

## UNCLASSIFIED

PE NUMBER: 0207163F

PE TITLE: Advanced Medium Range Air-to-Air Missile

## Exhibit R-2, RDT&amp;E Budget Item Justification

DATE

February 2006

## BUDGET ACTIVITY

## 07 Operational System Development

## PE NUMBER AND TITLE

## 0207163F Advanced Medium Range Air-to-Air Missile

Cost (\$ in Millions)	FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	31.871	32.788	43.417	37.441	38.497	39.939	40.403	Continuing	TBD
3777 AMRAAM	31.871	32.788	43.417	37.441	38.497	39.939	40.403	Continuing	TBD

(U) **A. Mission Description and Budget Item Justification**

The Air Force and Navy developed the baseline Advanced Medium Range Air-to-Air Missile (AMRAAM) as a high performance, all weather missile to counter existing air vehicle threats operating at high or low altitude having advanced Electronic Protection (EP) capabilities. The AMRAAM Pre-Planned Product Improvement (P3I) program provides for a continuing, Joint Air Force/Navy research and development program which enables AMRAAM to: (1) be compatible with advanced fighters, (2) enhance AMRAAM capability and operational flexibility against 2005 and beyond threats, (3) incorporate high payoff technology developments, and (4) investigate new variants and/or alternate missions which may use many baseline missile attributes.

Improvements under the P3I program include enhanced EP capabilities; and improved weapon effectiveness through improved fuzing, guidance, and increased kinematics. A follow-on program to the three-phase P3I program referred to as AMRAAM Phase 4 is currently underway. The Phase 4 effort will lead to introduction of the AIM-120D, delivering improved AMRAAM performance via GPS-aided navigation, a two-way datalink capability for enhanced aircrew survivability and improved network compatibility, and incorporating new guidance software which will improve AMRAAM's kinematic and weapon effectiveness performance. AMRAAM is a joint Air Force/Navy, Acquisition Category (ACAT) IC program with Air Force as lead service.

This program is in budget activity 7 - Operational System Development, providing upgrades to the AIM-120C missile currently in production.

(U) **B. Program Change Summary (\$ in Millions)**

	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) Previous President's Budget	32.973	33.262	43.193
(U) Current PBR/President's Budget	31.871	32.788	43.417
(U) Total Adjustments	-1.102	-0.474	
(U) Congressional Program Reductions			
Congressional Rescissions	-0.025	-0.474	
Congressional Increases			
Reprogrammings	-0.207		
SBIR/STTR Transfer	-0.870		
(U) <u>Significant Program Changes:</u>			

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3777 AMRAAM

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3777 AMRAAM	31.871	32.788	43.417	37.441	38.497	39.939	40.403	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

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(U) **B. Accomplishments/Planned Program (\$ in Millions)**

	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) Continue to provide software upgrades	5.000	0.000	2.000
(U) Continue mission support: Provide program management to execute Phase 4 program	1.460	1.495	1.544
(U) Continue test and evaluation: Provide Test Wing support to DT and OT	1.851	2.979	6.213
(U) Continue effort to complete qualification of the Phase 4 missile design. Contract was awarded Dec 03.	20.647	17.011	9.275
(U) Aircraft Integration - Integrate Phase 4 on multiple aircraft platforms	2.913	4.303	17.385
(U) Develop AMRAAM field reprogrammer		7.000	7.000
(U) Total Cost	31.871	32.788	43.417

(U) **C. Other Program Funding Summary (\$ in Millions)**

	<u>FY 2005</u> <u>Actual</u>	<u>FY 2006</u> <u>Estimate</u>	<u>FY 2007</u> <u>Estimate</u>	<u>FY 2008</u> <u>Estimate</u>	<u>FY 2009</u> <u>Estimate</u>	<u>FY 2010</u> <u>Estimate</u>	<u>FY 2011</u> <u>Estimate</u>	<u>Cost to</u> <u>Complete</u>	<u>Total Cost</u>
(U) Missile Procurement, Budget Activity #2, PE 0207163F, P-1 Line Item, AMRAAM	106.857	103.086	135.869	221.231	273.838	281.750	300.240	0.000	7,814.786

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(U) **C. Other Program Funding Summary (\$ in Millions)**

(U) Replenishment Spares, BP25 and Missile Replacement Equipment	0.268	0.193	0.202	0.202	0.210	0.214	0.219	0.000	61.876
(U) Initial Spares, BP26	0.072	0.072	0.075	0.074	0.077	0.078	0.081	0.000	63.483
(U) Seek Eagle	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	14.525
(U) AMRAAM Field Reprogrammer, BP 22	0.000	0.000	0.000	5.696	5.742	5.315	0.000	0.000	16.487

