

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2005

BUDGET ACTIVITY 5 - System Development and Demonstration			PE NUMBER AND TITLE 0604□65A - Patriot PAC-3 Theater Missile					PROJECT 01C		
			Defense Acq - EMD							
COST (In Thousands)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to Complete	Total Cost
	Actual	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate		
01C PATRIOT ADVANCED CAPABILITY (PAC) - 3	156827	61482	0	0	0	0	0	0	0	212800

A. Mission Description and Budget Item Justification: Patriot is a mobile, Unit of Employment air defense system which uses guided missiles to simultaneously engage and destroy multiple target types at varying ranges. The Patriot Advanced Capability 3 (PAC-3) Upgrade Program is the latest evolution of the phased materiel change improvement program to Patriot. The materiel changes will provide improved performance across the spectrum for system and threat intercept performance. In addition to modernization of the ground support equipment, funding resources the PAC-3 and Missile Segment Enhancement (MSE) missile design providing a high velocity, hit to kill, surface to air missile with the range, accuracy, and lethality necessary to effectively intercept and destroy tactical missiles with Nuclear Biological Chemical/High Explosive (NBC/HE) warheads and air breathing threats. The full capability will provide defense against short to medium range theater ballistic missiles (TBMs), cruise missiles (CMs), unmanned aerial vehicles (UAVs) and other air breathing threats as part of the Ballistic Missile Defense (BMD) systems, a multi-layered Theater Air and Missile Defense Architecture. In support of achieving full air and missile defense capability, this PE funds the improvement of connectivity and situational awareness within the Battle Management Command, Control, Communications, Computers and Intelligence (BMC4I) through interaction and cooperation with the Air Defense Command and Control System to enable functionality with MEADS and other air defense systems. This PE is an integral part of the Program Executive Office (PEO) Missile and Space (MS) System of Systems (SOS).

Note: The FY06/07 budget combines the PAC-3/MEADS program based on a Milestone B decision 1 July 2004. The Army revised the MEADS acquisition strategy to combine management, development, and fielding of both the MEADS and Patriot systems. The Patriot/MEADS Combined Aggregate Program (CAP) will provide for the evolution of the Patriot/PAC-3 system to the MEADS objective system through the early incremental introduction of selected MEADS Major End Items. This approach provides for earlier fielding of enhanced air and missile defense capabilities across the currently fielded force to counter the evolving threat and leverage the knowledge gained in the development and fielding of the Patriot System into the MEADS program. The PAC-3 missile is the baseline missile for the MEADS system. The MSE missile, which provides for greater ranges, will be the objective missile for the system. PAC-3 RDTE funding has been combined with MEADS RDTE funding under PE 0604869A for FY 06 and beyond.

On January 13, 2005, the Program Executive Office (PEO), Air, Space and Missile Defense (ASMD) merged with the PEO, Tactical Missiles to become the PEO, Missiles and Space.

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<u>Accomplishments/Planned Program</u>	FY 2004	FY 2005	FY 2006	FY 2007
Continue follow-on Block test program.	40925	13578	0	0
Evolutionary Development.	15271	21900	0	0
Missile System Enhancement (MSE) Development	100631	26004	0	0
Totals	156827	61482	0	0

<u>B. Program Change Summary</u>	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2005)	64178	21415	29386
Current Budget (FY 2006/2007 PB)	61482	0	0
Total Adjustments	-2696	-21415	-29386
Net of Program/Database Changes			
Congressional Program Reductions	-929		
Congressional Rescissions			
Congressional Increases			
Reprogrammings			
SBIR/STTR Transfer	-1767		
Adjustments to Budget Years		-21415	-29386

FY06/07 funds transferred to the Patriot/MEADS Combined Aggregate Program (CAP), PE 0604869A.

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C. Other Program Funding Summary	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
PE 0603869 MEADS	236823	251414	0	0	0	0	0	0	0	488237
PE 0604869 Patriot/MEADS Combined Aggregate Program (CAP)	0	0	288785	326352	454511	510672	510389	490441	0	2581150
PE 0203801, Patriot Product Improvement	45587	32082	16188	10607	10884	11119	12029	12520	Continue	Continue
SSN C49100, Patriot System	616942	487364	489700	494754	466004	471770	0	0	0	3026534
SSN C50001, Patriot/MEADS CAP	0	0	0	0	88425	64338	423209	663557	22957360	24196889
PE 0102419, JLENS	57803	79316	106420	256893	471997	332428	0	0	0	1304857
SSN BZ0525, JLENS Production, OPA	38300	0	0	0	0	764	14957	11226	0	65247
PE 0604802, SLAMRAAM	36103	63111	36102	29200	0	0	0	0	0	164516
SSN C81001, SLAMRAAM	7397	2440	19315	21970	59273	13124	0	0	0	123519
PE 0604820, SENTINEL	0	5851	5080	2547	2647	0	0	0	0	16125
SSN WK5057, OPA, SENTINEL Production	20646	7337	8393	15373	25074	31572	34473	32552	0	175420
PE 0603327, Project S23, Integrated Fire Control AMD	40275	0	24961	42736	48894	50930	0	0	0	207796

C. Other Program Funding Summary: This PE is an integral part of the PEO, Missiles and Space System of Systems (SoS) including Integrated Fire Control, JLENS, Patriot/MEADS Combined Aggregate Program (CAP), SLAMRAAM, JTAGS, SENTINEL, and on-going initiatives to achieve Single Integrated Air Picture (SIAP).

