

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2007

BUDGET ACTIVITY		PE NUMBER AND TITLE								PROJECT	
<b>5 - System Development and Demonstration</b>		<b>0604869A - Patriot/MEADS Combined Aggregate Program (CAP)</b>								<b>M06</b>	
COST (In Thousands)		FY 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
M06	PATRIOT/MEADS COMBINED AGGREGATE PROGRAM (CAP)	274339	325945	372146	408182	589779	427981	436415	77399		2912186

**A. Mission Description and Budget Item Justification:** Medium Extended Air Defense System (MEADS) is a tri-national co-development program among the United States, Germany, and Italy to replace the U.S. PATRIOT air defense systems, PATRIOT and HAWK systems in Germany, and NIKE Hercules systems in Italy. Participating countries will sign a Memorandum Of Understanding (MOU) for each successive program phase. The NATO MEADS Management Agency (NAMEADSMA) is the NATO contracting authority providing management of the MEADS program on behalf of the participating nations and is responsible for managing the system acquisition. The U.S. and Italy signed the Design and Development(D&D) MOU on September 24, 2004, and September 27, 2004, respectively. The NAMEADSMA awarded the MEADS D&D letter contract to MEADS International Inc. on September 28, 2004, initiating the MEADS D&D phase. The MOU was amended in March 05 by the U.S. and Italy to allow the German Parliament additional time for their signature decision and on April 22, 2005 Germany signed the MOU. NAMEADSMA awarded a \$3.4 Billion D&D definitized contract to MEADS International Inc. on May 31, 2005. Within the PATRIOT/MEADS CAP there are two synergistic efforts: an international MEADS development effort managed by NAMEADSMA, and a U.S. effort to inject U.S.-specific capability requirements into the MEADS Major End Items (MEIs).

MEADS will provide joint and coalition forces, critical asset and defended area protection against multiple and simultaneous attacks by short to medium range ballistic missiles, cruise missiles, unmanned aerial vehicles (UAVs) and tactical air-to-surface missiles (TASMs). MEADS will have a netted and distributed architecture with modular components to increase survivability and flexibility of employment in a number of operational configurations. The objective MEADS battery, which will be scalable and tailorable to operational requirements, will consist of: a Battle Management Command, Control, Communication, Computers and Intelligence (BMC4I) tactical operations center (TOC), enabling distributed system operations and Beyond-Line-of-Site (BLOS) engagements for maximum protection of supported forces by engaging at longer ranges; a near-vertical launcher capable of transporting and launching up to eight missiles; a launcher reloader; the PAC-3 missile; an ultra-high frequency (UHF) Surveillance Radar (SR) that provides 360-degree coverage and near-range to long-range detection of low radar cross-section targets; and two X-band Multifunction Fire Control Radars (MFCR) that provide 360-degree coverage and are designed for high-precision handover to the in-flight missile, discrimination capabilities, and short-range target detection and horizon search.

In addition, MEADS will provide significant improvements in strategic deployability, transportability, mobility and maneuverability. Its substantially reduced lift requirements enable MEADS to be deployed rapidly with essential combat loads via inter/intra-theater land, sea, and airlift anywhere in the world. MEADS will provide Combatant Commanders with an Air Missile Defense (AMD) system that is fully transportable by C-130 aircraft, thus increasing strategic and tactical mobility. Further, its decreased size/weight and ability to conduct rapid march order and system emplacement will enhance maneuverability, thereby providing better AMD protection to maneuvering forces.

The Missile Segment Enhancement (MSE) missile has been accepted as the baseline missile for MEADS. It is being developed by the U.S. for PATRIOT to meet U.S. operational requirements. MSE will provide a more agile and lethal interceptor that increases the engagement envelope/defended area of PATRIOT and the MEADS systems. The PAC-3 MSE improves upon the current PAC-3 missile capability with a higher performance solid rocket motor, modified lethality enhancer, more responsive control surfaces, upgraded guidance software, and insensitive munitions improvements.

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<b>Accomplishments/Planned Program:</b>						
			<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
Continue the U.S. contribution to the North Atlantic Treaty Organization (NATO) MEADS Management Agency (NAMEADSMA) International Program Office operational (prime contract) and administrative (support contracts/personnel/travel) budgets to manage the Design and Development (D&D) Phase contract to design, build, test and evaluate the production representative MEADS hardware.			151079	154829	295030	386421
Implement program integration efforts that will examine Department of Defense (DOD) Joint Integrating Concept and Army Transformation Future Force mix and integration issues; support development and maintenance of Joint Data Network interface requirements; and appropriate planning of MEADS manpower, training, human factors, safety issues, cost reduction initiatives, and protection of U.S. background technology.			66940	65966	39545	14502
Continue management, support and salaries for the national and international program offices.			6120	7100	6930	7259
Includes US only efforts to support Exciter & Exportable Missile Model in FY06-FY07 and Missile Segment Enhancement in FY06-FY08. Includes White Sands Missile Range (WSMR) Support and Targets.			50200	88877	30641	
Small Business Innovative Research/Small Business Technology Transfer Programs				9173		
<b>Total</b>			<b>274339</b>	<b>325945</b>	<b>372146</b>	<b>408182</b>

