

# UNCLASSIFIED

**Exhibit R-2, RDT&E Budget Item Justification:** PB 2015 Army **Date:** March 2014

<b>Appropriation/Budget Activity</b> 2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)					<b>R-1 Program Element (Number/Name)</b> PE 0604869A / Patriot/MEADS Combined Aggregate Program (CAP)							
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO #</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	-	348.234	-	-	-	-	-	-	-	-	-	348.234
M06: Patriot/Meads Combined Aggregate Program	-	348.234	-	-	-	-	-	-	-	-	-	348.234

# The FY 2015 OCO Request will be submitted at a later date.

## **A. Mission Description and Budget Item Justification**

Medium Extended Air Defense System (MEADS) provides joint and coalition forces critical asset and defended area protection against multiple and simultaneous attacks by short-to-medium range ballistic missiles, cruise missiles, manned and unmanned aerial systems, and tactical air-to-surface missiles. This system leverages current technology for an Integrated Air and Missile Defense Fire Control System/capability.

MEADS is a tri-national co-development program among the United States, Germany, and Italy to replace the PATRIOT and HAWK systems in Germany, and NIKE Hercules systems in Italy. The NATO MEADS Management Agency (NAMEADSMA) is the North Atlantic Treaty Organization (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 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 Memorandum of Understanding (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.

MEADS is designed to 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, manned and unmanned aerial systems and tactical air-to-surface missiles. MEADS is being developed to 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, designed to 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 PAC-3 Missile Segment Enhancement (MSE)interceptor; 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.

The U.S. rendered a MEADS program decision in Feb 2011 to continue the D&D phase focusing remaining activities to implement a "demonstration of capabilities" through Mar 2014 with the remaining MOU funds to provide a meaningful capability for Germany and Italy and a possible future option for the U.S. Based on this decision, NAMEADSMA developed a new D&D detailed program schedule and the Board of Directors (BoD) approved it via a signed contract amendment on 31 October 2011.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Army			Date: March 2014			
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army I BA 5: System Development & Demonstration (SDD)		R-1 Program Element (Number/Name) PE 0604869A I Patriot/MEADS Combined Aggregate Program (CAP)				
The PAC-3 system is continuously being improved via hardware and software changes. The latest missile improvement is the MSE and 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. The MSE will provide a more agile and lethal interceptor that increases the engagement envelope/defended area of PATRIOT and the MEADS systems. The 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. PAC-3 is reported under Program Element 0605456A.						
U.S. financial support completed with FY13 funds.						
B. Program Change Summary (\$ in Millions)		FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget		400.861	-	-	-	-
Current President's Budget		348.234	-	-	-	-
Total Adjustments		-52.627	-	-	-	-
• Congressional General Reductions		-	-			
• Congressional Directed Reductions		-52.627	-			
• Congressional Rescissions		-	-			
• Congressional Adds		-	-			
• Congressional Directed Transfers		-	-			
• Reprogrammings		-	-			
• SBIR/STTR Transfer		-	-			

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Army										Date: March 2014		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0604869A / Patriot/MEADS Combined Aggregate Program (CAP)				Project (Number/Name) M06 / Patriot/Meads Combined Aggregate Program			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
M06: Patriot/Meads Combined Aggregate Program	-	348.234	-	-	-	-	-	-	-	-	-	348.234
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

## Note

The U.S. rendered a MEADS program decision in Feb 2011 to continue the Design and Development (D&D) phase focusing remaining activities to implement a "demonstration of capabilities" through March 2014; no resources are budgeted to support these efforts after 2013. This program element was terminated.

## A. Mission Description and Budget Item Justification

MEADS provides joint and coalition forces critical asset and defended area protection against multiple and simultaneous attacks by short-to-medium range ballistic missiles, cruise missiles, manned and unmanned aerial systems, and tactical air-to-surface missiles. This system leverages current technology for an Integrated Air and Missile Defense Fire Control System/capability.

Medium Extended Air Defense System (MEADS) is a tri-national co-development program among the United States, Germany, and Italy to replace the PATRIOT and HAWK systems in Germany, and NIKE Hercules systems in Italy. The NATO MEADS Management Agency (NAMEADSMA) is the North Atlantic Treaty Organization (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 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.

MEADS is designed to 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, manned and unmanned aerial systems and tactical air-to-surface missiles. MEADS is being developed to 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, designed to 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 PAC-3 Missile Segment Enhancement (MSE) interceptor; 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.

