Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army										DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 2: *Applied Research*				R-1 ITEM NOMENCLATURE PE 0602303A: *MISSILE TECHNOLOGY*							
COST ($ in Millions)	**FY 2010**	**FY 2011**	**FY 2012 Base**	**FY 2012 OCO**	**FY 2012 Total**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**Cost To Complete**	**Total Cost**
Total Program Element	69.871	49.525	50.685	-	50.685	50.822	45.862	51.481	41.706	Continuing	Continuing
214: *MISSILE TECHNOLOGY*	49.398	49.525	50.685	-	50.685	50.822	45.862	51.481	41.706	Continuing	Continuing
223: *AERO-PROPULSION TECHNOLOGY*	7.560	-	-	-	-	-	-	-	-	Continuing	Continuing
G04: *AIR DEFENSE TECHNOLOGIES (CA)*	10.427	-	-	-	-	-	-	-	-	Continuing	Continuing
G05: *MISSILE TECHNOLOGY INITIATIVES (CA)*	2.486	-	-	-	-	-	-	-	-	Continuing	Continuing

Note

FY12 funding increase to support higher priority efforts.

A. Mission Description and Budget Item Justification

This program element (PE) designs, fabricates and evaluates advanced component technologies for tactical missiles, rockets, guided munitions, and their launch systems in order to increase lethality, precision, and effectiveness under adverse battlefield conditions while reducing system cost, size and weight. Major goals in Project 214 include enhancing the survivability of the munition, launch and fire control systems, and forward operating bases; increasing kill probabilities against diverse targets; and providing advanced simulation and virtual prototyping analysis tools. Projects 223, G04, and G05 fund congressional special interest items.

The work in this PE is complimentary to PE 0603313A (Missile and Rocket Advanced Technology), and fully coordinated with PE 0602624A (Weapons and Munitions Technology), PE 0603004A (Weapons and Munitions Advanced Technology), PE 0602618A (Ballistics Technology, Robotics Technology), PE 0602307A (Advanced Weapons Technology), and PE 0708045A (End Item Industrial Preparedness Activities).

The cited work is consistent with the Director, Defense Research and Engineering Strategic Plan, the Army Modernization Strategy, and the Army Science and Technology Master Plan.

The work in this PE is performed by the Aviation and Missile Research, Development, and Engineering Center (AMRDEC), Huntsville, AL.

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 2: *Applied Research*	R-1 ITEM NOMENCLATURE PE 0602303A: *MISSILE TECHNOLOGY*	

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	70.924	49.525	45.426	-	45.426
Current President's Budget	69.871	49.525	50.685	-	50.685
Total Adjustments	-1.053	-	5.259	-	5.259
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.053	-			
• Adjustments to Budget Years	-	-	5.259	-	5.259

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 2: *Applied Research*	R-1 ITEM NOMENCLATURE PE 0602303A: *MISSILE TECHNOLOGY*	PROJECT 214: *MISSILE TECHNOLOGY*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
214: *MISSILE TECHNOLOGY*	49.398	49.525	50.685	-	50.685	50.822	45.862	51.481	41.706	Continuing	Continuing

A. Mission Description and Budget Item Justification

This project designs, fabricates, and evaluates missile and rocket component technologies that support demonstration of affordable, lightweight, highly lethal missiles and rockets. Major areas of research include missile guidance components and subsystems; target acquisition systems; multi-spectral seekers; high-fidelity simulations; missile aerodynamics and structures; missile launch and fire control technologies; and missile propulsion including research to help solve the insensitive munitions requirements. A theme embedded throughout the efforts in this project is smaller, lighter, and cheaper (SLC) missile technology to reduce the cost and logistics burden of precision munitions. Major products of this PE transition to PE 0603313A (Missile and Rocket Advanced Technology).

The cited work is consistent with the Director, Defense Research and Engineering Strategic Plan, the Army Modernization Strategy, and the Army Science and Technology Master Plan.

