ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE
3 - Advanced technology development	**0603004A - Weapons and Munitions Advanced Technology**

	COST (In Thousands)	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate
	Total Program Element (PE) Cost	84538	101841	74717	68495	78004	79575	86035
232	ADVANCED MUNITIONS DEM	48481	46628	46665	35555	36964	37163	36744
43A	ADV WEAPONRY TECH DEMO	16855	27995	47	48	49	50	52
L94	ELECTRIC GUN SYS DEMO	19202	18347	13570	13345	15758	17487	22595
L96	HIGH ENERGY LASER TECHNOLOGY DEMO	0	7885	13402	18513	24198	23840	25609
L97	SMOKE AND OBSCURANTS ADVANCED TECHNOLOGY	0	986	1033	1034	1035	1035	1035

A. Mission Description and Budget Item Justification: This Program Element (PE) matures and demonstrates advanced weapons and munitions technologies to increase battlefield lethality and survivability for the Future Combat System (FCS), the Future Force and, where possible, the Current Force. The goal of this program is to provide the warfighter with weapons and munitions that provide equivalent or greater lethality (or other desired effects) at greater ranges, with greater precision, in lighter weight systems and at affordable costs when compared to current weapon systems. Project 232 funds munitions maturation efforts including the FCS 120mm Line-of-Sight (LOS)/Beyond Line-of-Sight (BLOS) System Advanced Technology Demonstration (ATD), which completed in FY05 and successfully demonstrated the guided BLOS Mid Range Munition (MRM) for use in FCS Mounted Combat System (MCS). Project 232 also funds MCS and Abrams Ammunition System Technologies (MAAST), which provides enhanced capabilities beyond the baseline LOS/BLOS armament and munition suite and further matures MRM to add an objective dual-mode hardened seeker for autonomous and designated engagement modes; Objective Non Line-of-Sight (NLOS) Mortar Technology, which demonstrates a 120mm breech loaded, recoiling mortar for the FCS NLOS-Mortar System; Common Smart Submunition, which matures and demonstrates component technologies for a next generation precision kill and target-discriminating submunition that can be used in a variety of delivery systems; Fuze and Power for Advanced Munitions, which integrates enabling fuze technologies such as Micro-Electro-Mechanical Systems (MEMS), proximity sensors, Electronic Safe & Arm Devices (ESADs) and hybrid power systems in end item munitions for demonstration purposes; and Non-Lethal Payloads for Personnel Suppression, which designs and demonstrates the munitions to suppress activity or deny access to designated areas using non-lethal means. Project 43A funds Congressional special interest items. Project L94 matures enabling technologies for an Electromagnetic (EM) Gun armament system that will lead to demonstrations of the key sub-systems in FY06. Based on successful completion of the component technologies, the Army will initiate an effort in FY07 for the design, fabrication and test of a full-scale, medium caliber EM armament demonstrator with robust LOS capability. EM Gun has the potential to revolutionize the future battlefield with its unique performance characteristics, including hypervelocity lethality effects and greatly reduced logistics burden. Starting in FY06, project L96 matures and demonstrates technologies that comprise a high energy, solid-state laser weapon. Beginning in FY06, a new Project L97 was established with funds reprogrammed from PE 0602622A to mature and demonstrate smoke and obscurant technologies with potential to enhance personnel and platform survivability. Work in Projects 232 and L94 is related to, and fully coordinated with, efforts in PE 0602624A (Weapons and Munitions Technology), PE 0602618A (Ballistics Technology). Work in Project L96 is related to, and fully coordinated with, efforts in PE 0603005A/441 (Pulse Power for FCS)and PE 0602307/042 (High Energy Laser Technology). Work in this PE associated with project L97 is related to and fully coordinated with, efforts in PE 0602622A/A552 (Smoke/Novel Obscurant Munitions). Work in this PE is performed by the US Army Armament Research, Development and Engineering Center (ARDEC), Picatinny, NJ, the Army Research Laboratory (ARL), Edgewood Chemical and Biological Center, Aberdeen Proving Ground, MD, and Space and Missile Defense Technology Center, Huntsville, AL. The cited work is consistent with Strategic Planning Guidance, the Army Science and Technology Master Plan (ASTMP), the Army Modernization Plan and the Defense Technology Area Plan.

