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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 0203802A: Other Missile Product Improvement Programs							
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	5.167	3.979	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	9.146
781: Hellfire UAV	1.479	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
78J: CLOSE COMBAT MSL MOD FAMILY OF MSLS (Javelin)	3.688	3.979	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
A. Mission Description and Budget Item Justification											
The Laser HELLFIRE II missile requires replacement of the gyro and software modification to facilitate deployment from high altitudes and increased engagement geometries to defeat a broad target set ranging from heavy armor to urban structures. The modifications will be made to both the current AGM-114K or AGM-114K-2(shaped charge) and N (blast fragmentation) model missiles and result in an AGM-114 P+ configuration. The Javelin multi-purpose warhead (MPWH) provides increased safety through insensitive munitions (IM) improvements and improved lethality in military operations for urban terrain (MOUT) and other irregular warfare soft targets while maintaining lethality against heavy armor. The warhead design will use an advanced shaped-charge technology improvement.											
B. Program Change Summary (\$ in Millions)											
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total						
Previous President's Budget	5.209	0.000	0.000	0.000	0.000						
Current President's Budget	5.167	3.979	0.000	0.000	0.000						
Total Adjustments	-0.042	3.979	0.000	0.000	0.000						
• Congressional General Reductions		-0.021									
• Congressional Directed Reductions		0.000									
• Congressional Rescissions	0.000	0.000									
• Congressional Adds		4.000									
• Congressional Directed Transfers		0.000									
• Reprogrammings	0.000	0.000									
• SBIR/STTR Transfer	-0.042	0.000									
Change Summary Explanation											
FY 2010 Congressional increase of \$4.000 million for the Javelin Warhead Improvement Program.											

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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 0203802A: <i>Other Missile Product Improvement Programs</i>				PROJECT 781: <i>Hellfire UAV</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
781: <i>Hellfire UAV</i>	1.479	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											
A. Mission Description and Budget Item Justification <p>The Laser HELLFIRE II missile requires replacement of the gyro and software modification to facilitate deployment from high altitudes and increased engagement geometries to defeat a broad target set ranging from heavy armor to urban structures. The missile will also be backwards compatible with current rotary wing platforms. The summary activities of the project are: a) replace the missile altitude gyro with an Inertial Measurement Unit (IMU), b) develop a modified digital communication link between the missile and the launcher/ platform required to perform Unmanned Aircraft Systems (UAS) functions, c) modify autopilot algorithms and associated software to take advantage of the enhanced engagement envelope offered by the IMU, and d) fully develop, test, and qualify the hardware and software for materiel release for Army fixed and rotary wing platforms. Modifications will be made to both the current AGM-114K or AGM-114K-2 (shaped charge) and N (blast fragmentation) model missiles and result in an AGM-114 P+ configuration. These missiles will be designated the P-4A (shaped charge warhead, with sleeve) and N-4 (metal augmenting charge warhead) configurations.</p>											
B. Accomplishments/Planned Program (\$ in Millions)											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1							0.113	0.000	0.000	0.000	0.000
Define and develop system requirements and preliminary design.											
<i>FY 2009 Accomplishments:</i>											
FY 2009											
<i>FY 2010 Plans:</i>											
FY 2010											
<i>FY 2011 Base Plans:</i>											
FY 2011 Base											

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2011 OCO Plans: FY 2011 OCO						
Program #2 Develop test plans, test support equipment and testing. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base FY 2011 OCO Plans: FY 2011 OCO		1.128	0.000	0.000	0.000	0.000
Program #3 Perform government engineering support FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010		0.238	0.000	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #4 Small Business Innovative Research/Small Business Technology Transfer Programs (SBIR/STTR) <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		0.000	0.000	0.000	0.000	0.000
Accomplishments/Planned Programs Subtotals		1.479	0.000	0.000	0.000	0.000

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C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• Ord. #1: C70100 Laser HELLFIRE Missile (Basic/IHW/HFII)	253.124	227.101	31.881	190.460	222.341	0.000	0.000	90.208	87.442	0	880.216
D. Acquisition Strategy											
The HELLFIRE AGM-114 P+ configuration is an in-house development effort that "leverages" previous experience associated with integration of HELLFIRE on the Air Force Predator Unmanned Aerial Vehicle (UAV) and the current Warrior System Design and Development effort (reviews, testing, and documentation). The end result of the missile modification/integration effort will be an Engineering Change Proposal (ECP) defining the hardware and software changes to be incorporated into production of the missiles for the Warrior UAS and rotary wing platforms.											
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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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
78J: <i>CLOSE COMBAT MSL MOD FAMILY OF MSLS (Javelin)</i>	3.688	3.979	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											
A. Mission Description and Budget Item Justification The Javelin multi-purpose warhead (MPWH) provides increased safety through insensitive munitions (IM) improvements and improved lethality in military operations for urban terrain (MOUT) and other irregular warfare soft targets while maintaining lethality against heavy armor. The warhead design will use an advanced shaped-charge technology improvement. A Congressional mark directed the modernization of the Javelin missile.											
B. Accomplishments/Planned Program (\$ in Millions)											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1 Prototypes of MPWH designs have been fabricated in order to optimize fragmentation-penetration effects versus weight constraints to support accelerated design verification testing (DVT). Funds have been put on contract to initiate MPWH performance requirements definition, identify viable warhead manufacturers, document the MPWH mid-body housing design, and to develop a MPWH program plan. The FY10 funds will procure hardware and begin DVT. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base							3.688	3.979	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)											
						FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	
<i>FY 2011 OCO Plans:</i> FY 2011 OCO											
Program #2 Small Business Innovative Research/Small Business Technology Transfer Programs (SBIR/STTR)						0.000	0.000	0.000	0.000	0.000	
<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						3.688	3.979	0.000	0.000	0.000	
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• Ord. #1: CC0007 Javelin (AAWS-M)	367.888	258.553	163.929	0.000	163.929	136.082	108.876	114.718	120.846	0	1,270.892
D. Acquisition Strategy											
The Javelin warhead development effort leverages state of the art warhead design technology to develop a multi-purpose warhead. After all required qualification testing is completed, the Close Combat Weapons Systems (CCWS) Project Office will pursue cutting the MPWH into the Javelin Block I missile production line.											

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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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