Work in this project is performed by the Aviation and Missile Research, Development, and Engineering Center (AMRDEC), Huntsville, AL.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
Title: Embedded Deeply Integrated Guidance & Navigation Unit (eDIGNU)	7.296	-	-
Description: This effort built on previous High-G (gravitational force) micro-electromechanical systems (MEMS) Inertial Measurement Unit (IMU) and DIGNU research. The Embedded DIGNU incorporated the following: a next generation Selective Availability Anti-Spoofing Module (SAASM); enhanced anti-jam (A/J) capability; full system-on-a-chip technology for processor and memory to reduce DIGNU size; more robust deep integration algorithms; and improved inertial performance. This task was conducted in two phases in order to enable the first generation technology to be evaluated while the second generation design was matured. ***FY 2010 Accomplishments:*** Completed evaluation of the first generation inertial sensor assembly design and integrated with the eDIGNU to verify requirements were met. Evaluated IMU deliverables that included new gyro and accelerometer sensors, electronics, and packaging improvements. Evaluated the eDIGNU second generation deliverables that included a full system-on-a-chip module; increased A/J capability; updated software for the new inertial sensor assembly; and implemented algorithm improvements.			
Title: Smaller, Lighter, Cheaper Tactical Missile Technologies	7.720	8.548	12.764

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 2: *Applied Research*	R-1 ITEM NOMENCLATURE PE 0602303A: *MISSILE TECHNOLOGY*	PROJECT 214: *MISSILE TECHNOLOGY*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
Description: This effort designs and evaluates innovative smaller, lighter, and cheaper component technologies as well as system concepts to reduce precision missile cost per kill and/or logistics burden to meet urban and emerging threats. These technologies transition to PE 0603313A for maturation. ***FY 2010 Accomplishments:*** Designed nano/advanced composite mounting brackets to reduce missile component weight; conducted requirements definition and trade studies for a small height of burst sensor (HOBS) design that provides lethality against soft targets; continued miniaturized electronics packaging design for small lightweight missiles; evaluated common Electronic Safe and Arm Device (ESAD) architecture for small lightweight precision munitions; and completed initial designs and evaluation of a high performance insensitive munition compliant motor. ***FY 2011 Plans:*** Design, fabricate, and evaluate sample composite mounting brackets with integrated electrical conductivity to increase strength and reduce weight; tailor common ESAD design for upgrades to Tube-launched, Optically-tracked, Wire-guided (TOW) and Javelin missiles; complete small ESAD design, fabrication and component evaluation; design and evaluate candidate small HOBS and single chip inertial sensor designs for small precision munitions. ***FY 2012 Plans:*** Will perform trade studies and begin initial critical component design for a small, light, low power navigation-grade sensor package that can detect and maintain track of the direction north; will conduct initial packaging of single chip inertial sensor module; will conduct trade studies for small, low cost components for precision munitions; will design component technologies for the next generation of precision weapon systems including: 1) reduced cost, advanced light weight materials; 2) reduced cost, advanced seeker technologies for increased detection range; 3) lethality technologies for performance against increased target sets; and 4) advanced propulsion and controls technology for multiple mission capabilities.			
Title: Target Classification Sensors, Advanced Fuzing Technology and Warhead Integration ***Description:*** This effort designs and demonstrates a low cost inertial sensor capable of identifying the target material class (e.g., heavy armor, light armor, bunker) on impact, and advanced fuzing technology to use target classification sensor data for optimizing the warhead effectiveness based on target class. The determination of the different target classifications will be derived from the collaborative Multi-Mode, Multi-Effect warhead effort designed in PE 0602624A Weapons and Munitions Technology. ***FY 2010 Accomplishments:*** Completed design and fabrication of the second generation target classifying sensor and integrated with miniaturized electronics. Evaluated the inertial sensors ability to identify three different target material classes (heavy armor, light armor, and sand). Began preliminary design and fabrication of the third generation sensor with a goal to identify six different target classes. Designed an	5.250	3.815	-

