

UNCLASSIFIED

PE NUMBER: 0207163F

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

Exhibit R-2, RDT&E Budget Item Justification

DATE

February 2005

BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0207163F Advanced Medium Range Air-to-Air Missile

Cost (\$ in Millions)	FY 2004 Actual	FY 2005 Estimate	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	31.036	32.973	33.262	43.193	36.959	37.977	39.388	64.812	Continuing	TBD
3777 AMRAAM	31.036	32.973	33.262	43.193	36.959	37.977	39.388	64.812	Continuing	TBD

The FY03 National Defense Authorization Act (NDAA) language directed T&E centers to charge only direct costs beginning in FY06; this resulted in a zero-balance transfer (ZBT) of funding over the FYDP from the customer accounts (for indirect test costs) to T&E support, PE 65807F

(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 electronic protection (EP) capabilities; 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.

Joint Dual Role Air Dominance Missile (JDRADM) program begins development in FY11.

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

	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) Previous President's Budget	32.154	33.266	35.155	36.131
(U) Current PBR/President's Budget	31.036	32.973	33.262	43.193
(U) Total Adjustments	-1.118	-0.293		
(U) Congressional Program Reductions		-0.293		
Congressional Rescissions				
Congressional Increases				
Reprogrammings	-0.146			
SBIR/STTR Transfer	-0.972			

(U) **Significant Program Changes:**

Program reductions in FY06 are due to test & evaluation (T&E) funding realignment

Program increase in FY07 is for development of AMRAAM field reprogrammer.

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3777 AMRAAM	31.036	32.973	33.262	43.193	36.959	37.977	39.388	64.812	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0		

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

	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) Complete P3I Phase 3 improved seeker and advanced EP updates: Perform tasks required to complete EMD testing and verification.	4.577	0.000	0.000	0.000
(U) Continue to provide software upgrades	4.500	5.000	0.000	2.000
(U) Continue mission support: Provide program management to execute Phase 3/Phase 4 program	1.463	1.460	1.495	1.544
(U) Continue test and evaluation: Provide Test Wing support to DOT&E testing	0.985	1.851	2.979	6.213
(U) Phase 4: Continue effort to complete qualification of the Phase 4 missile design. Contract was awarded Dec 03.	19.235	21.749	17.011	9.275
(U) Aircraft Integration - Integrate Phase 4 on multiple aircraft platforms	0.276	2.913	4.777	17.161
(U) Develop AMRAAM field reprogrammer			7.000	7.000
(U) Total Cost	31.036	32.973	33.262	43.193

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

	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
Missile Procurement, Budget										
(U) Activity #2, PE 0207163F,	98.361	106.939	120.668	131.450	218.040	268.344	277.110	292.980	0.000	7,814.786
P-1 Line Item, AMRAAM										
Replenishment Spares, BP25										
(U) and Missile Replacement	0.188	0.268	0.196	0.197	0.199	0.206	0.211	0.214	0.000	61.876
Equipment										
(U) Initial Spares, BP26	0.072	0.072	0.073	0.073	0.073	0.076	0.077	0.079	0.000	63.483
(U) Seek Eagle	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	14.525
(U) AMRAAM Field	0.000	0.000	0.000	0.000	5.614	5.633	5.240	0.000	0.000	16.487
Reprogrammer, BP 22										

(U) **D. Acquisition Strategy**

The AMRAAM Pre-Planned Product Improvement (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 Oct 05. 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/A-22. Total Seek Eagle (PE 27590F) includes cost for 36 missiles and services.

