

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE

February 2003

BUDGET ACTIVITY

PE NUMBER AND TITLE

PROJECT

07 - Operational System Development

0207163F Advanced Medium Range Air-to-Air Missile 3777

COST (\$ in Thousands)	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
3777 AMRAAM	53,529	35,537	32,429	33,353	35,251	36,205	36,726	37,218	0	753,983
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) **A. Mission Description**

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 and 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 mid-1990's and beyond threats, (3) incorporate high payoff technology developments, and (4) investigate variants and/or alternate missions which may use many baseline missile attributes. Currently, improvements under the P3I program include enhanced EP and electronic attack (EA) capabilities; improved weapon effectiveness through improved warhead, fuzing, and guidance; and increased kinematics. AMRAAM is a joint Air Force/Navy, Acquisition Category (ACAT) IC program with Air Force as lead service.

(U) **FY 2002 (\$ in Thousands)**

- (U) \$0 Accomplishments/Planned Program
- (U) \$51,221 Conduct P3I Phase 3 improved seeker and advanced EP updates : Perform tasks required to meet flight test requirements and to award the Phase 3 missile production contract.
- P3I Phase 3 ACE Flights: Conduct ACE Flights to evaluate hardware and software
- (U) \$893 Continue mission support: Provide program management to execute Phase 3 program
- (U) \$1,415 Continue test and evaluation: Provide Test Wing support to DOT&E testing
- (U) \$53,529 Total

(U) **FY 2003 (\$ in Thousands)**

- (U) \$0 Accomplishments/Planned Program
- (U) \$34,230 Complete P3I Phase 3 improved seeker and advanced EP updates: Perform tasks required to complete EMD testing and verification.
- P3I Phase 3 Free Flight Tests: Conduct 8 free flight tests and associated analysis
- P3I Phase 3 Functional Configuration Audit: Conduct reviews and analysis required to release system to production
- (U) \$500 P3I Phase 3: Complete tasks required to award Phase 3 Software Upgrade Contract
- (U) \$559 Continue mission support: Provide program management to execute Phase 3 program

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PROJECT

07 - Operational System Development**0207163F Advanced Medium Range Air-to-Air Missile 3777**(U) **A. Mission Description Continued**(U) **FY 2003 (\$ in Thousands) Continued**

(U) \$248 Continue test and evaluation: Provide Test Wing support to DOT&E testing

(U) \$35,537 Total

(U) **FY 2004 (\$ in Thousands)**

(U) \$0 Accomplishments/Planned Program

(U) \$4,500 P3I Phase 3: Continue P3I Phase 3 Software Upgrade

(U) \$26,178 Conduct P3I Phase 3 Follow On: Conduct preliminary design review of guidance and kinematic improvements

(U) \$1,231 Continue mission support: Provide program management to execute Phase 3 program

(U) \$520 Continue test and evaluation: Provide Test Wing support to DOT&E testing

(U) \$32,429 Total

(U) **B. Budget Activity Justification**

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

(U) **C. Program Change Summary (\$ in Thousands)**

	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>
(U) Previous President's Budget	57,125	37,008	33,024	693,833
(U) Appropriated Value	57,702	37,008		
(U) Adjustments to Appropriated Value				
a. Congressional/General Reductions	-1,315	-391		
b. Small Business Innovative Research	-1,861			
c. Omnibus or Other Above Threshold Reprogram		-1,080		
d. Below Threshold Reprogram	-997			
e. Rescissions				
(U) Adjustments to Budget Years Since FY 2003 PBR			-595	
(U) Current Budget Submit/FY 2004 PBR	53,529	35,537	32,429	753,983
(U) <u>Significant Program Changes:</u>				

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(U) **D. Other Program Funding Summary (\$ in Thousands)**

	<u>FY 2002</u>	<u>FY 2003</u>	<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>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>	
(U) Missile Procurement, Budget Activity #2, PE 0207163F, P-1 Line Item, AMRAAM	100,222	87,924	105,246	107,734	105,061	102,207	103,505	105,926		6,948,708
(U) Replenishment Spares, BP25 and Missile Replacement Equipment	1,253	240	188	270	193	193	195	200		61,443
(U) Initial Spares, BP26	6	89	72	72	72	72	72	74	0	63,332
(U) Seek Eagle	0	0	0	0	0	0	0	0	0	15,132

(U) **E. 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 1 missile allows internal carriage on the F-22 and JSF with clipped wings and fins as well as providing some software enhancements. The Phase 2 AIM-120 C4 missile adds a new warhead which increases lethality and the AIM-120 C5 missile has a +5 inch rocket motor for kinematic improvements. The first Phase 2 AIM-120 C4 missile was delivered in Aug of FY99. The Phase 2 AIM-120 C5 missiles started delivery in Jul of FY00. The Phase 3 missile is the first major upgrade to the seeker hardware and software to meet performance requirements for the FY04 and out time-period. The Phase 3 Cost Plus Award Fee EMD contract was awarded in Oct FY99. This missile will begin deliveries in FY04. The follow-on to Phase 3, beginning in FY04, will result in improved guidance and kinematics.

