ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit)

February 2002

BUDGET ACTIVITY	PE NUMBER AND TITLE
7 - Operational system development	**0708045A - End Item Industrial Preparedness Activities**

COST (In Thousands)		FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost		85644	77863	61025	69315	71104	79213	82524	Continuing	Continuing
E25	MFG SCIENCE & TECH	59283	63614	42332	49679	51300	59143	62024	Continuing	Continuing
E27	RELIABILITY, MAINTAINABILITY & SUSTAINABILITY(RMS)	16986	14249	18693	19636	19804	20070	20500	Continuing	Continuing
E32	COSSI	9375	0	0	0	0	0	0	0	11000

A. Mission Description and Budget Item Justification: The goal of this program element (PE) is to improve readiness and reduce Total Ownership Cost for the Army through new manufacturing technologies and enhancements/improvements to legacy systems. The technologies introduced through this PE support the Army transition to the Future Combat Systems (FCS) and Objective Force. This program element comprises three projects: E25 Manufacturing Technology (ManTech); E27 Reliability, Maintainability and Supportability (RM&S); and E32 Commercial Operations and Support Savings Initiative (COSSI). The objective of the Army ManTech program is to provide essential manufacturing technologies that will enable affordable production and sustainment of future and legacy weapon systems. Objectives include development of advanced manufacturing processes, equipment and systems; enhancement in quality while achieving reduction in cost of Army materiel; and transferring improved manufacturing technologies to the industrial base. The ManTech program is especially important in the current environment because of the large decline in weapon system production investments. Projects selected for funding under this program have the potential for high payoff across the spectrum of Army weapon systems as well as significant impact on national manufacturing issues and the U.S. industrial base. The RM&S program funds projects that reduce operations and support costs through reliability, maintainability, and/or supportability improvements to fielded weapons systems or major end items. The objective of the COSSI program is to reduce operations and support costs by developing, testing, and implementing a method to insert commercial items into fielded military systems on a routine and expedited basis. COSSI was funded in DOD PE 0603805E through FY 1998, transferred to Army PE 0604824 in FY 1999, and then to PE 0708045A in FY 2000. Army funding for COSSI terminated after FY 2001.

The work in this PE is consistent with the Army S&T Master Plan (ASTMP), the Army Modernization Plan and Project Reliance. The PE contains no duplication with any effort within the Military Departments.

B. Program Change Summary	FY 2001	FY 2002	FY 2003
Previous President's Budget (FY2002 PB)	89067	45697	49960
Appropriated Value	89906	78497	0
Adjustments to Appropriated Value	0	0	0
a. Congressional General Reductions	0	-634	0
b. SBIR / STTR	-2612	0	0
c. Omnibus or Other Above Threshold Reductions	0	0	0
e. Below Threshold Reprogramming	-826	0	0
f. Rescissions	-824	0	0
Adjustments to Budget Years Since FY2002 PB	0	0	11065
Current Budget Submit (FY 2003 PB)	85644	77863	61025

Change Summary Explanation:

Significant Changes:

FY02 (+$32800) - Congressional Adds totaling $32800 (as noted below) added to this Program Element.

FY03 (+$11065) - Project E25 increased to mature manufacturing technologies for affordable and producable sensors.

FY02 - Congressional adds were made for MANTECH for Munitions, Project E25 ($11200); Totally Integrated Munitions Enterprise, Project E25 ($7000); Laser Peening Technology for Aircraft and Ground Equipment, Project E25 ($1000); Rechargeable Bipolar Wafer Cell NiMH Battery for SINCGARS, Project E25 ($1000); Femtosecond Laser, Project E25 ($4200); Force Provider Microwave Wastewater Treatment, Project E25 ($1400); MANTECH Program for Cylindrical Zinc Batteries, Project E25 ($1800); Continuous Manufacturing for Metal Matrix Composites, Project E25 ($2600); and Modular Extendable Rigid Wall Shelter, Project E25 ($2600).