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B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	83337	74927	80632
Current BES/President's Budget (FY 2007)	84538	101841	74717
Total Adjustments	1201	26914	-5915
Congressional Program Reductions		-447	
Congressional Rescissions		-1039	
Congressional Increases		28400	
Reprogrammings	1201		
SBIR/STTR Transfer			
Adjustments to Budget Years			-5915

Seventeen FY06 Congressional adds totaling $28400 were added to this PE.

FY06 Congressional adds with no R-2A (appropriated amount is shown):
($1000) Advanced Technology Center
($1000) Advanced Technology for Fabrication at Remote Sites
($2000) Armament and RangeSafe Technology
($1000) Armament Titanium Casting Advancement Program
($2100) Demonstration of Corrosion Control Tool Kits for Effective Corrosion Removal and Surface Preparation
($2800) Disruptive Technology Acceleration
($1000) Electromagnetic Gun Technology Maturation and Demonstration Program
($1000) Joint Manufacturing Technology Center
($2800) Manufacturing of Precision Molded Aspheric Optics
($1000) Mid-Range Munition (MRM-KE) Project 232
($2000) Miniaturized RAMAN Chemical Indentification System
($2100) Munitions Public Private Partnering
($1500) Nanotechnology Manufacturing Research
($500) National Nano Manufacturing Center (NNMC)
($2800) Rapid Insertion of Development Technology
($2800) Rapid Prototyping for Special Projects
($1000) Storage and Quality Requirements to Military MEMS

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February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
3 - Advanced technology development	**0603004A - Weapons and Munitions Advanced Technology**	**232**

COST (In Thousands)	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate
232 ADVANCED MUNITIONS DEM	48481	46628	46665	35555	36964	37163	36744

A. Mission Description and Budget Item Justification: This project matures and demonstrates munitions enhancements and emerging technologies in lightweight structures, smart materials, acoustic/seismic sensors and in-flight update architectures that will enable equivalent or greater lethality (or other desired effects) at greater ranges, with greater precision, in lighter weight systems and at affordable costs when compared to current weapon systems. A major effort in this project is the Future Combat System (FCS) 120mm Line of Sight/Beyond Line of Sight (LOS/BLOS) System Advanced Technology Demonstration (ATD), which completed in FY05 with a demonstration of BLOS Mid Range Munition (MRM) with a hardened single mode seeker and a design for a hardened dual mode seeker adaptation. MRM is a gun launched precision munition for MCS capable of defeating high-value heavy armor and other targets out to 12km. In FY06 further maturation and demonstration of hardened dual mode seeker technology for MRM is conducted under the MCS and Abrams Ammunition System Technologies (MAAST) effort. The MAAST effort also matures technologies to enhance the capabilities of the FCS armament system and munition suite for FCS spiral insertion or MCS upgrade and the M1A2, including a Low Cost Precision (LCP) effort that matures and demonstrates components and subsystems for command-guided projectiles that will contribute to the development of low-cost precision munitions. This project also funds Objective Non Line-of-Sight Mortar (NLOS-M) Technology, which provides a 120mm breech-loaded mortar with a design optimized for lighter weight and thermal balance; Lightweight Dismounted Mortar Weapon, which is a man-transportable 81mm mortar fabricated from lightweight advanced materials and structures; Common Smart Submunition (CSS), which pursues critical subsystem evaluations leading to system demonstrations of a submunition that offers increased operational efficiency through multiple kills per munition, affords greater flexibility for carrier applications, and enables use of a variety of delivery systems; Non-Lethal Payloads for Personnel Suppression, which enables personnel suppression and area denial at BLOS ranges; Robotic and Network Technologies, which addresses various aspects of making armaments and munitions part of the networked battlespace; and Kinetic Energy Active Protection System (KEAPS), which develops munitions and countermeasures for Active Protection Systems (APS) to enhance survivability for lightly armored, or very lightweight vehicles. Other efforts in this project include: Fuze and Power for Advanced Munitions, which matures technologies that reduce munition sizes and add tailorable effects to advanced munitions, and also improves advanced on-board munition power systems with increased power densities, increased mission time, improved temperature performance and reduced volume and weight; Countermine/IED Neutralization which exploits Laser Induced Plasma Channel (LIPC) to defeat Improvised Explosive Devices (IEDs) and mines; and Extended Area Protection & Survivability, which demonstrates the use of command-guided medium caliber projectiles for the interception and destruction of incoming rockets, artillery, and mortar rounds. The cited work is consistent with the Strategic Planning Guidance, the Army Science and Technology Master Plan (ASTMP), the Army Modernization Plan and the Defense Technology Area Plan (DTAP). This work is performed by the US Army Armament Research, Development and Engineering Center (ARDEC), Picatinny, NJ, in cooperation with the Army Research Laboratory (ARL), Aberdeen Proving Ground, MD, and Tank, Automotive Research, Development and Engineering Center (TARDEC), Detroit, MI.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
FCS 120mm LOS/BLOS System : In FY05, completed design of integrated dual-mode seeker for MRM; conducted multi-mode software development (target acquisition, seeker hand-off, target tracking); performed software-in-the-loop and processor-in-the-loop performance testing; fabricated components and assemblies and conducted high-g survivability tests; and fabricated prototype integrated dual-mode seekers and conducted seeker performance Tower and Captive Flight Tests. Further maturation and demonstration of MRM is conducted under the MAAST program.	16700	0	0
MAAST-MRM: In FY06, continue seeker performance testing and procure advanced seeker components; fabricate, assemble and	0	10000	10000