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 2: *Applied Research*	R-1 ITEM NOMENCLATURE PE 0602303A: *MISSILE TECHNOLOGY*	PROJECT 214: *MISSILE TECHNOLOGY*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
integrated fuze and bench evaluation equipment for sensor demonstration against target materials; conducted a preliminary fuze-level safety evaluation in preparation for warhead integration demonstrations; performed static evaluations of the fuze with warheads to assess performance; and performed inert demonstrations using a rocket to propel the sensor down a rope to demonstrate sensor function against target materials. ***FY 2011 Plans:*** Determine the ability of the third generation target classification sensor to identify the six target classes defined in collaboration with the Armaments Research, Development, and Engineering Center (ARDEC). Integrate the improved third generation target classification sensor with miniaturized electronics to reduce the sensor footprint in a hardened package that can operate in real-time. Integrate sensor with advanced fuzing technology and demonstrate in the lab with explosively driven reverse ballistic hardware and/or an air gun to impact the sensor with target materials.			
Title: Missile Guidance Systems and Seeker Technology ***Description:*** This effort focuses on the design and evaluation of missile seekers and sensors; guidance, navigation, and control technologies including software; and information and signal processing. Beginning in FY11, these efforts are captured in the Missile Seeker Technology and Missile Guidance and Controls Technologies tasks. ***FY 2010 Accomplishments:*** Initiated the design of infrared and millimeter wave radar target acquisition as well as tracking data fusion algorithms that combine imagery and image feature data. Completed the synthetic aperture radar design and began evaluation; and designed the Image Gyro system, which designs an independent navigation solution using camera imagery and terrain databases to provide geo-location data when Global Positioning System navigation data is not available.	11.466	-	-
Title: Missile Seeker Technology ***Description:*** This effort focuses on the design and maturation of missile seekers, sensors, and software. ***FY 2011 Plans:*** Design and evaluate affordable phased array and next-generation imaging seeker components to enable affordable all-weather missile fire control sensors, tactical seekers, and data links; mature technologies to monitor missile system health to extend missile shelf-life; and validate low cost synthetic aperture radar (SAR) seeker evaluation results. ***FY 2012 Plans:*** Will begin to address thermal issues for affordable phased array seeker technologies; will continue optimization of phased array seeker operating power levels; will begin integration of affordable phased array technologies to demonstrate a seeker array with appropriate power levels and in a form factor for missile applications; will continue design of the next-generation imaging seeker	-	9.952	9.153

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 2: *Applied Research*	R-1 ITEM NOMENCLATURE PE 0602303A: *MISSILE TECHNOLOGY*	PROJECT 214: *MISSILE TECHNOLOGY*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
components including technologies for thermal loading reduction to minimize cool-down time and significantly reduce the cost of infrared seekers; will evaluate missile system health monitor performance in a relevant environment; will design reconfigurable SAR evaluation test-bed for demonstration of tactical missile applications.			
Title: Missile Guidance and Controls Technologies ***Description:*** This effort designs and develops guidance, navigation, and control systems including software, as well as information and signal processing systems for rocket and missile applications. ***FY 2011 Plans:*** Design image gyro system using camera imagery and terrain databases to provide a navigation solution when data is not available from the global positioning system; develop miniaturized guidance electronics; simulate imagery and image feature data combination for infrared and millimeter wave multi-mode seeker algorithm development; and complete evaluation of inertial navigation systems developed under the Enhanced Deeply Integrated Guidance and Navigation Unit effort in this Project. ***FY 2012 Plans:*** Will integrate image gyro system hardware and software for captive flight demonstration; will complete laboratory and limited environmental evaluation of a one-piece, integrated optical data pipe module; will design enhanced miniaturized image stabilization hardware module for transition to the Small Organic Precision Munition effort in PE 0603313 Project 263; will investigate technologies for increased accuracy and precision of acceleration measurements for navigation in a Global Positioning System denied environment; and will complete data combination for infrared and millimeter wave multi-mode seeker algorithm development.	-	6.961	7.428
Title: High Fidelity System Level Simulations and Missile Health Monitoring ***Description:*** This effort designs advanced simulation and aerodynamics tools to increase missile performance and reduce size, weight, and cost in missile systems; and designs advanced health monitoring technologies to increase missile reliability. ***FY 2010 Accomplishments:*** Transitioned initial solar infrared simulator components to PE 0603313A, Missile Simulation Technology, for system level development; continued extension of aerodynamic prediction codes and initiated an effort to design improved methods for missile subsonic airfoil design and characterization. ***FY 2011 Plans:*** Continue improving methods for subsonic airfoil design and characterization as well as complete updates to aerodynamic prediction codes; collect wind tunnel data on multiple airframe designs to validate and improve aerodynamic prediction models	1.917	2.933	3.059