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Army			Date: March 2014		
Appropriation/Budget Activity 2040 / 5		R-1 Program Element (Number/Name) PE 0604869A / Patriot/MEADS Combined Aggregate Program (CAP)	Project (Number/Name) M06 / Patriot/Meads Combined Aggregate Program		
The U.S. rendered a MEADS program decision in Feb 2011 to continue the D&D phase focusing remaining activities to implement a "demonstration of capabilities" through Mar 2014 with the remaining MOU funds to provide a meaningful capability for Germany and Italy and a possible future option for the U.S. Based on this decision, NAMEADSMA developed a new D&D detailed program schedule and the Board of Directors (BoD) approved it via a signed contract amendment on 31 October 2011.					
The PAC-3 system is continuously being improved via hardware and software changes. The latest missile improvement is the MSE. The MSE 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. The MSE will provide a more agile and lethal interceptor that increases the engagement envelope/defended area of PATRIOT and the MEADS systems. The 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. PAC-3 is reported under Program Element 0605456A.					
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2013	FY 2014	FY 2015
<b>Title:</b> Medium Extended Air Defense Missile System (MEADS) Design and Development (D&D)  <b>Articles:</b>  <b>Description:</b> 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.  <b>FY 2013 Accomplishments:</b> Funds the final 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) for the year of a MEADS Demonstration of Capabilities and will bring the U.S. participation in the MEADS development program to a close under the MEADS contract amendment #26 . Remaining efforts include Data Archival for all major MEADS elements, the last of two intercept flight tests, and four system capability demonstrations as the culmination of MEADS contract amendment #26 in 2QFY14.			275.573	-	-
			-	-	-
<b>Title:</b> MEADS Design and Development Program Integration  <b>Articles:</b>  <b>Description:</b> Close out of MEADS Program.  <b>FY 2013 Accomplishments:</b> Funds close out planning and execution that is conducted in parallel with the Demonstration of Capabilities activities with an anticipated date for termination of U.S. security oversight and return of U.S. Government Furnished Equipment (GFE) by the end of 4QFY14.			46.387	-	-
			-	-	-
<b>Title:</b> National and International Program Office Support			14.749	-	-

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)										FY 2013	FY 2014	FY 2015
Articles:  Description: Management support and salaries for the MEADS National and International program offices.  FY 2013 Accomplishments: Facilitates the closing out of the PATRIOT/ MEADS Combined Aggregate Program(CAP) in 2QFY14.  Title: MEADS U.S. Only Efforts  Articles:  Description: U.S. only efforts to support Exciter and Exportable Missile Model  FY 2013 Accomplishments: Facilitates the closing out of the PATRIOT/ MEADS Combined Aggregate Program(CAP) in 2QFY14.										-	-	-
										11.525 -	- -	- -
Accomplishments/Planned Programs Subtotals										348.234	-	-
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• PE 0605456A: Proj PA3, PAC-3/MSE Missile	63.123	68.807	35.009	-	35.009	2.271	-	-	-	-	169.210	
• SSN C53101: MSE Missile	8.249	690.401	384.605	-	384.605	419.791	422.527	458.724	497.553	Continuing	Continuing	
• PE 0205456: Proj EF9, System Integration and Test	-	-	78.758	-	78.758	64.628	67.461	65.734	117.666	Continuing	Continuing	
• SSN C50016: Lower Tier Air and Missile Defense (AMD)	-	-	110.300	-	110.300	116.416	131.549	114.678	113.281	Continuing	Continuing	
• PE 0102419A: Proj E55, JLENS	142.508	83.406	54.076	-	54.076	50.167	39.590	2.566	0.003	Continuing	Continuing	
• PE 0604319A: Proj DU3, IFPC2 (FY12 PE0603305A IFPCI II Intercept)	25.710	79.190	96.177	-	96.177	156.523	90.980	58.214	27.663	Continuing	Continuing	
• PE 0605457A: Proj S40, Army Integrated Air and Missile Defense (AIAMD)	233.892	369.452	142.584	-	142.584	215.659	228.791	170.828	154.565	Continuing	Continuing	
• SSN BZ5075: IAMD Battle Command System (IBCS)	-	-	-	-	-	21.091	206.300	298.990	379.981	Continuing	Continuing	

