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Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Army									DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0203801A: Missile/Air Defense Product Improvement Program							
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	34.189	39.068	24.280	0.000	24.280	56.457	52.588	40.582	9.621	Continuing	Continuing
036: PATRIOT PROD IMP PGM	6.816	11.232	11.473	0.000	11.473	45.864	42.032	40.582	9.621	Continuing	Continuing
DF8: DF8	11.434	8.398	3.133	0.000	3.133	0.000	0.000	0.000	0.000	Continuing	Continuing
DF9: DF9	15.939	19.438	9.674	0.000	9.674	10.593	10.556	0.000	0.000	Continuing	Continuing
A. Mission Description and Budget Item Justification											
PATRIOT is an advanced Surface-to-Air guided missile system with a high probability of kill capable of operation in the presence of Electronic Countermeasures (ECM) and able to conduct multiple simultaneous engagements against high performance air breathing targets and ballistic missiles likely to be encountered by US Forces. The Patriot Product Improvement Program provides for the upgrade of the Patriot System through individual materiel changes. The Patriot Product Improvement Program upgrades the Patriot system to address operational lessons learned, enhancements to joint force interoperability, and other system performance improvements to provide overmatch capability with the emerging threat. DF8 The PATRIOT advanced missile system plays a critical part in the integrated battlefield. DF8 funding was provided by OSD to support expanding ongoing current Joint efforts to advance integrated battlefield capabilities. DF9 funding was provided to the Army by OSD as part of an ongoing Joint OSD-managed effort.											
B. Program Change Summary (\$ in Millions)											
			FY 2009	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	
Previous President's Budget			37.747	39.273		24.352		0.000		24.352	
Current President's Budget			34.189	39.068		24.280		0.000		24.280	
Total Adjustments			-3.558	-0.205		-0.072		0.000		-0.072	
• Congressional General Reductions				-0.205							
• Congressional Directed Reductions				0.000							
• Congressional Rescissions			0.000	0.000							
• Congressional Adds				0.000							
• Congressional Directed Transfers				0.000							
• Reprogrammings			0.000	0.000							
• SBIR/STTR Transfer			-3.558	0.000							
• Adjustments to Budget Years			0.000	0.000		-0.072		0.000		-0.072	

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army								DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0203801A: <i>Missile/Air Defense Product Improvement Program</i>				PROJECT 036: <i>PATRIOT PROD IMP PGM</i>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
036: <i>PATRIOT PROD IMP PGM</i>	6.816	11.232	11.473	0.000	11.473	45.864	42.032	40.582	9.621	Continuing	Continuing
Quantity of RDT&E Articles											
A. Mission Description and Budget Item Justification PATRIOT is an advanced Surface-to-Air guided missile system with a high probability of kill capable of operation in the presence of Electronic Countermeasures (ECM) and able to conduct multiple simultaneous engagements against high performance air breathing targets and ballistic missiles likely to be encountered by US Forces. The Patriot Product Improvement Program provides for the upgrade of the Patriot System through individual materiel changes.											
B. Accomplishments/Planned Program (\$ in Millions)											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1 Software Improvement for Threat Evolution <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO							6.816	11.232	11.473	0.000	11.473
Program #2							0.000	0.000	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010	
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<u>B. Accomplishments/Planned Program (\$ in Millions)</u>					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Small Business Innovative Research/Small Business Technology Transfer Programs <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO					
Accomplishments/Planned Programs Subtotals	6.816	11.232	11.473	0.000	11.473
<u>C. Other Program Funding Summary (\$ in Millions)</u>					
N/A					
<u>D. Acquisition Strategy</u>					
The design objective of the Patriot system was to provide a baseline system capable of modification to cope with the evolving threat. This program minimizes technological risks and provides a means of enhancing system capability through planned upgrades of deployed systems. The Patriot Product Improvement program upgrades the Patriot system to address operational lessons learned, enhancements to joint force interoperability, and other system performance improvements to provide overmatch capability against the emerging threat. Upgrades are implemented through individual hardware and software materiel changes and fielded incrementally.					
<u>E. Performance Metrics</u>					
Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.					