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<b><u>B. Program Change Summary</u></b>	FY 2006	FY 2007	FY 2008	FY 2009	
Previous President's Budget (FY 2007)	284695	329583	459684	517049	
Current BES/President's Budget (FY 2008/2009)	274339	325945	372146	408182	
Total Adjustments	-10356	-3638	-87538	-108867	
Congressional program reductions		-1245			
Congressional rescissions					
Congressional increases					
Reprogrammings	-10356	-2393			
SBIR/STTR Transfer					
Adjustments to Budget Years			-87538	-108867	

FY 2008, funds realigned (\$87,538) to higher priority requirements.  
 FY 2009, funds realigned (\$108,867) to higher priority requirements.  
 The FY07 President's Budget listed above does not reflect the SBIR/STTR reductions. Those reductions are listed in the FY07 Accomplishments/Planned Program section.

<b><u>C. Other Program Funding Summary</u></b>	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
SSN C50001, Patriot/MEADS CAP					403735	674386	1042010	1317190	Continuing	Continuing
PE 0102419A, Proj E55, JLENS	99851	242781	481251	353983	337464	320787	182528		Continuing	Continuing
SSN BZ0525, JLENS Production						445850	223550	395200	Continuing	Continuing
PE 0604082A, Proj S23, SLAMRAAM	34034	26663	34762	11979					Continuing	Continuing
SSN C81001, SLAMRAAM Production	18825			65506	118124	76747	61850	61850	Continuing	Continuing
PE 0604820A, Proj E10, SENTINEL	4775	2499	7067						Continuing	Continuing
PE 0603327A, Proj E88, Integrated Fire	23662	41249							Continuing	Continuing
PE 0603327A, Proj S34, AMD System of System Engineering and Integration	2684		138399	114587	81636	37876	5238		Continuing	Continuing

Comment: PAC-3 / MEADS CAP RDTE funding was combined under PE0604869A beginning in FY06. This PE is an integral part of the PEO, Missiles and Space Integrated Air and Missile Defense (IAMD) Program including Integrated Fire Control (IFC), JLENS, Patriot/MEADS Combined Aggregate Program (CAP), SLAMRAAM, SENTINEL and on-going initiatives to achieve Single Integrated Air Picture (SIAP).

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**D. Acquisition Strategy** On 1 July 2004, the Defense Acquisition Board approved the Acquisition Strategy (AS) for the PATRIOT/MEADS CAP Milestone B. On 6 April 2006, the Lower Tier Project Manager submitted a Program Deviation Report (PDR) to notify the Under Secretary of Defense for Acquisition, Technology, and Logistics, of changes affecting the 6 August 2004, approved PATRIOT/MEADS CAP Acquisition Program Baseline (APB). On 9 February 2006, the Army System Acquisition Review Council (ASARC) approved establishment of the Integrated Air and Missile Defense (IAMD) Project Office (PO) to lead development efforts for the Army IAMD. On 8 May 2006, the Army established the IAMD PO which will manage the U.S. Army's initiatives to implement the user's operational concept from a System-Centric focus to a Network-Centric, Component-Based (Plug and Fight) architecture. The lead proponent for the U.S. only MEADS Battle Management Command, Control, Communications, Computers and Intelligence (BMC4I) effort now resides with the IAMD PO. The PATRIOT/MEADS CAP Acquisition Program Baseline (CAP APB) and Acquisition Strategy will be modified to reflect these changes.