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Army									Date: March 2014		
Appropriation/Budget Activity 2040 / 5				R-1 Program Element (Number/Name) PE 0604869A / Patriot/MEADS Combined Aggregate Program (CAP)				Project (Number/Name) M06 / Patriot/Meads Combined Aggregate Program			
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• PE 0604820A: Proj E10, SENTINEL	3.734	1.548	5.224	-	5.224	12.213	11.389	10.906	12.132	Continuing	Continuing
• PE 0604741A: Project Numbers 126, 146 and 149; Air Defense C2I Eng Dev	42.876	18.284	15.906	-	15.906	20.248	19.632	19.878	20.165	Continuing	Continuing
Remarks											
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 PATRIOT/MEADS CAP Acquisition Program Baseline and Acquisition Strategy will be modified to reflect these changes. The U.S. rendered a MEADS program decision on 11 Feb 2011 to continue the D&D phase focusing remaining activities to implement a "demonstration of capabilities" through Mar 2014 with the remaining MOU funds to provide a meaningful capability for Germany and Italy and a possible future option for the U.S. Based on this decision, NAMEADSMA developed a new D&D detailed program schedule and the Board of Directors (BoD) approved it via a signed contract on 31 October 2011.											
E. Performance Metrics											
N/A											

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2015 Army</b>												<b>Date: March 2014</b>			
<b>Appropriation/Budget Activity</b> 2040 / 5						<b>R-1 Program Element (Number/Name)</b> PE 0604869A / Patriot/MEADS Combined Aggregate Program (CAP)						<b>Project (Number/Name)</b> M06 / Patriot/Meads Combined Aggregate Program			
<b>Management Services (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
International Operating	Various	NAMEADSMA : Huntsville, AL	41.093	9.000		-		-		-		-	-	50.093	-
Gov't Program Services/ Mgmt	Various	Lower Tier Project Office : Huntsville, AL	4.500	1.500		-		-		-		-	-	6.000	-
<b>Subtotal</b>			45.593	10.500		-		-		-		-	-	56.093	-
<b>Product Development (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Design and Development	Various	NAMEADSMA : Huntsville, AL	1,872.480	279.784		-		-		-		-	-	2,152.264	-
Program Integration	Various	Various : Huntsville, AL	157.251	23.487		-		-		-		-	-	180.738	-
Product Development Support	Various	Program Office : Huntsville, AL	57.488	6.400		-		-		-		-	-	63.888	-
U.S. Only Security / Exciter	SS/CPFF	Lockheed Martin : Syracuse, NY; Dallas, TX & Orlando, FL	80.535	7.276		-		-		-		-	-	87.811	-
U. S. Other Government Agencies (OGA's)	Various	Various : Huntsville, AL	47.252	5.972		-		-		-		-	-	53.224	-
International Program Office	Various	NAMEADSMA : Huntsville, AL	27.771	5.500		-		-		-		-	-	33.271	-
Systems Engineering	Various	AMRDEC : Huntsville, AL	33.867	3.600		-		-		-		-	-	37.467	-
U.S. Contracts	Various	Various : Huntsville, AL	67.147	5.715		-		-		-		-	-	72.862	-
<b>Subtotal</b>			2,343.791	337.734		-		-		-		-	-	2,681.525	-

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis:</b> PB 2015 Army										<b>Date:</b> March 2014				
<b>Appropriation/Budget Activity</b> 2040 / 5					<b>R-1 Program Element (Number/Name)</b> PE 0604869A / <i>Patriot/MEADS Combined Aggregate Program (CAP)</i>					<b>Project (Number/Name)</b> M06 / <i>Patriot/Meads Combined Aggregate Program</i>				
	<b>Prior Years</b>	<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>	
<b>Project Cost Totals</b>	2,389.384	348.234		-		-		-		-	-	2,737.618	-	
<b>Remarks</b>														



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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Army																Date: March 2014			
Appropriation/Budget Activity 2040 / 5								R-1 Program Element (Number/Name) PE 0604869A / Patriot/MEADS Combined Aggregate Program (CAP)								Project (Number/Name) M06 / Patriot/Meads Combined Aggregate Program			
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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2015 Army		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604869A / <i>Patriot/MEADS Combined Aggregate Program (CAP)</i>	<b>Project (Number/Name)</b> M06 / <i>Patriot/Meads Combined Aggregate Program</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
MEADS Design and Development	1	2009	2	2014