(U) **D. Acquisition Strategy**

The AMRAAM P3I program takes advantage of emerging technologies to update and expand the system capabilities to meet new user requirements. The Phase 3 Cost Plus Award Fee EMD contract was completed 30 Mar 04. This missile is currently in OT testing with projected fielding date of 1QFY07. Phase 4, awarded in Dec 03, is intended to meet the requirement to evolve the AMRAAM for improved performance. Production cut-in of the Phase 4 (AIM 120-D) missile begins in FY06. The Missile Performance Specification (MPS) and Interface Control Document (ICD) will define the requirement to integrate the Phase 4 AMRAAM onto the F-15, F-16, and F-22A. Total Seek Eagle (PE 0207590F) includes cost for 36 missiles and services.

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(U) <u>Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract</u> <u>Method &amp;</u> <u>Type</u>	<u>Performing</u> <u>Activity &amp;</u> <u>Location</u>	<u>Total</u> <u>Prior to FY</u> <u>2005</u> <u>Cost</u>	<u>FY 2005</u> <u>Cost</u>	<u>FY 2005</u> <u>Award</u> <u>Date</u>	<u>FY 2006</u> <u>Cost</u>	<u>FY 2006</u> <u>Award</u> <u>Date</u>	<u>FY 2007</u> <u>Cost</u>	<u>FY 2007</u> <u>Award</u> <u>Date</u>	<u>Cost to</u> <u>Complete</u>	<u>Total Cost</u>	<u>Target Value</u> <u>of Contract</u>
(U) <u>Product Development</u>												
Misc. Contracts	SS/FFP									0.000	0.000	15.987
F08635-90-C-0201 Hughes	SS/FFP	Hughes								0.000	0.000	5.200
F08626-91-C-0034 Hughes	SS/CPIF	Hughes								0.000	0.000	93.506
F08626-93-C-0044 (Phase 2) Hughes	SS/CPAF	Hughes								0.000	0.000	117.558
Phase 3 Risk Reduction	SS/CPAF	Raytheon, Tucson, AZ								0.000	0.000	24.484
Phase 3 Improved Fuzing Capability	SS/CPAF	Raytheon, Tucson, AZ								0.000	0.000	3.937
Phase 3 Improved Seeker and Advanced EP. Raytheon F08626-98-C-0027	SS/CPAF	Raytheon, Tucson, AZ								0.000	0.000	207.755
Phase 3 Software Upgrade	SS/CPFF	Raytheon, Tucson, AZ		5.000						0.000	5.000	12.000
Phase 4 Contract FA8675-04-C-0001	SS/CPFF	Raytheon, Tucson, AZ		20.647	Dec-04	17.011	Dec-05	9.275	Dec-06	12.996	59.929	79.987
Phase 4 Follow-On Contract	SS/CPFF	Raytheon, Tucson, AZ		0.000		0.000		2.000		74.761	76.761	76.761
Aircraft Integration	MIPR	Wright-Patters on AFB, OH		2.913	Dec-04	4.303	Dec-05	17.385	Dec-06	55.173	79.774	80.300
AMRAAM Field Reprogrammer		Raytheon, Tucson, AZ				7.000	Jan-06	7.000	Jan-07	0.000	14.000	14.000
Joint Dual Role Air Dominance Missile (JDRADM)				0.000		0.000		0.000		25.000	25.000	25.000
Subtotal Product Development			0.000	28.560		28.314		35.660		167.930	260.464	756.475
Remarks:												
(U) <u>Support</u>												
COEA	PO/MIPR									0.000	0.000	3.358
Contractor Support	REO/PR			0.778	Oct-04	0.817		0.858		3.883	6.336	26.136
JSPO Operations	PR/IMPAC			0.682		0.678		0.686		2.937	4.983	25.840
Subtotal Support			0.000	1.460		1.495		1.544		6.820	11.319	55.334
Remarks:												
(U) <u>Test &amp; Evaluation</u>												
Government Test	REO/MIPR			1.851		2.979		6.213		0.255	11.298	47.229
TM/ECM Pods	REO/MIPR									0.000	0.000	2.818
Subtotal Test & Evaluation			0.000	1.851		2.979		6.213		0.255	11.298	50.047
Remarks:												
(U) <u>Management</u>												
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	0.000

Project 3777

R-1 Shopping List - Item No. 136-4 of 136-7

Exhibit R-3 (PE 0207163F)

Exhibit R-3, RDT&E Project Cost Analysis						DATE		
						February 2006		
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07 Operational System Development			0207163F Advanced Medium Range			3777 AMRAAM		
			Air-to-Air Missile					
Remarks:								
(U)	Total Cost	0.000	31.871	32.788	43.417	175.005	283.081	861.856