D. Acquisition Strategy: The design objective of the Patriot system is to provide an element of an integrated Ballistic Missile Defense system capable of being modified to cope with the evolving threat. This strategy minimizes technological risks and provides a means of enhancing system capability through planned upgrades of deployed systems. The Patriot program consists of two interrelated acquisition programs - the Patriot PAC-3 Growth Program and the PAC-3 Missile Program. Growth Program modifications are grouped into configurations which are fielded in the same time frame as they technically mature. However, incremental increases in performance are determined for each configuration in order to provide benchmarks for configuration testing and for the development of user doctrine and tactics. This incremental approach to fielding will continue through the CAP as Patriot is evolved to MEADS. The PAC-3 Missile Program focuses on developing, fabricating and testing the high velocity, hit to kill, surface to air missile and associated ground support equipment to provide essential increases in battle space, accuracy, lethality and firepower to

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counter and destroy evolving air defense threats. The missile performance is demonstrated through a series of flight tests and modeling and simulation activities. PAC-3 Block Evolutionary development efforts will further improve system interoperability, commonality, and capabilities against emerging and reactive threats. The Army has revised the MEADS acquisition strategy to combine management, development, and fielding of both the MEADS and Patriot systems. The Patriot/MEADS combined aggregate program will provide for the evolution of the Patriot/PAC-3 system to the MEADS objective system through the early introduction of the MEADS Major End Items (MEI). This approach provides for earlier fielding of enhanced air and missile defense capabilities across the currently fielded force to counter the evolving threat and allow for the knowledge that was gained in the development and fielding of the Patriot System to be fused into the MEADS program. The PAC-3 missile is the baseline missile for the MEADS system. The Missile Segment Enhancement (MSE) missile, which provides for greater ranges, will be the objective missile for the system.

ARMY RDT&E COST ANALYSIS(R3)

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I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . LMMFC MSE	SS-CPIF	LMMFC-D, TX	64708	16086	2Q	0		0		0	80794	0
b . Raytheon MSE	SS-FP	Raytheon, MA	10958	5418	2Q	0		0		0	16376	0
c . Raytheon Evolutionary Development	SS-FP	Raytheon, MA	11804	17016	2-3Q	0		0		0	28820	0
d . RDEC	MIPR	MRDEC, AL	5820	2718	1-4Q	0		0		0	8538	0
e . PAC-3 Missile FOT	SS-CPFF	LMMFC-D, TX	20413	9088	2-3Q	0		0		0	29501	0
f . PAC-3 Missile FOT	SS-FP	Raytheon, MA	11082	2190	2-3Q	0		0		0	13272	0
Subtotal:			124785	52516		0		0		0	177301	0

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II. Support Cost	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . SETA	FFP	CAS, AL	2350	1400	2Q	0		0		0	3750	0
b . OGA/In-House	PO	RSA/Lower Tier Project Office (LTPO)	9042	766	1-4Q	0		0		0	9808	0
Subtotal:			11392	2166		0		0		0	13558	0

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . White Sands Missile Range	MIPR	WSMR, NM	7915	3800	1-4Q	0		0		0	11715	0
b . Operational Test Support	MIPR	Various	1500	1000	2Q	0		0		0	2500	0
c . Targets	MIPR	SMDC/AL	11235	2000	1-4Q	0		0		0	13235	0
Subtotal:			20650	6800		0		0		0	27450	0

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IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
			0	0		0		0		0	0	0
Subtotal:												
Project Total Cost:			156827	61482		0		0		0	218309	0

Schedule Profile (R4 Exhibit)

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Event Name	FY 04				FY 05				FY 06				FY 0□				FY 0□				FY 0□				FY 10				FY 11																																					
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4																																		
PAC-3 MISSILE PROGRAM MILESTONES																																																																		
(1) DAB IPR PATRIOT/MEADS COMBINED PROG, (2) PAC-3 Missile IOC	▲ 1		▲ 2																																																															
(3) OIPT/DAB																																	▲ 3																																	
MISSILE SEGMENT ENHANCEMENT (MSE) Development (Transferred to CAP)	MSE Development																																																																	
LOW-RATE INITIAL PRODN	PAC-3																																																																	
BLOCK 2002 PRODUCTION DELIV	PAC-3 BLOCK 2002																																																																	
(4) PAC-3 BLOCK 2004 PRODN Decision																																	▲ 4																																	
BLOCK 2004 PRODUCTION DELIV	PAC-3 BLOCK 2004																																																																	
(5) PAC-3 BLOCK 2006 PRODN Decision																																	▲ 5																																	
Block 2006 PRODUCTION DELIV	PAC-3 Block 2006																																																																	
RECAPITALIZATION	RECAPITALIZATION (SYNCHRONIZED UPGRADES)																																																																	

Schedule Detail (R4a Exhibit)

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<u>Schedule Detail</u>	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
PAC-3 Missile Block 04 Production Decision		2Q						
PAC-3 IOC	3Q							
PAC-3 Missile Block 06 Production Decision				4Q				
DAB PAC-3/MEADS Combined Program	4Q							