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)

February 2002

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
7 - Operational system development	**0708045A - End Item Industrial Preparedness Activities**	**E25**

COST (In Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
E25 MFG SCIENCE & TECH	59283	63614	42332	49679	51300	59143	62024	Continuing	Continuing

A. Mission Description and Budget Item Justification: The goal of the Army Manufacturing Technology (ManTech) program is to provide essential manufacturing technologies that will enable the affordable production and sustainment of future and legacy weapon systems including support for Future Combat Systems (FCS) and the Objective Force. Objectives include development of advanced manufacturing processes, equipment and systems; enhancement in quality while achieving reduction in cost of Army materiel; and transferring improved manufacturing technologies to the industrial base. The ManTech program is especially important in the current environment because of the large decline in weapon system production investments since most manufacturing technology was formerly accomplished within individual production programs. Projects selected for funding under this program have the potential for high payoff across the spectrum of Army weapon systems as well as significant impact on national manufacturing issues and the U.S. industrial base. Other factors considered for project selection include cost share with both industry and the program managers as well as return on investment. Major programs are identified as Manufacturing Technology Objectives (MTOs). The cited work is consistent with the Army S&T Master Plan (ASTMP), the Army Modernization Plan and Project Reliance. The project contains no duplication with any effort within the Military Departments.

FY 2001 Accomplishments:

- 304 - Ammunition - Conduct pre-qualification test and initiate production improvement program to lower the cost and improve the manufacturing processes for the 120mm practice mortar fins in support of the knowledge and process tools for the Manufacturing of Affordable Composites MTO.
- 1710 - Aviation - Demonstrate processes to achieve 30% to 60% component cost reduction of thin wall castings for auxiliary power units and propulsion systems. Power Transfer Systems Manufacturing (PTSM) developed a manufacturing concept for chemical surface finishing of rotating shafts and gears to extend service life and increase load-carrying ability for aerospace components. Through the Knowledge and Process Tools for Manufacturing of Affordable Composites MTO, demonstrated Comanche pilot structural composite manufacturing improvement processes that significantly reduce the weight and cost of manufacturing large scale composite components.
- 2235 - Command and Control - Fabricated and tested phase shifters for electronic scanning antennas and demonstrated twenty times reduction in power requirements for phase shifters. Demonstrated manufacturing processes to control cell gap uniformity to lower cost of active matrix liquid crystal displays to lower the cost from $12K to less than $2K per system. Demonstrated phosphor and metals deposition manufacturing processes to increase yields of active matrix electro-luminescent displays used in head tracked vision systems and thermal weapons system.

FY 2001 Accomplishments: (Continued)

- 350 - Combat Service Support - Refined seam-sealing technology process, expanded production capability and positioned seam sealing manufacturing demonstration for transition to tents, tarps and extended cold weather clothing.
- 14360 - Fire Support - Increased performance and decreased cost of weapon system gun barrels with specific subtasks to include the manufacture and installation of sputtering targets and development of manufacturing processes for large caliber gun barrels through the Tantalum Sputtering MTO. Inserted special coated integrated circuits into selected military systems for demonstration and validation through the Wafer Applied Seal for Plastic Encapsulated Microcircuit Protection MTO to demonstrate a 78% improvement in resistance to internal corrosion and improve fabrication and packaging yields by 5% (significant for large production volume). Developed manufacturing processes for Inertial Measurement Units (IMU) utilizing Micro-Electro-Mechanical Systems (MEMS) and model process flow of the assembly process in conjunction with the Low Cost, High-G, MEMS, IMU Coordinated Development and Manufacturing Effort for Common Guidance STO. Through the Uniform Cannon Tube Reshaping MTO, improve centerline bore measurement and integrate computer control for large caliber cannon tube reshaping to enhance lethality and survivability of the M1A1 and Future Combat Systems. Evaluated affordable advanced tungsten warhead and steel warhead designs through an MTO for the Objective Individual Combat Weapon (OICW) and Objective Crew-Served Weapon (OCSW). Utilized commercial digital signal processors and alternative design guidance and control modules to reduce new upgrade procurement costs by 25% for Army TACMS 2000 and Patriot Advanced Capability 3 (PAC3) guidance and control modules. Produced and evaluated titanium alloy slabs and designed a robotic workcell for Improved Manufacturing Methods of Titanium in Ultra-Lightweight Armament and Ground Vehicle Systems MTO.
- 6616 - Intelligence and Electronic Warfare - Demonstrate 15% yield for 240x320 cooled dual color FPAs and transfer processes to 480x640 cooled dual color FPAs through the Cooled and Uncooled Staring Sensors MTO. Through the Conformal Optics MTO, demonstrated an advanced asphere optic to reduce weight and cost of optical subsystems such as that used on Objective Individual Combat Weapon (OICW). Demonstrated manufacturing processing for square photocathodes that are more efficient than round photocathodes to reduce the cost of short wave infrared gated camera tubes used in target detection and recognition. Developed several viable production methods to integrate electrical and optical conductive networks, miniature sensors, and electronic devices into textile based clothing and equipment to support future land warrior systems.
- 1708 - Maneuver - Implemented investment strategy for risk reduction, knowledge base development, and tooling for the MTO in knowledge and process tools for manufacturing affordable composite structures, and optimize the Armor Tile Processing and Placement to reduce the cost of the Crusader turret by 37%.
- 7000 - Totally Integrated Munitions Enterprise (TIME) continued another year of effort supported by previous Congressional adds that enables cost effective, agile, rapidly reconfigurable, distributed enterprise and control technologies for munitions manufacture. Goals: Develop manufacturing technologies essential to the affordable production of conventional and precision munitions; develop, integrate, and demonstrate the TIME system architecture, Open Modular Architecture Controller (OMAC) modules/application programming interfaces for machine tools and other process controllers, communications, software, and other critical technologies necessary to achieve the objectives of TIME.