## Exhibit R-4, RDT&amp;E Schedule Profile

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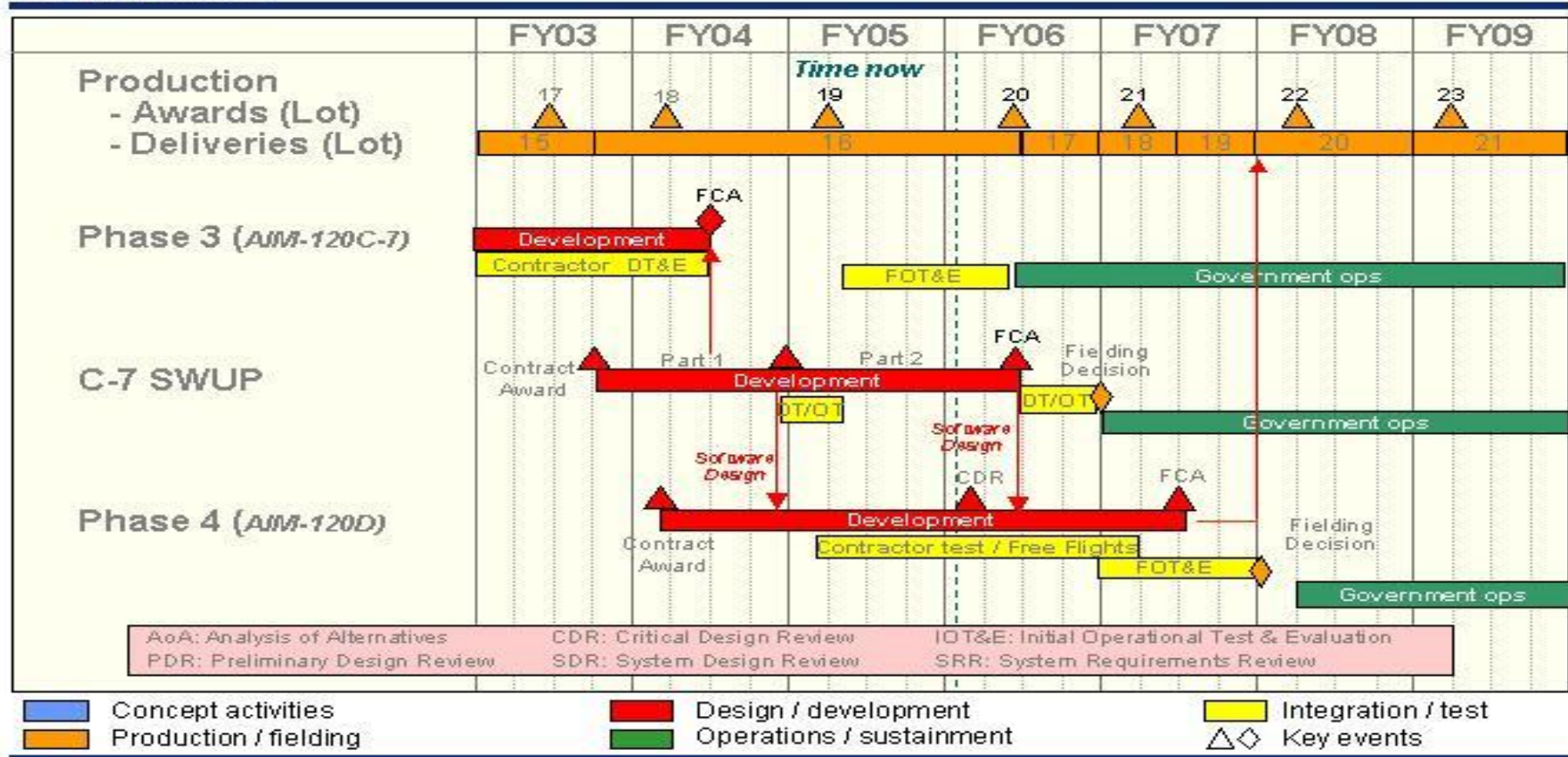
PROJECT NUMBER AND TITLE

3777 AMRAAM



U.S. AIR FORCE

# AMRAAM Schedule



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## Exhibit R-4a, RDT&amp;E Schedule Detail

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(U) Schedule ProfileFY 2005FY 2006FY 2007

(U) Phase 4 POD 1st Delivery

1Q

(U) Start Phase 4 Development Test

2Q

(U) Phase 4 Production Award

2Q

(U) Phase 4 Functional Configuration Audit (FCA)

2Q