demonstrate seeker performance in a gun-fired, designated-mode guided engagement against a BLOS moving target; optimize software to improve tactical capabilities; and conduct processor-in-the-loop and hardware-in-the-loop simulations for integrated dual-mode seeker. In FY07, will complete fabrication and assembly of integrated dual-mode MRM target acquisition, guidance, and counter active protection systems; will demonstrate gun-fired multi-mode MRM at a BLOS target.			
MAAST: In FY05, fabricated, assembled and conducted subsystem airframe and warhead testing of Line-of-Sight Multi-Purpose (LOS-MP) munition; integrated warhead and fuzing subsystems into airframe and demonstrated LOS-MP air burst capability for anti-personnel effects and effectiveness of penetrator and fuzing mechanisms against concrete wall targets; matured designed, fabricated and conducted initial airframe testing of Enhanced Kinetic Energy (KE) round at ambient temperature; evaluated target and projectile tracking capability for Low Cost Precision (LCP) effort. In FY06, continue maturing LOS-MP and Enhanced KE rounds; fabricate, assemble and conduct gun-fired demonstration of two-way ammunition data link which will be applicable to all MCS ammunition types; and will complete fabrication, assembly and demonstration of integrated advanced propulsion capability with temperature compensation and precision ignition; and for LCP effort, down-select to lowest cost sub-component alternatives, complete initial designs and conduct component demonstrations. In FY07, will complete fabrication, assembly and demonstration of multi-function warhead for chemical energy munition for LOS-MP; and will complete demonstration of advance propellant and robust cartridge case technologies; and will complete fabrication, assembly and demonstration of in-flight tracking and maneuver control performance of projectile with LCP technologies.	13045	18155	17206
Objective Non Line-of-Sight (NLOS) Mortar Technology: In FY05, conducted live fire tests to demonstrate rates of fire commensurate with threshold requirements.	2000	0	0
Lightweight Dismounted Mortar Weapon: In FY05, conducted lightweight material engineering evaluations, fabricated components for mechanical assessment and tested ballistic performance of a full-scale, lightweight barrel prototype. In FY06, develop, test and ballistically demonstrate a lightweight full-scale prototype.	3500	2929	0
Common Smart Submunition (CSS): In FY05, conducted electronics, sensor and algorithm testing to evaluate performance and completed trades on alternate component and packaging configurations for Preliminary Design Review. In FY06, conduct tower test to characterize Laser RADAR (LADAR) sensor, signal processing, and recognition algorithms for detection, and discrimination of potential targets in dynamic environments. In FY07, will mature sensor and algorithms for follow-on captive flight tests to achieve 0.95 probability of discriminating and firing at a target of interest; will conduct warhead performance and lethality tests; will provide test data for system analysis model and develop and validate a CSS system model for simulation and wargaming evaluation.	2207	6904	8300
Non Lethal Payloads for Personnel Suppression: In FY05, conducted non-lethal payload effectiveness modeling, dispersion and dissemination testing and analysis; refined design based on analysis; conducted initial gun launch and payload expulsion test. In FY06, demonstrate kinetic energy mitigation of payload module, complete target effects analysis and conduct system flight test demonstration .	4000	1673	0
Robotic and Network Technologies: In FY05, Special Weapons Observation Reconnaissance Direct action System (SWORDS)/ Joint Manned-Unmanned System Teaming (JMUST) conducted safety confirmation testing, modified software and hardware with improvements and conducted safety tests of modified prototype; Networked Sensors for the Future Force integrated and demonstrated a low cost, distributed and networked unattended ground sensor systems; Fire Control-Node Engagement Technology provided full functional networked effects software configured for insertion into Future Force Warrior; Dual Use Composite (DUC) material--conducted test trials for optimization of critical material thickness and mechanical strength and integrated DUC material into Silent Operating Aerial Reconnaissance (SOAR) Unmanned Aerial Vehicle (UAV) airframe. In FY06, conduct full up DUC demo using SOAR UAV or DUC Multi-Target (MT) Shoulder Fired Ammo. In FY07, will optimize DUC munition to increase accuracy and lethality through test demonstrations in an operational environment; for Future Force Gun and Munitions will develop most promising light weight solutions for remote weapon stations on robotic vehicle.	3140	1230	993

