

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

May 2009

BUDGET ACTIVITY <b>7 - Operational system development</b>		PE NUMBER AND TITLE <b>0203802A - Other Missile Product Improvement Programs</b>			
COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	1832	5209			7041
781 Hellfire UAV	1832	1522			3354
78J CLOSE COMBAT MSL MOD FAMILY OF MSLS (Javelin)		3687			3687

**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.

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BUDGET ACTIVITY <b>7 - Operational system development</b>	PE NUMBER AND TITLE <b>0203802A - Other Missile Product Improvement Programs</b>		
<b><u>B. Program Change Summary</u></b>	FY 2008	FY 2009	FY 2010
Previous President's Budget (FY 2009)	1885	1527	
Current BES/President's Budget (FY 2010)	1832	5209	
Total Adjustments	-53	3682	
Congressional Program Reductions			
Congressional Rescissions			
Congressional Increases		3682	
Reprogrammings			
SBIR/STTR Transfer	-53		
Adjustments to Budget Years			

FY09 Congressional increase of \$3,682 million for Javelin multi-purpose warhead.

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

**May 2009**

<b>BUDGET ACTIVITY</b> <b>7 - Operational system development</b>	<b>PE NUMBER AND TITLE</b> <b>0203802A - Other Missile Product Improvement Programs</b>			<b>PROJECT</b> <b>781</b>	
COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	Cost to Complete	Total Cost
781 Hellfire UAV	1832	1522			3354

**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 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.

<b><u>Accomplishments/Planned Program:</u></b>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
Define and develop system requirements and preliminary design.	224	113	
Develop test plans, test support equipment and testing.	1357	1128	
Perform government engineering support	251	238	
Small Business Innovative Research/Small Business Technology Transfer Programs (SBIR/STTR)		43	
<b>Total</b>	<b>1832</b>	<b>1522</b>	

<b><u>B. Other Program Funding Summary</u></b>	FY 2008	FY 2009	FY 2010	To Compl	Total Cost
C70100 Laser HELLFIRE Missile (Basic/IHW/HFII)	252588	274124	250854		777566

Comment:

**C. 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.

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

**May 2009**

<b>BUDGET ACTIVITY</b> <b>7 - Operational system development</b>		<b>PE NUMBER AND TITLE</b> <b>0203802A - Other Missile Product Improvement Programs</b>			<b>PROJECT</b> <b>78J</b>
COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	Cost to Complete	Total Cost
78J CLOSE COMBAT MSL MOD FAMILY OF MSLS (Javelin)		3687			3687

**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><u>Accomplishments/Planned Program:</u></b>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
One prototype for each of two leading MPWH designs has been fabricated in order to optimize blast-penetration effects versus weight constraints to support accelerated design verification testing. Funds have been put on contract to start missile midbody design to accommodate the warhead, study design and manufacturing capability of other vendors, and to plan qualification testing.		3584	
Small Business Innovative Research/Small Business Technology Transfer Programs (SBIR/STTR)		103	
<b>Total</b>		<b>3687</b>	

<b><u>B. Other Program Funding Summary</u></b>	FY 2008	FY 2009	FY 2010	To Compl	Total Cost
CC0007 Javelin (AAWS-M)	278475	377888	289628		945991

Comment:

**C. 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 Support (CCWS) Project Office will pursue cutting the MPWH into the Javelin Block I missile production line.