ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit)	DATE February 2000
BUDGET ACTIVITY 2 - Applied Research	PE NUMBER AND TITLE 0602805A Dual Use Science & Technology (DUST) Program
	PROJECT A105

COST (*In Thousands*)	FY1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY2004 Estimate	FY2005 Estimate	Cost to Complete	Total Cost
A105 Dual Use Science & Technology (DUST) Program	9388	9924	10154	10447	10889	11846	12906	Continuing	Continuing

A. Mission Description and Justification: The goal of the Dual-Use Science & Technology (DUST) Program is to provide an incentive for Army agencies to exploit new ways of doing business with the private sector in the development of technologies having both military and commercial applications. 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 (i.e., $\geq$ 50%). The sponsoring agency then provides half of the government cost ($\leq$ 25%), with the remainder coming from this PE ($\leq$ 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 is intended to incentivize 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 provides significant savings to the Army, both in terms of initial development costs and, due to the parallel commercial products, reduced costs for end items. Work in this program element is consistent with the Army Science and Technology Master Plan (ASTMP), the Army Modernization Plan, and Force XXI. This program is overseen by the Office of the Secretary of Defense (OSD) Dual-Use Steering Committee and is managed primarily by the Office of the Deputy Assistant Secretary of the Army for Research and Technology. Beginning with FY2000 and continuing into FY2001 and beyond , the Army examines new proposals' relationships to the Army's warfighter-approved Science and Technology Objectives (STOs) to ensure warfighter buy-in and eventual transition to fielded programs. Proposals supporting STOs receive a higher priority for selection.

FY 1999 Accomplishments:

- 9388 - Provided up to 25% of funding for dual-use technology projects proposed by industry to meet Congressionally mandated goal of 7% of Army 6.2 funding being allocated to support dual use technology development. The FY99 solicitation yielded 51 proposals, from which 27 were selected in the Focus areas of AFFORDABLE SENSOR TECHNOLOGY - IR Helmet Sights, Lockheed Martin; Infrared Autonomous Remote Micro Sensors, Boeing; Low Cost Microsensors and Applications, Raytheon Systems Company; AIRCRAFT SUSTAINMENT - Integrated Platform Electronics for Manned/Unmanned Rotorcraft, McDonnell Douglas Helicopter; Advanced Tonal Noise Control Technology Development, Rotorcraft Industry Technology Associates (RITA); Advanced Geometric Modeling (Integrated Helicopter Design Tools, IHDT), RITA; Magnetic Damper for Bearingless Rotor Systems, Bell Helicopter Textron; Advanced Electric Wheel Drive Technology, General Dynamics Land Systems; Low-Cost Manufacture of a Composite Bearingless Tail Rotor, RITA; Advanced Skin Concepts for Rotorcraft Structure, RITA; Smart Antenna Applications for Army Airborne Reconnaissance Systems (SAARS), Lockheed Martin; Smart & Multifunction Rotorcraft Antennas, Boeing; Smart Starting, Lighting and Ignition (SLI) Battery, PowerSmart, Inc.; Advanced Vibration Reduction Concepts, RITA; Next Generation Electrical Architecture (NGEA),

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Oakland University; Asian-Pacific Rim Portable Translator, Systran Software Inc.; FUEL EFFICIENCY AND ADVANCED PROPULSION TECHNOLOGY - Variable Geometry Advanced Rotor Technology (VGART) – 1, Boeing; Variable Geometry Advanced Rotor Technology (VGART) -2, Sikorsky Aircraft Corporation; Variable Geometry Advanced Rotor Technology (VGART) – 3, Bell Helicopter Textron, Inc.; Improved

FY 1999 Accomplishments: (continued)

Materials and Powertrain Architectures for 21st Century Trucks (IMPACT), Ford Motor Company;; INFORMATION SYSTEMS AND TECHNOLOGY - Commercial-Quality Machine Translation for Arabic and/or Persian, Applications Technology, Inc; Enhanced Wireless LAN (WLAN) Technology for Mobile Applications, Rockwell Collins, Inc.; Internet Attack Simulator, GTE Government Systems; Bandwidth Brokers for Quality of Service (QoS) Support in IP-Based Networks for Integrated Desktop, Telecordia Technologies, Inc.; MEDICAL TECHNOLOGIES - Simulation Technologies for Advanced Trauma Care, Research Triangle Institute (RTI); Advanced Nonthermal Ration Technologies, Ohio State University; Low-Power High-Resolution Portable UltraSound with Color-Flow Imaging, Teratech Corporation.

Total 9388

FY 2000 Planned Program:

- 9657 - Provide 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.
- 267 Funds reprogrammed for SBIR/STTR programs in accordance with the Small Business Innovation Research Reauthorization Act of 1992.

Total 9924

FY 2001 Planned Program:

- 10154 - Provide up to 25% of funding for dual-use technology projects proposed by industry. Focus areas for Army topics in FY01 are: 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 10154

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PROJECT: A105

B. Program Change Summary	FY 1999	FY 2000	FY 2001
Previous President's Budget (FY 2000/2001 PB)	9935	18222	18217
Appropriated Value	10000	10000	
Adjustments to Appropriated Value			
a. Congressional General Reductions	-65		
b. SBIR / STTR	-263		
c. Omnibus or Other Above Threshold Reduction		-41	
d. Below Threshold Reprogramming	-246		
e. Rescissions	-38	-35	
Adjustments to Budget Years Since FY 2000/2001 PB			-63
New Army Transformation Adjustment			-8000
Current Budget Submit (FY 2001 PB)	9388	9924	10154

Change Summary Explanation: Funding – FY 2001: 8000 decrease in support of the New Army Transformation.