Kinetic Energy Active Protection System: In FY05, conducted dynamic warhead arena demonstration and spinning brassboard sensor test and began fabrication of dynamic demonstration hardware. In FY06, fabricate rocket hardware and conduct testing to verify spin rate and fly-out dispersion. In FY07, will conduct warhead optimization for KE defeat; will conduct active optical sensor optimization for KE defeat.	2000	2968	2000
Fuze and Power for Advanced Munitions: In FY06, conduct explosive safety testing of Micro-Electro-Mechanical Systems (MEMS) Safe and Arm (S&A) components and multipoint Electronic Safe & Arm Device (ESAD) components; evaluate performance of proximity and safety sensors in limited/simulated environmental and flight tests. In FY07, will continue explosive compatibility and safety tests of MEMs, will demonstrate prototype battery designs in laboratory and conduct air gun high-g tests for new thermal and liquid reserve batteries and hybrid power systems; will conduct field tests for new thermal batteries and alternative/hybrid energy systems.	0	1244	4583
Countermine/IED Neutralization: In FY07, will integrate Directed Energy power source technologies onto a ruggedized skid to demonstrate and assess the feasibility of further maturing and developing this technology for mine destruction.	0	0	2483
Sparrow-Global War on Terrorism (GWOT): In FY05 designed a sentry portal system for neutralizing Human Borne Improvised Explosive Devices (HBIEDs); built and evaluated one ruggedized and automated system utilizing a directed energy source to pre-detonate HBIEDs.	1889	0	0
Extended Area Protection & Survivability (EAPS): In FY06, analyze and model gun based concepts for a gun based air defense capability against rockets, artillery and mortar rounds (RAM) to establish an appropriate caliber, firing rate and kill mechanism; define system requirements and component technology specifications. In FY07, will integrate advanced warhead and fuze configurations within the EAPS projectile; and will conduct live fire demonstrations to validate lethality against static RAM targets.	0	1525	1100
Total	48481	46628	46665

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BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
3 - Advanced technology development	**0603004A - Weapons and Munitions Advanced Technology**	**L94**

COST (In Thousands)	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate
L94 ELECTRIC GUN SYS DEMO	19202	18347	13570	13345	15758	17487	22595