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Exhibit R-3, RDT&E Project Cost Analysis

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(U) <u>Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions)		<u>Contract</u> <u>Method &</u> <u>Type</u>	<u>Performing</u> <u>Activity &</u> <u>Location</u>	<u>Total</u> <u>Prior to FY</u> <u>2004</u> <u>Cost</u>	<u>FY 2004</u> <u>Cost</u>	<u>FY 2004</u> <u>Award</u> <u>Date</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</u> <u>Value of</u> <u>Contract</u>
(U) <u>Product Development</u>															
Misc. Contracts		SS/FFP		13.792	2.195	Mar-04							0.000	15.987	15.987
F08635-90-C-0201 Hughes		SS/FFP	Hughes	5.200									0.000	5.200	5.200
F08626-91-C-0034 Hughes		SS/CPIF	Hughes	93.506									0.000	93.506	93.506
F08626-93-C-0044 (Phase 2) Hughes		SS/CPAF	Hughes	117.558									0.000	117.558	117.558
Phase 3 Risk Reduction		SS/CPAF	Raytheon, Tucson, AZ	24.484									0.000	24.484	24.484
Phase 3 Improved Fuzing Capability		SS/CPAF	Raytheon, Tucson, AZ	3.937									0.000	3.937	3.937
Phase 3 Improved Seeker and Advanced EP. Raytheon F08626-98-C-0027		SS/CPAF	Raytheon, Tucson, AZ	205.373	2.382	Dec-03							0.000	207.755	207.755
Phase 3 Software Upgrade		SS/CPFF	Raytheon, Tucson, AZ	2.500	4.500	May-04	5.000						0.000	12.000	12.000
Phase 4 Contract FA8675-04-C-0001		SS/CPFF	Raytheon, Tucson, AZ	0.000	18.956	Dec-03	21.749	Dec-04	17.011	Dec-05	9.275	Dec-06	12.996	79.987	79.987
Phase 4 Follow-On Contract		SS/CPFF	Raytheon, Tucson, AZ	0.000	0.000		0.000		0.000		2.000		74.761	76.761	76.761
Aircraft Integration		MIPR	Wright-Patter son AFB, OH	0.000	0.276		2.913	Dec-04	4.777	Dec-05	17.161	Dec-06	55.173	80.300	80.300
AMRAAM Field Reprogrammer			Raytheon, Tucson, AZ	0.000	0.000				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		0.000		0.000		25.000	25.000	25.000
Subtotal Product Development				466.350	28.309		29.662		28.788		35.436		167.930	756.475	756.475
Remarks:		*Note: Hughes became part of Raytheon Systems effective Dec 97													
(U) <u>Support</u>															
COEA		PO/MIPR		3.358									0.000	3.358	3.358
Contractor Support		REO/PR		18.780	1.020	Oct-03	0.778	Oct-04	0.817		0.858		3.883	26.136	26.136
JSPO Operations		PR/IMPA C		20.135	0.722		0.682		0.678		0.686		2.937	25.840	25.840
Subtotal Support				42.273	1.742		1.460		1.495		1.544		6.820	55.334	55.334
Remarks:															
(U) <u>Test & Evaluation</u>															
Government Test		REO/MIP R		34.946	0.985		1.851		2.979		6.213		0.255	47.229	47.229
TM/ECM Pods		REO/MIP R		2.818									0.000	2.818	2.818
Subtotal Test & Evaluation				37.764	0.985		1.851		2.979		6.213		0.255	50.047	50.047
Remarks:															
(U) <u>Management</u>															
Project 3777		R-1 Shopping List - Item No. 136-4 of 136-7												Exhibit R-3 (PE 0207163F)	

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Exhibit R-4, RDT&E Schedule Profile

