

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
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BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604865C Patriot PAC-3	PROJECT 2257
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COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
2257 PATRIOT PAC-3	352,547	381,092	206,057	101,430	0	0	0	0	TBD	TBD

A. Mission Description and Budget Item Justification

PATRIOT is a long-range, mobile, field Army and Corps air defense system, which uses guided missiles to simultaneously engage and destroy multiple targets at varying ranges. The PATRIOT Advanced Capability Level 3 (PAC-3) Upgrade Program is the latest evolution of the phased material change improvement program to PATRIOT. The material changes will provide improved performance across the spectrum for system and threat intercept performance. The material changes include a new PAC-3 missile (previously known as ERINT), remote launch capabilities, communications and computer/software improvements, and radar upgrades to enhance system performance by improving its multi-function capability for tracking, and target handling capability against air breathing, ballistic and cruise missile threats. The PATRIOT operates as lower tier of the Army's Theater Missile Defense (TMD) task force and is developing the capacity to interact with the Navy Cooperative Engagement Capability (CEC) system. PATRIOT is pursuing integration of PATRIOT BMC3I with the Project Manager, Air Defense Command and Control Systems to take advantage of previous Army developments that can be incorporated into the PATRIOT program.

FY 1996 (\$ in Thousands)

- \$259,892 Continued PAC-3 missile Engineering and Manufacturing Development (EMD) program; begin formal flight testing; conducted missile Critical Design Review (CDR).
- \$64,296 Continued ground systems modifications development program and TMD/Theater High Altitude Area Defense (THAAD) integration/cueing program.
- \$15,911 Initiated PAC-3 EMD target and test support, including advanced threat-like reentry vehicles.
- \$11,727 Continued operational test and evaluation and lethality efforts.
- \$721 Government personnel to support lethality efforts in FY96.
- \$352,547 Total

FY 1997 (\$ in Thousands)

- \$293,914 Continue PAC-3 missile EMD program and formal flight testing.
- \$27,382 Continue PAC-3 EMD target and test support, including target build-up for FY98 testing.
- \$18,443 Continue operational test and evaluation and lethality efforts.
- \$40,767 Continue ground systems modifications development program.
- \$ 586 SBIR Reduction.
- \$381,092 Total

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<p><u>FY 1998 (\$ in Thousands)</u></p> <ul style="list-style-type: none"> - \$160,191 Continue PAC-3 missile EMD program with formal flight testing. - \$24,990 Continue PAC-3 EMD target and test support, provide target presentation of White Sands Missile Range (WSMR) New Mexico. - \$16,052 Continue operational test and evaluation and lethality efforts. - \$4,824 Complete modifications development program. - \$206,057 Total <p><u>FY 1999 (\$ in Thousands)</u></p> <ul style="list-style-type: none"> - \$93,844 Complete PAC-3 Missile EMD program. - \$2,724 Complete PAC-3 EMD target and test support. - \$4,862 Complete PAC-3 operational test and evaluation and lethality efforts. - \$101,430 Total <p><u>Acquisition Strategy</u> The PAC-3 Upgrade Program will provide enhancements to the current PATRIOT system through a series of upgrades divided into three configurations which will be individually tested and procured. Missile and ground equipment configurations will be fielded through hardware retrofit and concurrently released software builds. During EMD, an expanded risk reduction/mitigation program (PE: 0604866C, Proj: 2257) was implemented to address areas of risk identified during the Dem/Val phase. The PAC-3 Risk Reduction and Mitigation program is a multi-faceted effort involving two prime contractors and three contracts. The risk reduction/mitigation modification efforts are for existing EMD contracts with each of the two prime contractors.</p> <p>B. Program Change Summary (\$ in Thousands)</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;"></th> <th style="text-align: center;"><u>FY 1996</u></th> <th style="text-align: center;"><u>FY 1997</u></th> <th style="text-align: center;"><u>FY 1998</u></th> <th style="text-align: center;"><u>FY 1999</u></th> <th style="text-align: center;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>Previous President's Budget</td> <td style="text-align: right;">363,008</td> <td style="text-align: right;">381,509</td> <td style="text-align: right;">195,337</td> <td style="text-align: right;">101,262</td> <td style="text-align: right;">1,041,116</td> </tr> <tr> <td>Appropriated Value</td> <td></td> <td style="text-align: right;">381,509</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Adjustment to Appropriated Value:</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">a. General Reduction (FFRDC, Inflation etc.)</td> <td></td> <td style="text-align: right;">-417</td> <td></td> <td></td> <td></td> </tr> <tr> <td>FY 1998 President's Budget Request</td> <td style="text-align: right;">352,547</td> <td style="text-align: right;">381,092</td> <td style="text-align: right;">206,057</td> <td style="text-align: right;">101,430</td> <td style="text-align: right;">1,041,126</td> </tr> </tbody> </table>				<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>Total Cost</u>	Previous President's Budget	363,008	381,509	195,337	101,262	1,041,116	Appropriated Value		381,509				Adjustment to Appropriated Value:						a. General Reduction (FFRDC, Inflation etc.)		-417				FY 1998 President's Budget Request	352,547	381,092	206,057	101,430	1,041,126
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BUDGET ACTIVITY 5 - Engineering and Manufacturing Development					PE NUMBER AND TITLE 0604865C Patriot PAC-3						PROJECT 2257				
<u>FY 1996</u>					<u>FY 1997</u>			<u>FY 1998</u>			<u>FY 1999</u>				
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Guidance Test Flight 1								X							
PAC-3 Missile Low-Rate Initial Production (LRIP)								X							
Configuration 3 CDT&E									X						
Configuration 3 Initial Operational Test and Evaluation (IOT&E)													X		
PDB-5 Software Release															X
PAC-3 FUE															X
Milestone III (FRP)															X