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Army											DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 7: Operational Systems Development					R-1 ITEM NOMENCLATURE PE 0203801A: Missile/Air Defense Product Improvement Program					PROJECT 036: PATRIOT PROD IMP PGM				
Product Development (\$ in Millions)														
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Software Improvement for Threat Evolution	C/Various	Multiple Location could not be determined.	36.246	9.063		9.282		0.000		9.282	Continuing	Continuing	0	
Recapitalization	SS/CPIF	Multiple Location could not be determined.	97.601	0.000		0.000		0.000		0.000	Continuing	Continuing	0	
SIAP	SS/FP	Raytheon MA	14.852	0.000		0.000		0.000		0.000	Continuing	Continuing	0	
Advanced Composite Radome	SS/CPIF	Multiple Location could not be determined.	3.100	0.000		0.000		0.000		0.000	Continuing	Continuing	0	
Subtotal			151.799	9.063		9.282		0.000		9.282			0.000	
Remarks Sole Source-Cost Plus Incentive Fee (SS-CPIF); Sole Source-Fixed Price (SS-FP)														
Support (\$ in Millions)														
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
U.S. Contracts	C/FFP	IRTC Huntsville, AL	0.000	0.340		0.344		0.000		0.344	Continuing	Continuing	0	
Subtotal			0.000	0.340		0.344		0.000		0.344			0.000	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Army											DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0203801A: Missile/Air Defense Product Improvement Program				PROJECT 036: PATRIOT PROD IMP PGM					
Support (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Remarks Remarks: Competitive-Firm Fixed Price (C-FFP)													
Test and Evaluation (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
AMCOM	C	RSA AL	18.951	0.400		0.459		0.000		0.459	Continuing	Continuing	0
White Sands Missile Range	C	WSMR NM	14.547	0.270		0.229		0.000		0.229	Continuing	Continuing	0
RDEC and Other Govt Agencies	C	RSA AL	101.392	0.684		0.700		0.000		0.700	Continuing	Continuing	0
Subtotal			134.890	1.354		1.388		0.000		1.388			0.000
Remarks Military Interdepartmental Purchase Request (MIPR); Redstone Arsenal (RSA); Aviation and Missile Command (AMCOM); White Sands Missile Range (WSMR); Research and Development and Engineering Center													

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Army											DATE: February 2010		
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Management Services (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
In-House Support	C	RSA AL	18.141	0.125		0.115		0.000		0.115	Continuing	Continuing	0
Matrix Support	C	RSA AL	5.917	0.350		0.344		0.000		0.344	Continuing	Continuing	0
Subtotal			24.058	0.475		0.459		0.000		0.459			0.000
Remarks Non-Applicable (N/A); Redstone Arsenal (RSA)													
			Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			310.747	11.232		11.473		0.000		11.473			0.000
Remarks													

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Army

DATE: February 2010**APPROPRIATION/BUDGET ACTIVITY**

2040: Research, Development, Test & Evaluation, Army
BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE

PE 0203801A: *Missile/Air Defense Product Improvement Program*

PROJECT

036: PATRIOT PROD IMP PGM

	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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
PDB 6.5 Fielding						#																						
PDB 7 Fielding														#														
Radar Digital Processor Development												#	#	#	#	#	#	#	#	#	#	#	#					

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Army			DATE: February 2010	
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Schedule Details				
	Start		End	
Event	Quarter	Year	Quarter	Year
PDB 6.5 Fielding	2	2010	2	2010
PDB 7 Fielding	2	2012	2	2012
Radar Digital Processor Development	4	2011	3	2014

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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
DF8: DF8	11.434	8.398	3.133	0.000	3.133	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											
Note Classified Programs information provided on request.											
A. Mission Description and Budget Item Justification Mission Description and Budget Item Justification is not defined.											
B. Accomplishments/Planned Program (\$ in Millions)											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1 classified FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base FY 2011 OCO Plans: FY 2011 OCO							11.434	8.398	3.133	0.000	3.133
Accomplishments/Planned Programs Subtotals							11.434	8.398	3.133	0.000	3.133

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0203801A: <i>Missile/Air Defense Product Improvement Program</i>	PROJECT DF8: <i>DF8</i>
C. Other Program Funding Summary (\$ in Millions) N/A		
D. Acquisition Strategy N/A		
E. Performance Metrics Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.		

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army									DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0203801A: Missile/Air Defense Product Improvement Program				PROJECT DF9: DF9			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
DF9: DF9	15.939	19.438	9.674	0.000	9.674	10.593	10.556	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											
Note Classified program: Information provided on request.											
A. Mission Description and Budget Item Justification Mission Description and Budget Item Justification is not defined.											
B. Accomplishments/Planned Program (\$ in Millions)											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1 classified FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base FY 2011 OCO Plans: FY 2011 OCO							15.939	19.438	9.674	0.000	9.674
Accomplishments/Planned Programs Subtotals							15.939	19.438	9.674	0.000	9.674

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0203801A: <i>Missile/Air Defense Product Improvement Program</i>	PROJECT DF9: <i>DF9</i>
C. Other Program Funding Summary (\$ in Millions) N/A		
D. Acquisition Strategy N/A		
E. Performance Metrics Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.		

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