# ARMY RDT&E COST ANALYSIS (R3)

February 2007

BUDGET ACTIVITY			PE NUMBER AND TITLE									PROJECT		
5 - System Development and Demonstration			0604869A - Patriot/MEADS Combined Aggregate Program (CAP)									M06		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Design and Development	CPIF	NAMEADSMA, Huntsville, AL		113500	2-3Q	138600	2-3Q	291000	2-3Q	382200	2-3Q	Cont.	Cont.	
Missile Segment Enhancement - LMMFC	SS-CPIF	LMMFC, Dallas, TX		18000	1-2Q	37000	3Q	11250	2Q			Cont.	Cont.	
Missile Segment Enhancement - Raytheon	SS-FP	Raytheon, Boston, MA		10400	1-2Q	11000	1-2Q	5800	1-2Q			Cont.	Cont.	
Program Integration	N/A	Various, Huntsville, AL		32339	1-3Q	30243	1Q	13000	1-2Q			Cont.	Cont.	
U.S. Only Security / Exciter	N/A	Lockheed Martin, Syracuse, NY, Dallas, TX & Orlando, FL		7650	1-2Q	20600	2Q					Cont.	Cont.	
U. S. OGA's	N/A	Various, Huntsville, AL		7830	2-3Q	8254	2-3Q	781	1-2Q			Cont.	Cont.	
In-House	N/A	PO, Huntsville, AL		8880	1-2Q	12180	1-4Q	10178	2-3Q	10700	2-3Q	Cont.	Cont.	
U.S. Only Combined Aggregate Program (CAP)	N/A	Various, Huntsville, AL & Dallas, TX		29725	2-3Q	7700	2-3Q					Cont.	Cont.	
D&D GFE Procurement Efforts	N/A	TACOM, Warren, MI		4844	2-3Q	4399	2-3Q							9243
Subtotal:				233168		269976		332009		392900		Cont.	Cont.	
II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Int'l Program Office	N/A	NAMEADSMA, Huntsville, AL		3010	2Q	4130	2Q	4030	2Q	4221	2Q	Cont.	Cont.	
U.S. Contracts	N/A	CAS, Huntsville, AL		12043	2Q	12294	2Q	7043	2Q			Cont.	Cont.	
Systems Engineering	N/A	MRDEC, Huntsville, AL		5698	2Q	9245	2Q	8543	2Q	3802	2Q	Cont.	Cont.	
Subtotal:				20751		25669		19616		8023		Cont.	Cont.	

# ARMY RDT&E COST ANALYSIS (R3)

**February 2007**

<b>BUDGET ACTIVITY</b> <b>5 - System Development and Demonstration</b>	<b>PE NUMBER AND TITLE</b> <b>0604869A - Patriot/MEADS Combined Aggregate Program (CAP)</b>	<b>PROJECT</b> <b>M06</b>
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III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Range Support	N/A	WSMR, White Sands, NM		1800	1-3Q	4800	2-3Q	5000	2-3Q			Cont.	Cont.	
Targets	N/A	SMDC, Huntsville, AL		9000	1-3Q	17400	2-3Q	8591	2-3Q			Cont.	Cont.	
Mod & Sim	N/A	Huntsville, AL		3500	1-3Q	1000	1Q					Cont.	Cont.	
Subtotal:				14300		23200		13591				Cont.	Cont.	

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Internal Operating	N/A	NAMEADSMA, Huntsville, AL		6120	2-3Q	7100	2-3Q	6930	2-3Q	7259	2-3Q	Cont.	Cont.	
Subtotal:				6120		7100		6930		7259		Cont.	Cont.	

<b>Project Total Cost:</b>		<b>274339</b>		<b>325945</b>		<b>372146</b>		<b>408182</b>		<b>Cont.</b>	<b>Cont.</b>	
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**Schedule Detail (R4a Exhibit)**

**February 2007**

**BUDGET ACTIVITY**  
**5 - System Development and Demonstration**

**PE NUMBER AND TITLE**  
**0604869A - Patriot/MEADS Combined Aggregate Program (CAP)**

**PROJECT**  
**M06**

<u>Schedule Detail</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>FY 2012</u>	<u>FY 2013</u>
Missile Segment Enhancement (MSE) Development (CAP Funded)	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q				
MEADS DESIGN AND DEVELOPMENT	1Q - 4Q							
Integrated Baseline Reviews	1Q							
MEADS Incremental System PDR: Preliminary Design Review		3Q - 4Q	1Q					
MEADS System CDR: Critical Design Review					1Q			
MSE Production Contract Award (* Dependent on IPF Funding IN FY08)					1Q			
MSE Production					1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q
MSE Production Contract Award					1Q			

<b>Termination Liability Funding For Major Defense Acquisition Programs, RDT&amp;E Funding (R5)</b>	<b>February 2007</b>
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BUDGET ACTIVITY <b>5 - System Development and Demonstration</b>	PE NUMBER AND TITLE <b>0604869A - Patriot/MEADS Combined Aggregate Program (CAP)</b>	PROJECT <b>M06</b>
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Funding in \$000								
Program	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Patriot/MEADS CAP								
<b>Total Termination Liability Funding:</b>								

**Remarks:**  
 The Patriot/Meads CAP Prime Contract Incorporates the "Limitation Of Funds" Clause (DFARS 52.232-22) To Limit The Government's Liability. For the Patriot Meads CAP Program, The "Limitation Of Funds" Clause Limits The Government's Financial Liability Per The Contract To Those Funds Placed On Contract Plus Any Outstanding Commitments Plus Costs Associated With The Orderly Termination Of Contractual Actions.