

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)								February 2006		
BUDGET ACTIVITY 5 - System Development and Demonstration			PE NUMBER AND TITLE 0604869A - Patriot/MEADS Combined Aggregate Program (CAP)					PROJECT M06		
COST (In Thousands)		FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total Cost
M06	PATRIOT/MEADS COMBINED AGGREGATE PROGRAM (CAP)	0	284695	329583	459684	517049	592013	422005	0	2605029
<p><u>A. Mission Description and Budget Item Justification:</u> With the approval of the Defense Acquisition Executive (DAE), the Army has combined the management, development, and fielding of the PATRIOT and MEADS programs. On Jul 1, 2004, the Defense Acquisition Board (DAB) approved Milestone B for MEADS and all three increments of the Patriot/MEADS CAP with a MEADS First Unit Equipped date of FY2015. The Acquisition Program Baseline (APB) and Acquisition Strategy were also approved for System Development and Demonstration (SDD). The PAC-3/MEADS CAP is an integral element in the DoD Ballistic Missile Defense System (BMDS) and is based on the concept that the MEADS objective capability will be achieved through an evolutionary approach by incrementally inserting MEADS Major End Items (MEIs) into the current PATRIOT System, thereby providing increased capability to the field in a timelier manner. This approach allows for earlier modernization and fielding of enhanced capabilities to the currently fielded PATRIOT forces in conjunction with re-capitalization efforts. Also, the CAP ensures that the required AMD capabilities are fielded to dominate in all areas outlined in the DoD "Protection Joint Functional Concept" construct: detect, assess, warn, defend, recover.</p> <p>MEADS is a tri-national co-development program among the U.S., 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 MOU for each successive program phase. The NATO MEADS Management Agency (NAMEADSMA) is the NATO contract 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 Sept 24, 2004, and Sept 27, 2004, respectively. The NAMEADSMA awarded the MEADS D&D letter contract to MEADS International on Sept 28, 2004, initiating the MEADS D&D phase. The D&D letter contract definitization process was completed in Feb 2005. The MOU was amended in Mar 05 by the U.S. and Italy to allow the German Parliament additional time for their signature decision and on Apr 22, 2005 Germany signed the MOU. NAMEADSMA, the NATO contracting authority, awarded a \$3.4B D&D definitized contract to MEADS International on May 31, 2005. Within the CAP there are two synergistic efforts: an international MEADS development effort managed by NAMEADSMA, and a U.S. effort to inject US-specific capability requirements into the MEADS Major End Items.</p> <p>MEADS will provide joint and coalition force, 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) that is capable of integrating into Integrated Air and Missile Defense (IAMD) Program BMC4I architectures, 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.</p> <p>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 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.</p>										

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<p>While the PAC-3 missile is the baseline missile for MEADS, the Missile Segment Enhancement (MSE) missile 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 potentially 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.</p> <p>The CAP increments will improve the current PATRIOT capability to protect forces during the transformation to MEADS. MEADS MEIs will be developed and fielded in three acquisition increments in support of an Integrated Air and Missile Defense (IAMD) capabilities: CAP 1 (FY09): Will re-host the current BMC4I capability resident on the PATRIOT system on new processors in single shelters to gain C-130 transportability, and add a capability enhancement that enables beyond-line-of-sight (BLOS) engagements for SLAMRAAM using PATRIOT fire control data. The BMC4I begins initial production in FY08 and serves as the basis for further incremental development. CAP 2 (FY11): Includes the MSE missile in a single canister configuration, the MEADS near-vertical launcher, and the MEADS BMC4I All three of these components, when integrated into the SoS architecture with JLENS, will significantly increase the defended area of PAC-3 systems by enabling Engage-on-Remote (EOR) engagements of incoming threats (the ability of PATRIOT to engage an incoming target using fire control data from another system's sensor). EOR capability will enable units to take advantage of the significant improvements (range) of the MSE missile. CAP 3 (FY15): Will begin integrating the objective MEADS configuration. An updated BMC4I will include a communications backbone and software functionality to enable rapid transition of elements within the architecture to support tactical mobility requirements; integrates the new SR and two MFCRs into the fire unit/Battery. The associated surveillance, fire control, classification discrimination and identification (CDI) and battle management functionality will offset current capability gaps in the areas of sectored systems, stressing threats, strategic and tactical mobility and combat identification (CID). Enhancements in CID will significantly contribute to fratricide prevention by incorporating the capability to non-cooperatively classify targets by type/specific platform, thereby contributing to the identification of unknown targets that may have non-functional IFF transponders.</p>				
<u>Accomplishments/Planned Program</u>		<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
Continue the U.S. contribution to the North Atlantic Treaty Organization (NATO) MEADS Management Agency (NAMEADSMA) International Program Office operational and management budgets to manage the Design and Development (D&D) Phase contract to design, develop, build, test and evaluate the production representative MEADS hardware. FY05 and FY06 efforts will develop the BMC4I to support Increment 1 testing in FY07 with initial production in FY08 and subsequent fielding to be completed in FY10.		0	151079	165525
Implement program integration efforts that will examine Department of Defense (DOD) Joint Integrating Concept and Army Transformation Future Force mix and integration issues; support Patriot / MEADS CAP in the test and evaluation of Air and Missile Defense (AMD) task force interoperability and Army Integrated Air and Missile Defense (IAMD) Program(in a netted and distributed architecture); 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.		0	77296	69058
Continue management, support and salaries for the national and international program offices.		0	6120	7100
Continue single canister and engage on remote development. Includes US only efforts to support Missile Segment Enhancement.		0	50200	87900
Total		0	284695	329583