FY 2001 Accomplishments: (Continued)

- 2000 - Optics manufacturing provided for a one year effort toward enabling the affordable fabrication, testing and assembly of complex optical elements. Goals: Develop and characterize processes for shaping and finishing optical glasses and infrared transmitting materials for military systems and develop processes for fabricating durable multi-spectral transmitting windows.
- 3000 - Continuous manufacturing technology (MANTECH) provided for a one year effort toward essential manufacturing technologies that enabled the affordable production and sustainment of future weapon systems. Goal: Demonstrate a continuous manufacturing process to produce low-cost, low weight aluminum metal matrix composite components with tailorable properties.
- 1000 - Single Channel Ground and Airborne Radio System (SINCGARS) provided for a one year manufacturing process development effort for rechargeable bipolar wafer-cell nickel metal hydride (NiMH) batteries for the SINCGARS radio system.
- 15000 - Munitions Manufacturing continued another year of effort supported by previous Congressional adds to reduce product variability and reduce cost of production. Goal: Develop manufacturing technologies essential to the affordable production of conventional and precision munitions.
- 3000 - The Printed Wiring Board Manufacturing and Technology Center continued another year of effort supported by previous Congressional adds for the development and application of printed wiring board technology for weapon systems. Goal: Develop manufacturing technologies essential to the affordable production of advanced printed wiring boards (PWBs) for DoD weapon systems.
- 1000 - Air compressors continued research supported by previous Congressional adds to apply natural gas engine driven air compressor technology to Army installations. Goal: Conduct cost-shared demonstration to achieve savings in operational budgets through the high efficiency and low overall cost of environmentally benign natural gas engine-driven air compressor technology.

Total 59283

FY 2002 Planned Program

- 1729 - Aviation - Refine surface finishing process, fabricate test specimens and conduct rolling contact fatigue tests for aerospace power transfer systems components through Power Transfer Systems Manufacturing (PTSM). Transition 6-Sigma improved composite manufacturing processes through the Knowledge and Process Tools for Manufacturing of Affordable Composites MTO to reduce the labor required to produce Comanche lower forward fuselage and Apache Longbow mid fuselage by 25%. Reduce manufacturing cost of sensor element material used in advanced threat/countermeasures/common missile warning systems.
- 831 - Command and Control - Demonstrate active matrix electro-luminescent display manufacturing and process improvements and cost reductions early in the fielding cycle.

FY 2002 Planned Program (Continued)

