Cost

Unit Cost Report

Unit Cost	BY2003 $M Current UCR Baseline (NOV 2012 APB)	BY2003 $M Current Estimate (DEC 2012 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	1661.1	1640.8	
Quantity	1919	1919	
Unit Cost	0.866	0.855	-1.27
Average Procurement Unit Cost (APUC)			
Cost	1040.8	1020.6	
Quantity	1879	1879	
Unit Cost	0.554	0.543	-1.99

Unit Cost	BY2003 $M Original UCR Baseline (JUL 2003 APB)	BY2003 $M Current Estimate (DEC 2012 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	1339.8	1640.8	
Quantity	1790	1919	
Unit Cost	0.748	0.855	+14.30
Average Procurement Unit Cost (APUC)			
Cost	806.5	1020.6	
Quantity	1750	1879	
Unit Cost	0.461	0.543	+17.79

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	NOV 2011	0.797	0.505	0.970	0.671
Current APB	NOV 2012	0.866	0.554	1.056	0.733
Prior Annual SAR	DEC 2011	0.858	0.546	1.045	0.722
Current Estimate	DEC 2012	0.855	0.543	1.049	0.726

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	-0.003	0.000	0.019	0.015	0.075	0.000	-0.027	0.079	1.049

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	-0.004	0.000	0.019	0.000	0.067	0.000	-0.027	0.055	0.726

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	JUL 2012
Total Cost (TY $M)	N/A	1510.9	1861.4	2013.0
Total Quantity	N/A	1790	1919	1919
Prog. Acq. Unit Cost (PAUC)	N/A	0.844	0.970	1.049

Cost Variance

Summary Then Year $M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Prod Est)	600.3	1261.1	--	1861.4
Previous Changes				
Economic	+0.5	-24.3	--	-23.8
Quantity	--	--	--	--
Schedule	--	+37.8	--	+37.8
Engineering	+29.6	--	--	+29.6
Estimating	+18.2	+100.8	--	+119.0
Other	--	--	--	--
Support	--	-18.3	--	-18.3
Subtotal	+48.3	+96.0	--	+144.3
Current Changes				
Economic	+0.1	+17.3	--	+17.4
Quantity	--	--	--	--
Schedule	--	-1.2	--	-1.2
Engineering	--	--	--	--
Estimating	-0.1	+24.3	--	+24.2
Other	--	--	--	--
Support	--	-33.1	--	-33.1
Subtotal	--	+7.3	--	+7.3
Total Changes	+48.3	+103.3	--	+151.6
CE - Cost Variance	648.6	1364.4	--	2013.0
CE - Cost & Funding	648.6	1364.4	--	2013.0

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	--	+19.1	--	+19.1
Engineering	+25.1	--	--	+25.1
Estimating	+16.3	+71.0	--	+87.3
Other	--	--	--	--
Support	--	-13.0	--	-13.0
Subtotal	+41.4	+77.1	--	+118.5
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	-0.1	+17.9	--	+17.8
Other	--	--	--	--
Support	--	-24.0	--	-24.0
Subtotal	-0.1	-6.1	--	-6.2
Total Changes	+41.3	+71.0	--	+112.3
CE - Cost Variance	620.2	1020.6	--	1640.8
CE - Cost & Funding	620.2	1020.6	--	1640.8

Previous Estimate: December 2011

RDT&E	$M	
Current Change Explanations	**Base Year**	**Then Year**
Revised escalation indices. (Economic)	N/A	+0.1
Adjustment for current and prior escalation. (Estimating)	-0.1	-0.1
RDT&E Subtotal	-0.1	0.0

Procurement	$M	
Current Change Explanations	**Base Year**	**Then Year**
Revised escalation indices. (Economic)	N/A	+17.3
Acceleration of procurement buy profile in FY 2018 from FY 2020 and 2021. (Schedule)	0.0	-1.2
Adjustment for current and prior escalation. (Estimating)	-1.5	-1.6
Revised estimate reflects actuals. (Estimating)	+30.8	+41.7
Revised estimate to reflect application of new escalation indices. (Estimating)	-11.4	-15.8
Adjustment for current and prior escalation. (Support)	0.0	-0.3
Decrease in Other Support estimate to include updated actuals for Full Rate Production Decision. (Support)	-24.0	-33.0
Increase in Initial Spares. (Support)	0.0	+0.2
Procurement Subtotal	-6.1	+7.3

Contracts

Appropriation: Procurement	
Contract Name	**AARGM LRIP II**
Contractor	Alliant TechSystems (ATK)
Contractor Location	21301 Burbank Blvd, Ste. 100 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	56.2	N/A	40	56.2	56.2

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 Target and the Current Contract Price Target is due to a $.951M in additional funding provided for the Italian Captive Flight Test (ICFT) Continuation Program, as well as an additional $5.1M in funding provided for Continuous Improvement Program (CIP) initiatives. These efforts, which improved the design in order to lower unit cost, were not part of the original contract Statement of Work.