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<u>B. Program Change Summary</u>		FY 2005	FY 2006	FY 2007					
Previous President's Budget (FY 2006)		0	288785	326352					
Current BES/President's Budget (FY 2007)		0	284695	329583					
Total Adjustments		0	-4090	3231					
Congressional program reductions			-1220						
Congressional rescissions			-2870						
Congressional increases									
Reprogrammings									
SBIR/STTR Transfer									
Adjustments to Budget Years				3231					
FY 2005 funding displayed in PE 0603869A MEADS.									
<u>C. Other Program Funding Summary</u>	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
PE 0604865A, PAC-3	60408	0	0	0	0	0	0	0	60408
PE 0203801, Patriot Product Improvement	32067	15957	10770	11051	11297	12227	12734	CONT	CONT
SSN C49100, PAC-3 Missile	496990	483260	489067	472907	478795	0	0	0	2421019
SSN C50001, Patriot/MEADS CAP	0	0	0	89735	65296	429735	674386	CONT	CONT
PE 0102419, JLENS	79279	105888	264491	465214	353856	335490	301143	0	1905361
SSN BZ0525, OPA, JLENS	0	0	0	0	0	30471	476728	0	507199
PE 0604082, Project S23 SLAMRAAM	63084	35587	26961	10132	0	0	0	0	135764
SSN C81001, SLAMRAAM	2438	19061	22039	59314	82656	82143	60979	0	328630
PE 0604820, SENTINEL	5848	5008	2527	2622	0	0	0	0	16005
SSN WK5057, OPA, SENTINEL	10566	8289	15125	20914	33394	33239	25314	0	146841
PE 0603327, Project E88, Integrated Fire	19984	24480	41746	47995	50096	0	0	0	184301
Comment: PAC-3 / MEADS CAP RDTE funding are combined and under PE0604869A in FY06 and beyond. This PE is an integral part of the Air, Integrated Air and Missile Defense (IAMD) Program including Integrated Fire Control (IFC), JLENS, Patriot/MEADS Combined Aggregate Program (CAP), SLAMRAAM, JTAGS, SENTINEL and on-going initiatives to achieve Single Integrated Air Picture (SIAP).									

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<p><u>D. Acquisition Strategy</u> On 1 July 2004, the Defense Acquisition Board approved the Acquisition Strategy (AS) for milestone B. The AS incrementally evolves the tri-national MEADS program into the fielded PATRIOT force in three increments with a with a First Unit Equipped date of FY2015. Increment 1 will re-host the current BMC4I capabilities of the PATRIOT into a smaller TOC. Increment 2 provides a MEADS Lightweight/Near Vertical Launcher (reducing airlift requirements), improved BMC4I, and the MSE missile (increasing the battlespace). The objective system (Increment 3) will begin fielding in FY15 with a network centric BMC4I and the surveillance and fire control radars (providing full 360 degree coverage and further reducing airlift requirement). Milestone C reviews will be conducted for each increment as they mature. This PE funds the consolidated development program.</p>		

