

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2008

BUDGET ACTIVITY 5 - System Development and Demonstration		PE NUMBER AND TITLE 0604869A - Patriot/MEADS Combined Aggregate Program (CAP)						PROJECT M06	
COST (In Thousands)	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)	322915	369786	431270	585597	424948	433464	76911	Continuing	Continuing

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 2005 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 Fire Unit, which will be scalable and tailorable to operational requirements, will consist of: two 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; six near-vertical launchers capable of transporting and launching up to eight missiles; three launcher reloaders; the MSE 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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<u>Accomplishments/Planned Program:</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.		152935	289418	380121
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 manpower, training, human factors, safety issues, cost reduction initiatives, and protection of U.S. background technology.		75139	41393	18020
Continue management, support and salaries for the national and international program offices.		5964	8328	7259
Includes US only efforts to support Exciter & Exportable Missile Model and Missile Segment Enhancement. Includes White Sands Missile Range (WSMR) Support and Targets.		88877	20300	25870
Small Business Innovative Research/Small Business Technology Transfer Programs			10347	
Total		322915	369786	431270

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<u>B. Program Change Summary</u>	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2008/2009)	325945	372146	408182
Current BES/President's Budget (FY 2009)	322915	369786	431270
Total Adjustments	-3030	-2360	23088
Congressional program reductions		-2360	
Congressional rescissions			
Congressional increases			
Reprogrammings	6143		
SBIR/STTR Transfer	-9173		
Adjustments to Budget Years			23088

Change Summary Explanation: Funding - FY 2009 increase provides funding for:

1. United States Only Development of the MFCR Exciter and Security Contract;
2. Raytheon Integration efforts for the MSE missile;
3. Range and Support Costs for the MSE missile.

<u>C. Other Program Funding Summary</u>	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
SSN C50001, Patriot/MEADS CAP			31049	400215	668463	1032860	1305623	Continuing	Continuing
PE 0102419A, Proj E55, JLENS	237795	478204	356434	335071	318513	181294		Continuing	Continuing
SSN BZ0525, JLENS Production					442084	440585	391876	Continuing	Continuing
PE 0604082A, Proj S23, SLAMRAAM	28549	34526	31774					Continuing	Continuing
SSN C81001, SLAMRAAM Production			40468	117094	76073	61307	61307	Continuing	Continuing
PE 0604820A, Proj E10, SENTINEL	2446	7022						Continuing	Continuing
PE 0603327A, Proj E88, Integrated Fire Control AMD	36342							Continuing	Continuing
PE 0603327A, Proj S34, AMD System of System Engineering and Integration	1870	137517	113853	81057	37608	5203		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. oversight of the International 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)

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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 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	138600	2-3Q	284500	2-3Q	375900	2-3Q	Cont.	Cont.	
Missile Segment Enhancement - Lockheed Martin Missiles and Fire Control (LMMFC)	SS-CPIF	LMMFC, Dallas, TX	18000	37000	3Q	12700	2Q			Cont.	Cont.	
Missile Segment Enhancement (MSE) - Raytheon	SS-FP	Raytheon, Boston, MA	10400	11000	1-2Q	5800	1-2Q	8000	2-3Q	Cont.	Cont.	
Program Integration	N/A	Various, Huntsville, AL	32339	30243	1Q	16112	1-2Q	6300	1-2Q	Cont.	Cont.	
U.S. Only Security / Exciter	N/A	Lockheed Martin, Sycracuse, NY, Dallas, TX & Orlando, FL	7650	20600	2Q	500		16800	1-2Q	Cont.	Cont.	
U. S. Other Government Agencies (OGA's)	N/A	Various, Huntsville, AL	7830	8254	2-3Q	514	1-2Q			Cont.	Cont.	
In-House	N/A	PO, Huntsville, AL	8880	12180	1-4Q	10977	2-3Q	7918	2-3Q	Cont.	Cont.	
U.S. Only Combined Aggregate Program (CAP)	N/A	Various, Huntsville, AL & Dallas, TX	29725	7700	2-3Q					Cont.	Cont.	
Design and Development Government Furnished Equipment (GFE) Procurement Efforts	N/A	TACOM, Warren, MI	4844	4399	2-3Q	888	2-3Q				10131	9243
Subtotal:			233168	269976		331991		414918		Cont.	Cont.	9243
II. Support Costs			Total PYs Cost	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
International Program Office	N/A	NAMEADSMA, Huntsville, AL	3010	2236	2Q	4030	2Q	4221	2Q	Cont.	Cont.	
U.S. Contracts	N/A	CAS, Huntsville, AL	12043	12294	2Q	7185	2Q			Cont.	Cont.	
Systems Engineering	N/A	MRDEC, Huntsville,	5698	9245	2Q	6104	2Q	3802	2Q	Cont.	Cont.	

ARMY RDT&E COST ANALYSIS (R3)

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BUDGET ACTIVITY			PE NUMBER AND TITLE								PROJECT	
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		AL										
Subtotal:			20751	23775		17319		8023		Cont.	Cont.	
III. Test And Evaluation												
	Contract Method & Type	Performing Activity & Location	Total PYs Cost	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	4800	2-3Q	1800	2-3Q	1070	1-3Q	Cont.	Cont.	
Targets	N/A	SMDC, Huntsville, AL	9000	17400	2-3Q					Cont.	Cont.	
Modeling and Simulation	N/A	Huntsville, AL	3500	1000	1Q					Cont.	Cont.	
Subtotal:			14300	23200		1800		1070		Cont.	Cont.	
IV. Management Services												
	Contract Method & Type	Performing Activity & Location	Total PYs Cost	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	5964	2-3Q	8329	2-3Q	7259	2-3Q	Cont.	Cont.	
Small Business Innovative Research & Small Business Technology Transfer Programs	N/A	N/A				10347	3-4Q				10347	
Subtotal:			6120	5964		18676		7259		Cont.	Cont.	
Project Total Cost:			274339	322915		369786		431270		Cont.	Cont.	9243

Schedule Profile (R4 Exhibit)

February 2008

BUDGET ACTIVITY
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Event Name	FY 07				FY 08				FY 09				FY 10				FY 11				FY 12				FY 13			
	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
Missile Segment Enhancement (MSE) Development (CAP Funded)	MSE DEVELOPMENT																											
MSE Test					MSE Test																							
MEADS DESIGN AND DEVELOPMENT	MEADS DESIGN AND DEVELOPMENT																											
MEADS Incremental System PDR: Preliminary Design Review					PDR																							
(1) MEADS System CDR: Critical Design Review													▲ 1															
(2) Production Decision													▲ 2															
(3) MSE Production Contract Award (* Dependent on IPF Funding In FY09)													▲ 3															
MSE Production																MSE Production												

Schedule Detail (R4a Exhibit)

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BUDGET ACTIVITY
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PROJECT
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<u>Schedule Detail</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 - 2Q			
MSE Test		2Q - 4Q	1Q - 4Q	1Q			
MEADS DESIGN AND DEVELOPMENT	1Q - 4Q						
Integrated Baseline Reviews							
MEADS Incremental System PDR: Preliminary Design Review	3Q - 4Q	1Q					
MEADS System CDR: Critical Design Review				1Q			
Production Decision				1Q			
MSE Production Contract Award (* Dependent on IPF Funding In FY09)				1Q			
MSE Production				1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q

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

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.