ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2005

BUDGET ACTIVITY	PE NUMBER AND TITLE
6 - Management support	**0605803A - Technical Information Activities**

	COST (In Thousands)	FY 2□□4 Actual	FY 2□□5 Estimate	FY 2□□6 Estimate	FY 2□□7 Estimate	FY 2□□8 Estimate	FY 2□□9 Estimate	FY 2□1□ Estimate	FY 2□11 Estimate
	Total Program Element (PE) Cost	5187□	27534	32237	3472□	36921	38182	359□7	35775
720	TECH INFO FUNC ACTV	3883	2516	6837	7266	7760	8067	8136	8196
727	TECH INFO ACTIVITIES	11691	6059	6629	7176	7599	7969	8128	8288
729	YOUTH SCIENCE ACTIV	2111	1833	2088	2174	2169	2277	2321	2366
730	PERS & TRNG ANALYS ACT	2269	2039	2105	2282	2421	2524	2547	2565
731	ARMY HIGH PERFORMANCE COMPUTING CENTERS □AHPCC)	20844	7491	6216	6706	7161	7470	7533	7589
733	ACQUISITION TECH ACT	7382	4699	5233	5701	6212	6137	3457	2946
C16	FAST	2441	2205	2149	2314	2461	2559	2582	2600
C18	BAST	1249	692	980	1101	1138	1179	1203	1225

A. Mission Description and Budget Item Justification: This program supports upgrading the accuracy, timeliness, availability, and accessibility of scientific, technical, and management information at all levels of Army Research and Development (R&D). Management of this information is critical to achieve the goals established by the Army's Senior Leadership for the Future Combat Systems and the Future Force. Use of accurate and timely technical information is essential to successfully meeting the milestones required on the path to the Future Force, allowing Army S&T leadership to refine investment strategy and quickly react to emerging opportunities and issues. This program includes initiatives to improve information derivation, storage, access, display, validation, transmission, distribution, and interpretation. This program addresses the need to increase the competitiveness and availability of scientific, engineering, and technical skills in the DoD and National workforce through outreach programs aimed at high school students. By providing direct working experience for these students in Army laboratories, the programs expose these students to the working world of science and engineering. Funding under this program enables the conducting of analyses, using behavioral science-based analytic tools, to provide policy and decision makers with Soldier-oriented recommendations concerning manpower, personnel and training issues. Funding in this program is provided for conduct of an Independent Review Team analysis of technology maturity as part of the Technology Readiness Assessment as required by DoDI 5□□□2 dated May 12, 2□□3. This program also supports Combatant Commanders and major Army commands by providing science advisors to address scientific and technical issues and by providing engineering teams to solve field Army technical problems. Coordination of this program with the other Services is achieved through interservice working groups. 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 in this PE is performed by the Research, Development and Engineering Command (RDECOM), the Army Research Office, the Army Research Institute, the Army Corps of Engineers' Engineer Research and Development Center (ERDC), and the Information Management Office.

B. Program Change Summary	FY 2□□5	FY 2□□6	FY 2□□7
Previous President's Budget (FY 2□□5)	27713	28195	3□212
Current Budget (FY 2□□6/2□□7 PB)	27534	32237	3472□
Total Adjustments	-179	4□42	45□8
Net of Program/Database Changes			
Congressional Program Reductions	-898		
Congressional Rescissions	-23		
Congressional Increases	15□□		
Reprogrammings			
SBIR/STTR Transfer	-758		
Adjustments to Budget Years		4□42	45□8

Change Summary Explanation:
Funding – FY 2□□6/2□□7: Increase funding supports critical technical analyses and assessments of S&T programs and independent technology reviews for Technology Readiness Assessments required by DoD 5□□□for Acquisition program Milestone decisions. Increase, also, supports National Academy of Sciences studies to provide recommendations on strategic S&T investments for the Army. (FY □6 +4□42/FY □7 +45□8)

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2005

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
6 - Management support	**0605803A - Technical Information Activities**	**720**

COST (In Thousands)	FY 2□□4 Actual	FY 2□□5 Estimate	FY 2□□6 Estimate	FY 2□□7 Estimate	FY 2□□8 Estimate	FY 2□□9 Estimate	FY 2□1□ Estimate	FY 2□11 Estimate
72□ TECH INFO FUNC ACTV	3883	2516	6837	7266	7760	8067	8136	8196