A. Mission Description and Budget Item Justification: This project matures and demonstrates Electromagnetic (EM) armament subsystems and the enabling technologies for tactically relevant EM launchers, pulsed power and launch packages (projectiles). EM Guns have the potential to revolutionize the future battlefield by their unique performance characteristics (hypervelocity and reduced-signature launch), potential for elimination of vulnerable propellants, synergistic relationship with hybrid electric vehicles, and potential for significant reduction in sustainment burden. In addition to designing, fabricating and demonstrating subsystem components, the project resolves system level technology challenges including synchronization/compatibility of twin counter-rotating machines, technology scalability, thermal management, and full energy system performance. After successful demonstration of the critical components and subsystems at tactical scale, an Advanced Technology Demonstration (ATD) effort will be conducted to integrate next generation subsystems into a stand-alone medium caliber armament prototype, comprising robust launcher, pulsed power supply, launch packages, prime power, cooling and auxiliaries, to demonstrate system performance. In FY06, the Kinetic Energy Active Protection System (KEAPS) effort complements work in Project 232 that focuses on maturing and demonstrating effectiveness of munitions associated with Active Protection Systems. The cited work is consistent with the Strategic Planning Guidance, the Army Science and Technology Master Plan (ASTMP), the Army Modernization Plan and the Defense Technology Area Plan (DTAP). This project is executed by the Armaments Research, Development and Engineering Center (ARDEC) at Picatinny, NJ, in cooperation with the Army Research Laboratory (ARL), Adelphi, MD and The University of Texas at Austin (a University Affiliated Research Center). This work complements and is fully coordinated with efforts in PE 0602618A/H75 and PE0601104A/H56.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
EM Gun System Demo: In FY05, designed, fabricated, conducted tests and evaluated critical materials and components including composite alternator and barrel structures, low-density and high-strength metals, electrical insulation and thermal management systems, and high performance solid state switches; fabricated and evaluated performance of subscale launchers to characterize barrel architectures and to support forensic analysis; test fired Integrated Launch Packages (ILPs) in a laboratory environment to assess performance of flight body, fuze and high-explosive that comprise multi-purpose projectiles; conducted component validation tests for breadboard Pulsed Power Supply (PPS) rotating machines and provided design and manufacturing plans for PPS including torque management system and mount. In FY06, complete fabrication of a partially cantilevered railgun test bed and demonstrate strength of design and scaling effects testing at full scale launch peak loading conditions; perform full caliber lethality tests with unguided multipurpose rounds and demonstrate the launchability of high-explosive, fuzed ILPs in an EM armament environment; fabricate breadboard PPS components, conduct verification testing of PPS sub-assemblies and integrate the twin counter-rotating machines. In FY07, will build a lightweight cantilevered high fidelity railgun with integrated breech and muzzle shunt and demonstrate full scale launch at hypervelocity and multi-round launchability; will integrate the compact, twin counter-rotating pulsed alternator power supply, conduct subsystem functional tests and accomplish high fidelity breadboard PPS demonstrations that will establish and validate requisite performance criteria.	18244	14347	13570
Electromagnetic Gun Initiative: This one year Congressional add designed and validated performance of an advanced, optically controlled silicon switch with a novel voltage protection device for high energy pulsed duty. No additional funding is required to complete this effort.	958	0	0
Kinetic Energy Active Protection System (KEAPS): In FY06, fabricate munition hardware and integrate system components, sensor, propulsion system, and warhead for initial dynamic/dynamic testing. The main part of this effort is conducted within Project 232.	0	4000	0

Total	19202	18347	13570

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3 - Advanced technology development	**0603004A - Weapons and Munitions Advanced Technology**	**L96**

COST (In Thousands)		FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate
L96	HIGH ENERGY LASER TECHNOLOGY DEMO	0	7885	13402	18513	24198	23840	25609