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 1997					
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604865C Patriot PAC-3			PROJECT 2257					
A. <u>Project Cost Breakdown (\$ in Thousands)</u>												
					<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>				
PAC-3 Missile (EMD)					352,547	381,092	206,057	101,430				
Total					352,547	381,092	206,057	101,430				
B. <u>Budget Acquisition History and Planning Information (\$ in Thousands)</u>												
Performing Organizations:												
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program	
<u>Product Development Organizations</u>												
Raytheon(CDI III)	SS-CPIF	Jul-93			48,550	17,450	4,500				70,500	
Raytheon Remote Launch/Common	SS-CPIF	Nov-95			3,000	22,000	31,500	10,000			66,500	
Raytheon (Integr)	SS-CPIF	Oct-94			22,521	30,000	47,700	25,000	13,000		138,221	
LMVS (EMD)	SS-CPIF	Oct-94			165,000	200,000	171,441	84,000	37,944		658,385	
RDEC (OGA)					10,355	13,100	13,462	10,500	8,500		55,917	
<u>Support and Management Organizations</u>												
Nichols	MIPR				3,040	3,390	4,681				11,111	
CAS	SS-CPIF				4,850	4,736	5,901	5,259	4,400		25,146	
OGA/In-house	PO				8,805	10,724	18,919	6,371	5,935		50,754	
Raytheon (E/S)	SS-CPIF				12,047	10,720	19,835	8,002	7,000		57,604	
SBIR Reduction							586				586	
Govt Proj Per & Spt					0	460	435	434			1,329	
Project 2257					Page 5 of 6 Pages			Exhibit R-3 (PE 0604865C)				

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)										DATE	
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT	
5 - Engineering and Manufacturing Development					0604865C Patriot PAC-3					2257	
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
<u>Test and Evaluation Organizations</u>											
WSMR/ARL	MIPR				8,555	12,068	16,742	15,883	17,065		70,313
OT&E	MIPR				600	5,760	2,579	6,537	1,534		17,010
Targets	MIPR				0	14,611	27,382	24,990	2,724		69,707
Lethality	MIPR				2,837	7,528	15,429	9,081	3,328		38,203
B. Budget Acquisition History and Planning Information Continued (\$ in Thousands)											
Government Furnished Property:											
Item Description	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Delivery Date		Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
<u>Product Development Property</u>											
<u>Support and Management Property</u>											
<u>Test and Evaluation Property</u>											
Subtotal Product Development					249,426	282,550	268,603	129,500	59,444		989,523
Subtotal Support and Management					28,742	30,030	50,357	20,066	17,335		146,530
Subtotal Test and Evaluation					11,992	39,967	62,132	56,491	24,651		195,233
Total Project					290,160	352,547	381,092	206,057	101,430		1,331,286
Project 2257											
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