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 2: *Applied Research*	R-1 ITEM NOMENCLATURE PE 0602303A: *MISSILE TECHNOLOGY*	PROJECT 214: *MISSILE TECHNOLOGY*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
and techniques; design advanced simulation technologies to enable missile component trade studies, and design technologies to enable more reliable micro-electromechanical missile components. ***FY 2012 Plans:*** Will design aerodynamic prediction codes for hypersonic flight, dynamic damping derivatives prediction methods, airfoil section enhancements, and inlet aerodynamics; will design integrated baseline system engineering tool for system-level simulations linking missile component models to system capability; will design and evaluate health monitoring technologies for current and future missile systems.			
Title: Smart, Stealthy, and Smokeless Missile Propulsion, Smart Structures and Enhanced Lethality ***Description:*** This effort designs enabling technologies to advance missile propulsion including reduced launch signatures, increased lethality, and improved structural integrity of light weight missile cases. Advanced minimum smoke propellants that meet insensitive munition requirements have degraded performance, thus there is a need to regain this performance for increased ranges and decreased time-to-target. ***FY 2010 Accomplishments:*** Demonstrated and validated missile control thruster analysis tools and design concepts for small diameter applications; fabricated multi-point initiation warheads; and conducted evaluation to determine the energy deposition effect of the warhead. ***FY 2011 Plans:*** Perform a flight demonstration of a variable yield warhead against a representative concrete target and transition to Guided Multiple Launch Rocket System; investigate feasibility of using existing and new propellant ingredients in missile and rocket propulsion to regain performance while maintaining insensitive munitions compliance. ***FY 2012 Plans:*** Will demonstrate high performance propellants; will perform signature evaluations of current Army ignition materials as a baseline for the signature metrics; and will develop, screen for sensitivity, and characterize candidate ignition materials.	5.546	4.965	4.201
Title: Defense against Rockets, Artillery and Mortars (RAM) - Interceptor Development ***Description:*** This effort designs and develops enabling missile component technologies to transition to the Defense against RAM effort in PE 0603313A. ***FY 2010 Accomplishments:***	2.916	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 2: *Applied Research*	R-1 ITEM NOMENCLATURE PE 0602303A: *MISSILE TECHNOLOGY*	PROJECT 214: *MISSILE TECHNOLOGY*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
Completed bench level evaluation and integration of component technologies; performed Hardware-in-the-Loop evaluation; developed and integrated flight guidance and control software into RAM interceptor in support of planned live fire demonstrations under PE 0603313A.			
Title: Multi-Role Missile Component Design ***Description:*** This effort focuses on critical technology and component design for future affordable aviation and precision fires that provide overwhelming defeat of conventional and asymmetrical threats in all environments. Successful technologies are matured and demonstrated in PE 603313A Project 263. ***FY 2010 Accomplishments:*** Investigated, designed, and evaluated component technologies to 1) enable miniaturization/packaging of sensors, guidance packages, and electronics; 2) designed more efficient, advanced propulsion; and 3) explored advanced warhead integration for lethal effects and non-lethal payload options; performed high-fidelity modeling and simulation to support trade-studies, requirements definition, and performance evaluations of the specific technologies and components as they apply to various tactical missions. ***FY 2011 Plans:*** Refine, fabricate, and evaluate components and subsystems including: 1) miniaturization/packaging of sensors, guidance, and electronics; 2) more efficient, advanced propulsion; 3) warhead integration and lethal effects including non-lethal payload options; perform trade studies to determine the component technologies to support improved precision fire engagements. ***FY 2012 Plans:*** Will continue to evaluate components and subsystem technologies including 1) miniaturized and reduced cost guidance electronics, seekers, and sensors; 2) more efficient and insensitive munitions compliant propulsion systems for small guided munitions; 3) warhead integration for effects against diverse targets; and 4) fire control using hardware-in-the-loop evaluation, live-fire evaluation, and, appropriate test-beds to determine component and subsystem performance as well as suitability to various missions; will continue trade studies to optimize component, subsystem, and system design.	7.287	9.533	9.854
Title: Swarming Missile Technology ***Description:*** This effort evaluates advanced sensors, guidance, control, and fire control components for employing low-cost swarming missile concepts against individual as well as large arrays of air and ground targets. ***FY 2011 Plans:***	-	1.710	2.918