- 20215 - Fire Support - Demonstrate increased performance and decreased cost through the Large Caliber Cannon Life Extension via Tantalum Sputtering MTO, including the manufacture and set-up of 120mm and 155mm sputtered barrels. Develop manufacturing processes and model process flow of the assembly process for inertial measurement units utilizing micro-electro-mechanical systems in conjunction with the Low Cost, High-G, MEMS, IMU Coordinated Development and Manufacturing Effort for Common Guidance STO. Conduct fatigue testing and validate cannon tube reshaping process and precision reshaping algorithms to improve cannon tube straightness on 120mm barrels through the Uniform Cannon Tube Reshaping MTO. Demonstrate warhead manufacturing process for the Objective Individual Combat Weapon/Objective Crew-Served Weapon (OICW/OCSW) MTO. Scale up manufacturing process, optimize design for manufacturing and reliability, demonstrate digital signal processing technologies and transition to TACMS and PAC3. Produce titanium ingots, develop simulation tools to optimize forging and casting and demonstrate out-of-chamber flux-cored welding process for use with ground vehicle applications through the Improved Manufacturing Methods for Titanium in Ultra-Lightweight Armament and Ground Vehicles Systems MTO.
- 6163 - Intelligence and Electronic Warfare - Fabricate and integrate 480x640 cooled mid-wave infrared and long-wave infrared focal plane array (FPA) and dewar manufacturing improvements to complete the IR Cooled and Uncooled Staring Sensors MTO. Finalize processes for shaping and finishing complex conformal optical surfaces and establish integrated metrology process to demonstrate on Objective Individual Combat Weapons (OICW) components and complete the Conformal Optics MTO. Demonstrate improved manufacturing processes for short-wave infrared gated camera tube used for target detection.
- 1876 - Maneuver - Complete cost model and enhance process models for thick section composite resin transfer molding process supporting Crusader through Knowledge and Process Tools for Manufacturing Affordable Composites MTO.

- FY02 Congressional Adds:

- 11200 - ManTech for Munitions the object of this one year Congressional add is to mature manufacturing technologies for energetic materials, warhead fabrication, electronics for smart and precision munitions, and composite materials for applications. No additional funding is required to complete this project.
- 7000 - Totally Integrated Munitions Enterprise (TIME). The object of this one year Congressional add is to enable cost effective, agile, rapidly reconfigurable, distributed enterprise and control technologies for munitions manufacture. No additional funding is required to complete this project.
- 1000 - Laser Peening Technology for Aircraft and Ground Equipment. The object of this one year Congressional add is to mature the Laser shock peening process, which induces compressive stresses to extend the fatigue life of metal components for application to Army aircraft and ground equipment. No additional funding is required to complete this project.

FY 2002 Planned Program (Continued)

- 1000 - Rechargeable Bipolar Wafer Cell NiMH Battery for SINCGARS. The object of this one year Congressional add is to mature a manufacturing process for rechargeable bipolar wafer-cell nickel metal hydride (NiMH) batteries for Army vehicle applications. No additional funding is required to complete this project.
- 4200 - Femtosecond Laser. The object of this one year Congressional add is to mature a new production capability using femtosecond solid state lasers for ultra-precise drilling applications to include diesel fuel injector nozzles. No additional funding is required to complete this project.
- 1400 - Force Provider Microwave Wastewater Treatment. The object of this one year Congressional add is to mature an integrated wastewater treatment ensemble, which will treat both solid and liquid waste products stored in the Force Provider system. No additional funding is required to complete this project.
- 1800 - ManTech Program for Cylindrical Zinc Batteries. The object of this one year Congressional add is to mature a manufacturing process for cylindrical zinc batteries for Army applications. No additional funding is required to complete this project.
- 2600 - Continuous Manufacturing for Metal Matrix Composites. The object of this one year Congressional add is to mature the technology to affordably fabricate Aluminum Metal Matrix Composites. No additional funding is required to complete this project.
- 2600 - Modular Extendable Rigid Wall Shelter (MERWS). The object of this one year Congressional add is to fund a Cooperative Research and Development Agreement to commercialize the overall design and manufacture of the MERWS technology. No additional funding is required to complete this project.

Total 63614

FY 2003 Planned Program

- 2085 - Missiles and Air Defense - Demonstrate advanced design and manufacturing simulation capabilities for cost performance trades on modernized Hellfire and Ballistic Missile Defense System requirements as part of the Evolutionary Missile Acquisition Demonstration MTO.
- 5856 - Aviation - Through the Low Cost Lightweight Structure MTO, select high performance light weight materials, mature low cost processes and improve manufacturing yields to produce a tailcone for the next generation UH-60 Black Hawk, the forward nose enclosure and forward pylon on the CH-47 Chinook and redesign structural components for the RAH-66 Comanche. Under the Affordable Helicopter Drive Train Housing MTO, mature lower cost and lighter weight helicopter drive train housings to reduce both manufacturing cost and weight. Complete surface finishing process development, fabricate gear-sets for Apache, Comanche T-800 engine, and Black Hawk gearboxes, and conduct 4-square endurance testing to validate the process through Power Transfer Systems Manufacturing (PTSM). Complete the Knowledge and Process Tools for Manufacturing of Affordable Composites and transition improved composite manufacturing processes to production for the Apache Longbow mid fuselage and the Comanche lower forward fuselage.