A. Mission Description and Budget Item Justification: This project matures and demonstrates advanced technologies for Future Force High Energy Laser (HEL) weapons technology, and, where feasible, exploits opportunities to enhance Current Force capabilities. The major effort under this project is the development of a mobile one-hundred kilowatt (kW) class Solid State Laser (SSL) weapon demonstrator that is traceable to the form, fit, and function requirements of the Future Combat Systems (FCS). HEL systems have the potential to address the following identified Army capability gaps: 1) Defeat In-Flight Projectiles such as rockets, artillery, mortars, anti-tank guided missiles, rocket propelled grenades, and man-portable surface-to-air missiles; 2) Ultra-Precision Strike with little to no collateral damage; 3) Disruption of Electro-Optical (EO) and Infra-Red (IR) sensors; and 4) Neutralizing mines and other ordnance (especially improvised explosive devices (IEDs)) from a stand-off distance. HELs are expected to complement conventional offensive and defensive weapons at a lower cost-per-shot than current systems. At weapon system power levels of greater than 100kW, SSL technology has the potential to enhance Future Combat Systems (FCS) survivability by addressing the capability gaps identified above. The SSL technology effort in PE 0602307A addresses technical issues such as high average power output from compact and more efficient lasers; precision optical pointing and tracking; laser effects degradation due to atmospheric effects; lethality against a variety of targets; and effectiveness against low-cost laser countermeasures. This program will use the appropriate power laser based on knowledge gained from the 100kW SSL laboratory device developed in PE 0602307A to be demonstrated in FY08. Work in this project is related to, and fully coordinated with, efforts in PE 0602890 D8Z and PE 0603924D8Z (High Energy Laser Joint Technology Office), PE 0605605A (DOD High Energy Laser Systems Test Facility), and PE 0603005A/441 (Combat Vehicle and Automotive Advanced Technology). The cited work is consistent with Strategic Planning Guidance, the Army Science and Technology Master Plan (ASTMP), the Army Modernization Plan, and the Defense Technology Area Plan (DTAP). Work is performed by the US Army Space and Missile Defense Command (SMDC), in Huntsville, AL and the High Energy Laser Systems Test Facility, White Sands Missile Range, NM.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Solid State Laser (SSL) Weapons System Demonstrator: In FY06, conduct SSL weapon system studies based on the 100kW SSL laboratory devices being developed in PE 0602307A to derive demonstrator technical performance specifications and assess the capabilities of the existing Air Defense target acquisition and C3I capabilities to meet the DEW specifications. Initiate subcomponent development for items such as a precision radar for target acquisition and tracking with hemispherical coverage that supports detection and discrimination at ranges of interest, and high resolution track for impact point prediction. In FY07, will initiate development of a SSL weapon system demonstrator that is compatible with tactical ground vehicle requirements, including conducting trade studies, detailed system engineering designs, and initiation of long lead item procurements. Will identify and initiate required modification to ensure the ability to interface with Air Defense systems that address the capability gaps identified above.	0	7885	13402
Total	0	7885	13402

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3 - Advanced technology development	**0603004A - Weapons and Munitions Advanced Technology**	**L97**

COST (In Thousands)		FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate
L97	SMOKE AND OBSCURANTS ADVANCED TECHNOLOGY	0	986	1033	1034	1035	1035	1035

A. Mission Description and Budget Item Justification: This project matures and demonstrates smoke and obscurant technologies with potential to enhance personnel/platform survivability by degrading threat force surveillance sensors and defeating the enemy's target acquisition devices, missile guidance, and directed energy weapons. Dissemination systems for new and improved obscurants are developed with the goal of providing efficient and safe screening of deployed forces. A major effort will demonstrate the dissemination of newly developed advanced infra-red (IR) obscurants having 4 times the previous performance. Modeling and simulation tools developed in PE 0602622A will be matured to predict performance and analyze strategic use of obscurants on the battlefield. Other efforts mature dissemination, delivery, and vehicle protection technology obscurant enabling technology with potential to increase survivability through increased standoff and threat protection. After successful demonstration, these technologies transition to the Family of Tactical Obscuration Devices and other System Development and Demonstration programs. Funding in this project was realigned from PE06022622A project A552 to establish an advanced technology development line for technology maturation. The cited work is consistent with Strategic Planning Guidance, the Army Science and Technology Master Plan (ASTMP), the Army Modernization Plan, and the Defense Area Plan (DTAP). Work in this project is performed by the Army Research, Development and Engineering Command, Edgewood Chemical Biological Center, Edgewood, MD.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Obscurant Enabling technologies: In FY06, mature concepts for prototype systems for use in grenades, artillery rounds, and other smoke generating systems; identify techniques for field evaluation of prototype dissemination systems. In FY07, will refine design of prototype packaging/dissemination concepts; develop prototype system for advanced IR obscurant. Will conduct experiments of new dissemination techniques in a relevant operational environment.	0	986	1033
Total	0	986	1033