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 2: *Applied Research*	R-1 ITEM NOMENCLATURE PE 0602303A: *MISSILE TECHNOLOGY*	PROJECT 214: *MISSILE TECHNOLOGY*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
Define swarming missile mission concepts to derive and define key performance parameters for these missions; identify key component technologies for design and demonstration. ***FY 2012 Plans:*** Will finalize key component technology identification based on trade studies performed; will begin key component technology design; will begin guidance and control algorithm design to support attack of large arrays of targets; will evaluate options for low cost advanced sensor design for tracking of large arrays of targets.			
Title: Structural Electronics ***Description:*** This effort investigates innovative processes to embed electrical connections into the missile case structure for use in smaller missile designs. ***FY 2011 Plans:*** Investigate mechanical and electrical properties of emerging approaches to embed electrical connections in curved forms regarding their applicability to missile structure and component design. ***FY 2012 Plans:*** Will fabricate and evaluate sample missile electronics subsystems based on prior year results, will evaluate suitability for missile system application; and will document design guidelines based on results.	-	1.108	1.308
Accomplishments/Planned Programs Subtotals	49.398	49.525	50.685

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.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 2: *Applied Research*	R-1 ITEM NOMENCLATURE PE 0602303A: *MISSILE TECHNOLOGY*	PROJECT 223: *AERO-PROPULSION TECHNOLOGY*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
223: *AERO-PROPULSION TECHNOLOGY*	7.560	-	-	-	-	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

Congressional Interest Item funding provided for Aero-Propulsion Technology.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
Title: Mariah II Hypersonic Wind Tunnel Development Program	7.560	-	-
Description: This is a Congressional Interest Item.			
FY 2010 Accomplishments: Supported component technology development to enable a hypersonic wind tunnel capable of a full 60 seconds of operation at fully duplicated flight conditions.			
Accomplishments/Planned Programs Subtotals	7.560	-	-

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.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 2: *Applied Research*	R-1 ITEM NOMENCLATURE PE 0602303A: *MISSILE TECHNOLOGY*	PROJECT G04: *AIR DEFENSE TECHNOLOGIES (CA)*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
G04: *AIR DEFENSE TECHNOLOGIES (CA)*	10.427	-	-	-	-	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

Congressional Interest Item funding provided for Air Defense Technologies.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
Title: D-NET: Electrically Charged Mesh (ECM) Defense Net Troop Protection System ***Description:*** This is a Congressional Interest Item. ***FY 2010 Accomplishments:*** Supported development of a helicopter active protection system concept consisting of a lauchable net to intercept incoming threats and defeat via mechanical and/or electrical discharge.	5.971	-	-
Title: Portable Sensor for Toxic Gas Detection ***Description:*** This is a Congressional Interest Item. ***FY 2010 Accomplishments:*** Improved the repeatability and sensitivity of microsensors utilized for chemical detection.	2.069	-	-
Title: Swarms Defense System ***Description:*** This is a Congressional Interest Item. ***FY 2010 Accomplishments:*** Develops and explores advanced sensor, guidance and control, and C2 concepts/technologies for employing missile swarms against individual and/or large arrays of air and ground targets.	2.387	-	-
Accomplishments/Planned Programs Subtotals	10.427	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 2: *Applied Research*	R-1 ITEM NOMENCLATURE PE 0602303A: *MISSILE TECHNOLOGY*	PROJECT G04: *AIR DEFENSE TECHNOLOGIES (CA)*

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.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 2: *Applied Research*	R-1 ITEM NOMENCLATURE PE 0602303A: *MISSILE TECHNOLOGY*	PROJECT G05: *MISSILE TECHNOLOGY INITIATIVES (CA)*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
G05: *MISSILE TECHNOLOGY INITIATIVES (CA)*	2.486	-	-	-	-	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

Congressional Interest Item funding provided for Missile Technologies Initiatives applied research.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
Title: Novel Lightweight Armor Material for Insensitive Munitions Protection of Tactical Missiles	2.486	-	-
Description: This is a Congressional Interest Item.			
FY 2010 Accomplishments: Developed lightweight, low-cost endothermic armor with applicability to launchers/canisters.			
Accomplishments/Planned Programs Subtotals	2.486	-	-

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.