FY 2003 Planned Program (Continued)

- 20995 - Fire Support - Coat 120mm and 155mm Sputtered Barrels and implement final modifications to the Tantalum Sputtering MTO process to extend barrel life. Demonstrate precision straightness inspection and automated reshaping manufacturing equipment and methodologies for 120mm cannon tubes through the Uniform Cannon Tube Reshaping MTO. Complete equipment and software enhancements, demonstrate manufacturing enhancements for MEMS IMU, and transition to APKWS and Modernized Hellfire weapons systems in conjunction with the Low Cost, High-G MEMS, IMU Coordinated Development and Manufacturing Effort for Common Guidance STO. Fabricate lightweight artillery components such as road wheels, track shoes, suspension housings, engine rear door and sprocket carriers to demonstrate casting or forging, assemble and automate fabrication methods using robotic welding for the Titanium MTO.
- 12047 - Intelligence and Electronic Warfare (Sensors) - Through an MTO, mature an economical, affordable supply of laser diode arrays, improve material yields and wafer-processing procedures, reduce burn-in and test times, and design and develop a common bar for target designation systems in Comanche, Objective Individual Combat Weapon (OICW), Objective Crew-Served Weapon (OCSW), Kiowa Warrior, Apache, and Future Combat Systems. Provide two sources of Molecular Beam Epitaxy (MBE) fabricated large area 2D small pixel multicolor IR focal plane arrays (FPA) - simultaneous color registration. FPAs will be at least a mega pixel in size, have adaptive frame rates to track high speed projectiles, have on chip smart readout functions like non-uniformity correction and A/D converters to reduce camera size and weight, have multicolor detectors that can pull targets out of camouflage and operate at elevated temperature to reduce cryogenic cooling requirements.
- 1349 - Maneuver - Implement investment strategy for risk reduction, knowledge base development, and tooling for the MTO in knowledge and process tools for manufacturing affordable composite structures. Transition advanced structural composite manufacturing processes and tools to Comanche, and munitions weapons systems.

Total 42332

B. Other Program Funding Summary: Not applicable for this item.

C. Acquisition Strategy: Not applicable for this item.

D. Schedule Profile: Not applicable for this item.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)

February 2002

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
7 - Operational system development	**0708045A - End Item Industrial Preparedness Activities**	**E27**

COST (In Thousands)		FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
E27	RELIABILITY, MAINTAINABILITY & SUSTAINABILITY(RMS)	16986	14249	18693	19636	19804	20070	20500	Continuing	Continuing

A. Mission Description and Budget Item Justification: This project supports the Army transformation to the Objective Force. The objective of the Reliability, Maintainability and Supportability (RM&S) program supports innovative, state-of-the-art projects to improve readiness and reduce Operations and Support (O&S) costs by replacing or improving components of fielded weapon/legacy systems with more reliable, maintainable and/or supportable items. The RM&S program is limited to improvements that reduce the cost of ownership for fielded systems and equipment. RM&S funds generally may not be used to modify a weapon system currently in development, until the weapon system has satisfied all supportability requirements defined in the Operational Requirements Document (ORD) or system specification. The RM&S program uses Research, Development, Test and Evaluation (RDT&E) funding, which allows the pursuit of complex technology insertion projects.

FY 2001 Accomplishments:

- 8028 - Aviation - Fabricated prototype hardware, installed smart orifices, and conducted support tests for the high performance scalable landing gear shock strut that is less susceptible to damage. Developed cost avoidance, cycle time reduction, and information integration change agent strategies to improve the depot life cycle repair environment through the Rotary Wing Aircraft Sustainment Project. Integrated and tested the new strapdown fiber optic attitude heading reference system which uses directional/vertical gyroscopes as a replacement for the current mechanical gyros used in cargo and utility helicopters. Completed engineering design and development, and continued test article fabrication of the new CH-47 dry rotor hub.

- 958 - Combat Service Support - Correlated and validated new Meal, Ready to Eat (MRE) storage testing method with the existing longer term testing parameters, complete product tests and shelf stability evaluations, and transition to the Defense Logistics Agency (DLA) for procurement. Optimized the MRE's packaging to reduce the amount of materials required to package the MRE. Selected supplier for and conducted fabric testing of the alternative water resistant, vapor permeable fabrics for the extended cold weather clothing system to reduce weight, improve cold weather protection, and reduce overall costs. Performed system testing and evaluation of the wastewater treatment system to treat laundry wastewater for reuse in latrines and showers and a total treatment / reutilization of wastewater that will reduce field water consumption and wastewater discharge.