The contract target price of $56.175M includes $11.9M of Italian requirements for two All-Up-Rounds (AURs), two Captive Air Training Missiles (CATMs), the facilitization of an Italian subcontractor, Matra British Aerospace Engineering (BAE) Dynamics Alenia (MBDA), and the ICFT. 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	55.1	N/A	54	55.1	55.1

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 Target and the Current Contract Price Target is due to incorporation of the Statement of Work for Stage 1 of the Front End Assembly (FEA) Transition Plan.

The contract price of $55.085M includes $7.25M of Italian requirements for five All-Up-Rounds (AURs), two Captive Air Training Missiles (CATMs), 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 FRP 1**
Contractor	Alliant TechSystems (ATK)
Contractor Location	21301 Burbank Blvd, Ste. 100 Woodland Hills, CA 91367
Contract Number, Type	N00019-12-C-0113, FFP
Award Date	September 10, 2012
Definitization Date	September 10, 2012

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
70.6	N/A	76	76.4	N/A	81	76.4	76.4

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 Contract Price Target and the Current Contract Price Target is due to the subsequent excercise of Option CLINs for Italian units due to late receipt of funds. An additional $3.2M in Italian funding was added for this effort. An additional $2.6M in funds were also provided to incorporate Statement of Work for Stage 2 of the Front End Assembly (FEA) Transition Plan.

The contract current value of $76.37M includes $8.79M of Italian requirements for seven All-Up-Rounds (AURs), two Captive Air Training Missiles (CATMs), and contractor production support. A modification for the Italian units was executed under an option due to late receipt of Italian funds September 24, 2012.

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	81	81	1879	4.31%
Total Program Quantities Delivered	121	121	1919	6.31%

Expenditures and Appropriations (TY $M)			
Total Acquisition Cost	2013.0	Years Appropriated	21
Expenditures To Date	817.1	Percent Years Appropriated	75.00%
Percent Expended	40.59%	Appropriated to Date	983.4
Total Funding Years	28	Percent Appropriated	48.85%

The above data is current as of 3/13/2013.

Operating and Support Cost

AGM-88E AARGM

Assumptions and Ground Rules

Cost Estimate Reference:

The date of the Operating & Support (O&S) estimate is the June 2012 Service Cost Position. All costs were estimated in constant FY 2003 dollars, the base year of the estimate. O&S structure is in accordance with the OSD O&S cost estimating guide. The reported costs include only budget items that is subject to "program approved by the Milestone Decision Authority (MDA)." Assumes the full benefit of concurrency with the High-Speed Anti-Radiation Missile (HARM).

Sustainment Strategy:

Sustainment approach is leveraged off of existing HARM maintenance structure, utilizing Organizational-, Intermediatate-, and Depot-levels. The estimate concentrates on the AARGM unique components (guidance and control sections). Depot Source of Repair (DSOR) process completed. Designated Overhaul Point (DOP) concept for component repair. Interim DOP to be Original Equipment Manufacturer (OEM). Sixty (60) month Serviceable In-Service Time (SIST) Maintenance and Reliability Monitoring Program. Total quantity of missiles to be procured is 1879. Weapon service life is 15 years per AARGM All-up-Round. The planned last production lot is FY 2020. The last unit delivery would be FY 2021 with a corresponding service life assumption through FY 2036.

Antecedent Information:

Antecedent is the High-Speed Anti-Radiation Missile (HARM)

Unitized O&S Costs BY2003 $M		
Cost Element	**AGM-88E AARGM Avg Annual Cost for All Missiles**	**AGM-88 HARM (Antecedent) Avg Annual Cost for All Missiles**
Unit-Level Manpower	0.0	0.0
Unit Operations	0.0	0.0
Maintenance	0.6	1.8
Sustaining Support	3.2	1.7
Continuing System Improvements	1.7	1.6
Indirect Support	0.0	0.0
Other	0.0	0.0
Total	5.5	5.1

Unitized Cost Comments:

Weapon service life is 15 years per AARGM All-Up-Round vice 20 years per HARM. The average annual cost is the total OMN cost divided by the number of years included in the period of performance. Total missile costs are presented as an average annual cost for all missiles.

	Total O&S Cost $M			
	Current Production APB Objective/Threshold		Current Estimate	
	AGM-88E AARGM		AGM-88E AARGM	AGM-88 HARM (Antecedent)
Base Year	142.6	156.9	142.6	101.3
Then Year	215.8	N/A	215.8	123.7

Total O&S Costs Comments:

Total missile costs are presented as an average annual cost for all missiles. The average annual cost is the total Operation & Maintenance, Navy (OMN) cost divided by the number of years included in the period of performance.

O&S estimate developed for Full Rate Production Decision decreased from Milestone C (MSC) estimate. O&S costs now include only budget items that are subject to “program approved by the Milestone Decision Authority (MDA),” which would exclude the indirect funded elements. Other elements were adjusted based on service life schedule changes and updates to metrics, such as anticipated failures.

Disposal Costs

Total estimated costs for disposal is $8.56M (BY 2003) and are not included in the June 2012 Service Cost position.