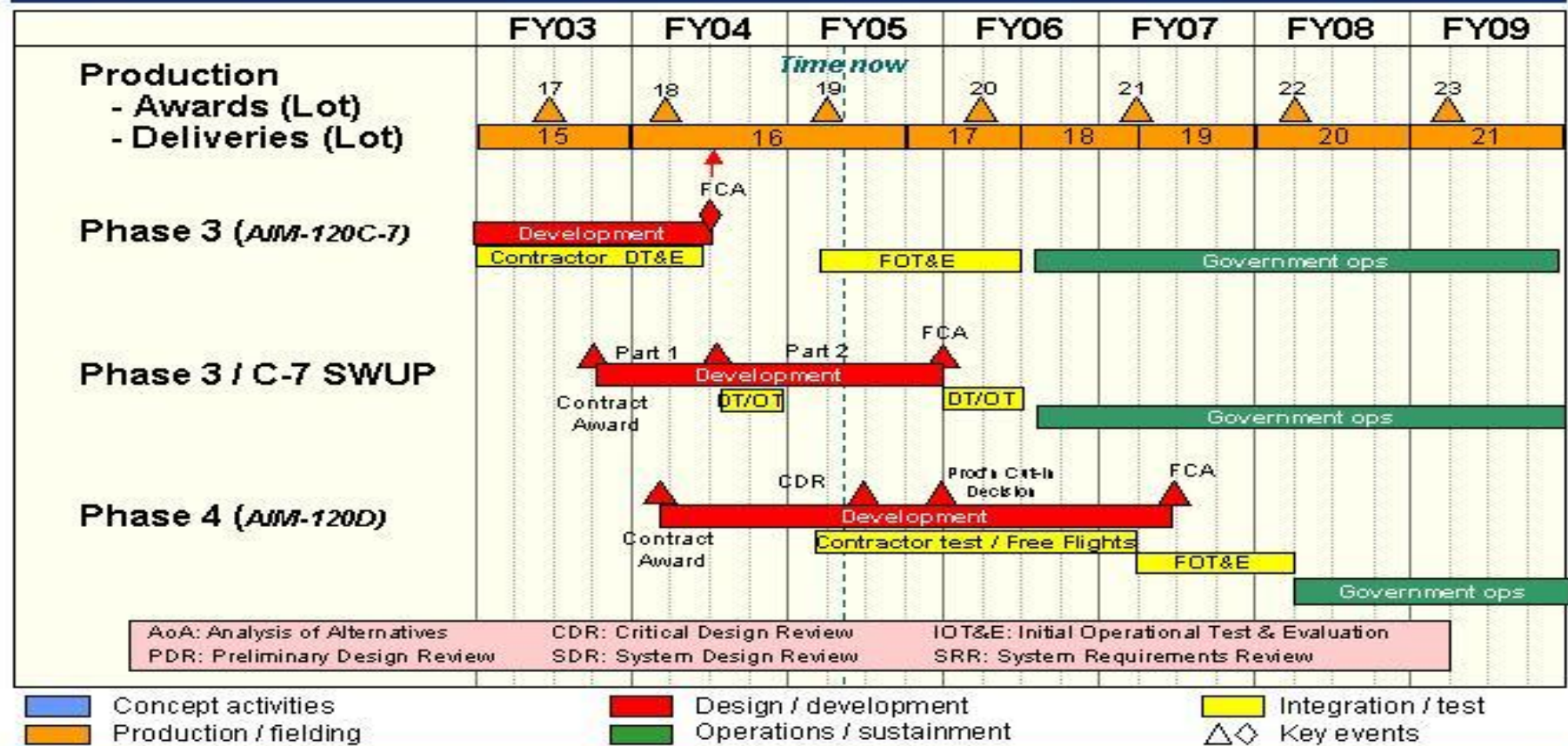
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AMRAAM Schedule

U.S. AIR FORCE



FY06 Staffer Brief

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Exhibit R-4a, RDT&E Schedule Detail

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(U) Schedule ProfileFY 2004FY 2005FY 2006FY 2007

(U) P3I Phase 3 ACE Flights Complete

1Q

(U) P3I Phase 3 Functional Configuration Audit (FCA)

2Q

(U) P3I Phase 3 RDT&E Program Complete

2Q

(U) Phase 4 Contract Award

1Q

(U) Phase 4 POD 1st Delivery

1Q

(U) Start Phase 4 Development Test

2Q

(U) Phase 4 Production Cut-in Decision

4Q

(U) Phase 4 FCA

2Q