ARMY RDT&E COST ANALYSIS (R3)										February 2006		
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 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
Design and Development	CPIF	NAMEADSMA, Huntsville, AL	0	0		113500	2-3Q	138600	2-3Q	Continue	0	0
Missile Segment Enhancement - LMMFC	SS-CPIF	LMMFC, Dallas, TX	0	0		18000	1-2Q	32000	1-2Q	Continue	0	0
Missile Segment Enhancement - Raytheon	SS-FP	Raytheon, Boston, MA	0	0		10400	1-2Q	11050	1-2Q	Continue	0	0
Program Integration	Various	Various, Huntsville, AL	0	0		42695	1-3Q	33218	1Q	Continue	0	0
U.S. Only Security / Exciter	MIPR	Lockheed Martin, Sycracuse, NY, Dallas, TX & Orlando, FL	0	0		7650	1-2Q	15400	1-2Q	Continue	0	0
U. S. OGA's	MIPR	Various, Huntsville, AL	0	0		7830	2-3Q	5840	2-3Q	Continue	0	0
In-House	Program Office	PO, Huntsville, AL	0	0		8880	1-2Q	9500	2-3Q	Continue	0	0
U.S. Only Combined Aggregate Program (CAP)	Various	Various, Huntsville, AL & Dallas, TX	0	0		29725	2-3Q	18480	2-3Q	Continue	0	0
D&D GFE Procurement Efforts	MIPR	TACOM, Warren, MI	0	0		4844	2-3Q	4315	2-3Q	0	0	0
Subtotal:			0	0		243524		268403		Continue	0	0
II. Support Costs	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
Int'l Program Office	Program Office	NAMEADSMA, Huntsville, AL	0	0		3010	2Q	4130	2Q	Continue	0	0
U.S. Contracts	Various	CAS, Huntsville, AL	0	0		12043	2Q	12500	2Q	Continue	0	0
Systems Engineering	MIPR	MRDEC, Huntsville, AL	0	0		5698	2Q	8000	2Q	Continue	0	0
Subtotal:			0	0		20751		24630		Continue	0	0

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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
Range Support	MIPR	WSMR, White Sands, NM	0	0		1800	1-3Q	7000	1Q	Continue	0	0
Targets	MIPR	SMDC, Huntsville, AL	0	0		9000	1-3Q	15450	1Q	Continue	0	0
Mod & Sim	MIPR	Huntsville, AL	0	0		3500	1-3Q	7000	1Q	Continue	0	0
Subtotal:			0	0		14300		29450		Continue	0	0
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
Internal Operating	LOE	NAMEADSMA, Huntsville, AL	0	0		6120	2-3Q	7100	2-3Q	Continue	0	0
Subtotal:			0	0		6120		7100		Continue	0	0
Project Total Cost:			0	0		284695		329583		Continue	0	0

Schedule Profile (R4 Exhibit)																	February 2006															
BUDGET ACTIVITY					PE NUMBER AND TITLE																	PROJECT										
5 - System Development and Demonstration					0604869A - Patriot/MEADS Combined Aggregate Program (CAP)																	M06										
Event Name					FY 05				FY 06				FY 07				FY 08				FY 09				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
Missile Segment Enhancement (MSE) Development (CAP Funded)					MSE DEVELOPMENT																											
(1) Program Decision (GE Signature)																																
Integrated Baseline Reviews																																
(2) SRR																																
(3) MEADS System PDR: Preliminary Design Review, (4) MEADS System CDR: Critical Design Review																																
(5) MSE LRIP Contract Award																																
MSE LRIP																													MSE LRIP			

Schedule Detail (R4a Exhibit)						February 2006	
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<u>Schedule Detail</u>	<u>FY 2005</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>
Program Decision (Germany Signature)	3Q						
System Requirement Review	3Q						
Integrated Baseline Reviews	3-4Q	1Q					
System Preliminary Design Review (PDR)			3Q				
System Critical Design Review (CDR)						1Q	
MSE LRIP Contract Award						1Q	
MSE LRIP						1-4Q	1-4Q

Termination Liability Funding For Major Defense Acquisition Programs, RDT&E Funding (R5)					February 2006			
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Funding in \$000								
Program		FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Patriot/MEADS CAP			136259	242864	301272	315566	319461	245699
Total Termination Liability Funding:			136259	242864	301272	315566	319461	245699
Remarks: Termination Liability in K\$'s and for each year shall not exceed limits shown. FY05 Termination Liability shown in PE0603869A.								