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

**June 2001**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **2 - APPLIED RESEARCH** | **0602805A - Dual Use Application Program** | **105** |

| COST (In Thousands) | FY 2000 Actual | FY 2001 Estimate | FY 2002 Estimate | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 105 DUAL USE APPLICATIONS PROGRAM | 9407 | 10061 | 10045 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**A. Mission Description and Budget Item Justification:**

**PLEASE NOTE: This administration has not addressed FY2003-2007 requirements. All FY 2003-2007 budget estimates included in this book are notional only and subject to change.**

The goal of this program element (PE) is to apply the Dual Use Science and Technology (DUST) Program process throughout Army agencies to leverage Army S&T development funds by partnering with the private sector in the development of technologies having both military and commercial applications. The focus of the Dual Use Science and Technology Program is primarily shorter-term military and commercial applications. However, the Program also has a longer-term impact on the transformation to the Objective Force. This PE provides matching funds to those invested by the sponsoring agencies on projects proposed by the private sector. Private sector partners propose projects for which they are willing to invest at least half of the cost (more than 50%). The sponsoring agency then provides half of the government cost (less than 25%), with the remainder coming from this PE (less than 25%). The cost sharing by industry is intended to demonstrate their willingness to share in the development costs for items having substantive commercial applications. The cost sharing from this PE creates incentives for Army agencies to participate in the dual-use effort and to exploit new instruments (i.e., Other Transactions) for partnering with the private sector. The program exploits dual use opportunities in a number of areas of significant interest to the Army, including automotive, rotorcraft, communications, sensors, medical, construction, environmental, food, clothing, and logistics technologies. This program leverages Army S&T funds and reduces costs for end items by paralleling the development of commercial products. Work in this program element is consistent with the Army Science and Technology Master Plan (ASTMP), the Army Modernization Plan and Project Reliance. Program policy is established by the Office of the Secretary of Defense (OSD), office of the Director, Defense Research and Engineering, and is managed within the Army by the Office of the Deputy Assistant Secretary of the Army for Research and Technology. The program element contains no duplication with any effort within the Military Departments. This program supports the Objective Force transition path of the Transformation Campaign Plan (TCP).

**FY 2000 Accomplishments**

**FY 2000 Accomplishments (Continued)**

- 9407 - Provided up to 25% of funding proposed by industry to support dual use technology development. The FY00 solicitation yielded 87 proposals, from which 11 proposals were selected in the following Focus areas: Affordable Sensor Technology - Miniature Electron Bombarded Active Pixel Sensor, Low Light Level Camera , and Long Range Eyesafe Laser Imaging; Weapons Sustainment - High Pressure Food Processing Low Acid Foods; Increased Situational Awareness; Advanced Materials And Manufacturing - Manufacture of Single Crystal Tungsten Alloys; Electrokinetic Phytoreclamation; Information And Communications- Enhanced Terrestial Personal Computers Technology for Tactical Applications; Distributed Mission Training - Rapid Command and Control Data Visualization and Decision Making via War Gaming Technology; Advanced Propulsion, Power, And Fuel - Fuel Cell Hybrid Electric Vehicle; Medical And Bioengineering - A Portable High-Throughput System for Biological Sample Preparation; An Intra-Operative Acoustic Hemostasis Device for Trauma Care; Development of Arrayable Electronic System for Identification of Biological Warfare and Infectious Disease.

Total 9407

**FY 2001 Planned Program**

- 9762 Provides up to 25% of funding proposed by industry to support FY01 dual use technology development. The FY01 solicitation yielded 60 proposals, from which 19 proposals were selected in the following Focus areas: Weapons Sustainment - Log Command and Control (C2) Platform Telediagnostics; Manually Cranked Battery Charger; Affordable All-weather Rotocraft-Icing Protection System; Affordable Rotorcraft Structures; Advanced Materials And Manufacturing - Chemical/Biological (CB) Protective Clothing Based on Novel Membranes; Nanofibers for Chemical Protective Clothing Systems; Information And Communications - Embedded Short Range Wireless Networked Interconnect for Soldier Communications System; Information Processing (IP) Quality of Service-Mechanisms for Dynamic Mobile Heterogeneous Wireless Environment; Universal Personal Communication System/Mobile Satellite Services (PCS/MSS)Handset; Modulation Independent Turbo Codec; Advanced Propulsion, Power, And Fuel - Allison Hybrid Light Armored Vehicle and Civilian Heavy Hybrid Application; Simulation-based Design and Demonstration of Next Generation, Advanced Diesel Technology; Development of Advanced NiMH Battery for Heavy Duty Hybrid Electric Vehicles (HEV)Applications; High Efficiency Alternator & Climate Control System; Medical And Bioengineering - The Application of Electrode Arrays for the Development of a Rapid, Multiplexed Detection System for Biological Warfare and Infectious Disease; Development of a Subunit Vaccine for the Prevention of Campylobacter Disease; Dev. of a Dengue Virus Tetravalent DNA Vaccine Using Lysosome Associated Membrane Protein (LAMP)and Controlled Release Technologies; Development of a Live Attenuated Vaccine for the Prevention of Enterotoxigenic (ETEC) Diarrhea; and Microwave Sterilization.
- 299 Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) Programs.

Total 10061

**FY 2002 Planned Program**

- 10045 - Provides up to 25% of funding for dual-use technology projects proposed by industry. Focus areas for Army topics in FY02 are anticipated to be: Affordable Sensors; Weapons System Sustainment; Advanced Propulsion, Power & Fuel Efficiency; Information & Communications Systems; Medical & Bioengineering Technologies; Distributed Mission Training; Advanced Materials & Manufacturing; and Environmental Technologies.

Total 10045

| B. Program Change Summary | FY 2000 | FY 2001 | FY 2002 | FY 2003 |
|---|---|---|---|---|
| Previous President's Budget (FY2001 PB) | 9924 | 10154 | 10447 | 0 |
| Appropriated Value | 10000 | 10154 | 0 | 0 |
| Adjustments to Appropriated Value | 0 | 0 | 0 | 0 |
| a. Congressional General Reductions | 0 | 0 | 0 | 0 |
| b. SBIR / STTR | -267 | 0 | 0 | 0 |
| c. Omnibus or Other Above Threshold Reduction | -41 | 0 | 0 | 0 |
| d. Below Threshold Reprogramming | -250 | 0 | 0 | 0 |
| e. Rescissions | -35 | -93 | 0 | 0 |
| Adjustments to Budget Years Since FY2001 PB | 0 | 0 | -402 | 0 |
| Current Budget Submit (FY 2002/2003 PB ) | 9407 | 10061 | 10045 | 0 |