- 506 - Fire Support - Validated radial forging procedures for gun barrel preforms and prepared to demonstrate extended wear of clad M240 gun barrels.

FY 2001 Accomplishments: (Continued)

- 4892 - Intelligence and Electronic Warfare - Completed hardware design and development and unit testing for the cost and supportability upgrades to the Improved Target Acquisition System - fire control subsystem and Improved Bradley Acquisition System - missile control subsystem. Rewired and tested upgraded Sentinel signal data processor upgrades and transitioned to the Sentinel processor family.
- 2106 - Mobility - Identified new track vehicle rubber formulations to increase the life of rubber track components to 5000 miles.
- 496 - Nuclear, Biological, Chemical - Demonstrated correlations between live agents and simulant chemicals to reduce cost and cycle time associated with stockpile testing of chemical protective clothing.

Total 16986

FY 2002 Planned Program

- 8827 - Aviation - Revise the shock strut design to incorporate new smart orifices, fabricate final test hardware, and conduct final performance testing for the new high performance scalable landing gear shock strut for the Apache. Implement process changes and model process flow enhancements through the Rotary Wing Aircraft Sustainment Project (RWASP). Continue test article fabrication, complete component testing, begin flight testing and low rate initial production of the new CH-47 dry rotor hub that will have 75% fewer parts and 70% fewer special tools required to maintain the system.
- 516 - Command and Control - Re-establish a production capability for new AN/PRC-112 radios, enabling the production of new modules to be used as spares and repair parts at depot level repair facilities, so that AN/PRC-112 radios already deployed can be supported.
- 220 - Fire Support - Fabricate final prototypes and conduct final verification testing for the new radial forging procedures for gun barrel preforms and demonstrate extended wear of clad M240 gun barrels.
- 1880 - Intelligence and Electronic Warfare - Perform software integration testing and formal qualification testing for the cost and supportability upgrades to the Improved Target Acquisition System - fire control subsystem and Improved Bradley Acquisition System - missile control subsystem.
- 510 - Maneuver - Demonstrate a low cost corrosion mitigating technique for epoxy-coated High Mobility Multipurpose Wheeled Vehicle (HMMWV) frame rails to prevent costly premature failures through treatment of test vehicles, testing treated, preparing final report, and training personnel for transition to field units and treatment implementation.
- 2296 - Mobility - Prove out 5000 mile production rubber track candidates and test methods on T158, T157, and T156 track systems and implement on Abrams tank, and Bradley Fighting Vehicle.

Total 14249

FY 2003 Planned Program

- 6983 - Aviation - Complete development and prototyping and prepare for test and evaluation of the new CH-47 dry rotor hub. Mature and demonstrate process changes and interfaces with the wholesale logistics modernization program through the Rotary Wing Aircraft Sustainment Project (RWASP). Mature an automated engine trend monitoring system for aircraft weapons systems. Redesign the A2 circuit card assembly to eliminate "false failure" depot level repair actions and redesign associated antennas for ruggedization, modernization and repairability.
- 7835 - Fire Support - Integrate a system architecture database with an automated wiring analyzer for testing Army weapon systems. Mature a higher quality and more consistent ultrasonic cleaning process for small caliber weapons. Design a plug and play global positioning system guidance package for the Precision Fires Rocket and Missiles Systems, as a cost effective replacement for the position navigation unit.
- 3413 - Intelligence and Electronic Warfare - Improve the reliability of the one watt linear drive cooler mean time to failure from 8000 to 12000 hours by reducing gas contamination, making enhancements to cooler clearance seals and the regenerator assembly, and making refinements to the flexure springs. Conduct an engineering analysis, design and test, prototype fabrication, system integration, and validation / acceptance testing effort for an alternative battery power source to be used in the improved target acquisition system.
- 462 - Maneuver - Mature and implement a sophisticated laser repair technique utilizing direct metal deposition technology to repair or reproduce near net shaped metal parts directly from computer generated designs.

Total 18693

B. Other Program Funding Summary: Not applicable for this item.

C. Acquisition Strategy: Not applicable for this item.

D. Schedule Profile: Not applicable for this item.