(U) **F. Schedule Profile**

	<u>FY 2002</u>				<u>FY 2003</u>				<u>FY 2004</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
(U) P3I Phase 3 Seeker Critical Design Review (CDR)												
(U) P3I Phase 3 ACE Flights Complete								X				
(U) P3I Phase 3 Test Readiness Review (TRR)					*							
(U) P3I Phase 3 Functional Configuration Audit (FCA)								X				
(U) P3I Phase 3 Program Complete								X				
(U) P3I Phase 3 Software Upgrade Award							X					
(U) P3I Phase 3 Follow On Contract Award										X		

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE February 2003		
BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT		
07 - Operational System Development					0207163F Advanced Medium Range Air-to-Air Missile			3777		
(U) <u>A. Project Cost Breakdown (\$ in Thousands)</u>										
					FY 2002		FY 2003		FY 2004	
(U)	a. Phase 3 EMD Improved Seeker and Advanced EP Updates				51,221		34,230			
(U)	b. Phase 3 Software Upgrade						500		4,500	
(U)	c. Phase 3 Follow on Improved Guidance and Kinematics								26,178	
(U)	c. Gov Mission Support				893		559		1,231	
(U)	d. Gov Test & Evaluation				1,415		248		520	
(U)	Total				53,529		35,537		32,429	
(U) <u>B. Budget Acquisition History and Planning Information (\$ in Thousands)</u>										
(U) <u>Performing Organizations:</u>										
<u>Contractor or</u>	<u>Contract</u>									
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Organizations</u>										
Misc. Contracts	SS/FFP	Annual	N/A	N/A	10,636	2,135	1,666	1,414	7,070	22,921
F08635-90-C-0201 Hughes	SS/FFP	Aug 90	5,200	5,200	5,200	0			0	5,200
F08626-91-C-0034 Hughes	SS/CPIF	Mar 91	93,506	93,506	93,506	0			0	93,506
F08626-93-C-0044 (Phase 2) Hughes	SS/CPAF	Jun 94	117,558	117,558	117,558	0			0	117,558
Phase 3 Risk Reduction	SS/CPAF	Oct 94	24,484	24,484	24,484	0			0	24,484
Phase 3 Improved Fuzing Capability	SS/CPAF	Oct 98	3,937	3,937	3,937	0			0	3,937
Phase 3 Improved Seeker and Advanced EP. Raytheon	SS/CPAF	Oct 98	200,121	200,121	118,471	49,086	32,564		0	200,121
F08626-98-C-0027										
Phase 3 Software Upgrade	SS/CPAF	Jun 03	TBD	TBD	0	0	500	4,500	5,000	10,000
Phase 3 EMD Follow on Contract	SS/CPAF	Oct 03	TBD	TBD	0	0	0	24,764	159,966	184,730
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(U) Performing Organizations Continued:

*Note: Hughes became part of Raytheon Systems effective Dec 97

Support and Management Organizations

COEA	PO/MIPR	Jan 94	N/A	N/A	3,358			0	3,358
Contractor Support	REO/PR	Annual	N/A	N/A	18,333	447	0	611	22,878
JSPO Operations	PR/IMPAC	Annual	N/A	N/A	19,097	446	559	620	23,852
<u>Test and Evaluation Organizations</u>									
Government Test	REO/MIPR	Annual	N/A	N/A	36,775	1,415	248	520	39,058

(U) Government Furnished Property:ContractMethod/TypeAward orItemor FundingObligationDeliveryTotal PriorBudgetBudgetBudgetBudget toTotalDescriptionVehicleDateDateto FY 2002FY 2002FY 2003FY 2004CompleteProgramProduct Development Property

Not Applicable

Support and Management Property

Not Applicable

Test and Evaluation Property

TM/ECM Pods REO/MIPR Annual

2,380

0

2,380

Total PriorBudgetBudgetBudgetBudget toTotalSubtotalsto FY 2002FY 2002FY 2003FY 2004CompleteProgram

Subtotal Product Development

373,792

51,221

34,730

30,678

172,036

662,457

Subtotal Support and Management

40,788

893

559

1,231

6,617

50,088

Subtotal Test and Evaluation

39,155

1,415

248

520

100

41,438

Total Project

453,735

53,529

35,537

32,429

178,753

753,983

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