A. Mission Description and Budget Item Justification: This project provides for technology transfer activities to support acquisition, storage, and utilization of technical information for both military and domestic applications. Effective exploitation of S&T information is critical to achieving the goals established by Senior Army Leadership for the Future Combat Systems and the Future Force. Activities include Army support for Federal Laboratory Consortium (FLC) as required by Public Law; the Army Science Board; the Army Science Conference; and administration of the Army's Small Business Innovative Research (SBIR) and Small Business Technology Transfer Program (STTR) in accordance with the Small Business Research and Development Enhancement Act of 1992. Technology transfer activities make technical information available to both the public and private sectors to reduce duplication in R&D programs and to increase competitiveness in the U.S. business community. In addition, this project provides funding for patent legal expenses and fees for all Research, Development and Engineering Command (RDECOM) subordinate commands and laboratories, as required by the Omnibus Budget Reconciliation Act. S&T database management efforts previously performed in PE □6□58□3A, Project 727 for RDECOM have been transferred to this project starting in FY 2□□6. This efforts support development of decision aids, databases, and automation support for the management and execution of the Army Research, Development, Test and Evaluation (RDTE) appropriation. 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 Army Research Laboratory.

Accomplishments/Planned Program	FY 2004	FY 2005	FY 2006	FY 2007
- Provide Army funding support for Federal Laboratory Consortium as required by Public Law 104-113.	201	116	203	210
- Provide administrative and contractual support for the Army Science Board.	1250	766	1156	1182
- Provide administrative support for the Army's SBIR and STTR programs.	800	526	827	864
- Provide funding for patent fees and patent legal expenses for AMC commands and laboratories.	1029	722	1058	1173
- Provide funding for S&T Strategic Planning and Support.	203	106	180	188
- Provide funding for the Army Science Conference.	400	280	419	424
- Administer S&T database computer engineering support contract and support RDECOM databases S&T management support.	0	0	2994	3225
Totals	3883	2516	6837	7266

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2005

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
6 - Management support	**0605803A - Technical Information Activities**	**727**

COST (In Thousands)		FY 2□□4 Actual	FY 2□□5 Estimate	FY 2□□6 Estimate	FY 2□□7 Estimate	FY 2□□8 Estimate	FY 2□□9 Estimate	FY 2□1□ Estimate	FY 2□11 Estimate
727	TECH INFO ACTIVITIES	11691	6059	6629	7176	7599	7969	8128	8288

A. Mission Description and Budget Item Justification: This project supports development of decision aids, databases, and automation support for the management and execution of the Army Research, Development, Test and Evaluation (RDTE) Appropriation. It includes the hardware, software and contractor support required to develop and implement a set of management decision aids, databases, and hardware/software tools to support technical and budgetary decisions at the Office of the Secretary of Defense (OSD); Department of the Army (DA), including support of the Army Science and Technology Master Plan; Corps of Engineers' Engineer Research and Development Center (ERDC); and Research, Development and Engineering Command (RDECOM). Most of the efforts in this project are on-going activities to support Army Research, Development and Acquisition programs. Effective exploitation of S&T information is critical achieving the goals established by Senior Army Leadership for the Future Combat Systems and the Future Force. Funding in this program is provided for conduct of an Independent Review Team analysis of technology maturity as part of the Technology Readiness Assessment as required by DoDI 5□□□2 dated May 12, 2□□3. S&T and RDECOM database support will transfer to PE □6□58□3A, Project 72□in FY 2□□6. 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 Army Research Laboratory.

Accomplishments/Planned Program	FY 2004	FY 2005	FY 2006	FY 2007
- Conduct and support S&T program portfolio assessements and analysis.	1500	1000	1050	1100
- Support Army S&T strategic planning, analysis, and prioritization.	2000	1950	2250	2300
- Provide funding and support for Army Science and Technology Master Plan development and publication.	1255	1210	1303	1334
- Provide funding and support for Army Acquisition Program Technology Readiness Assessments for Program Milestone Decisions.	1452	1249	1526	1932
- Provide Army support to Director, Defense Research and Engineering Executive Staff for DOD-wide Science and Technology oversight.	800	650	500	510
- Administer S&T database computer engineering support contract and support RDECOM database and Defense Technology Area Plan □DTAP)management.	4684	0	0	0
Totals	11691	6059	6629	7176

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2005

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
6 - Management support	**0605803A - Technical Information Activities**	**729**

COST (In Thousands)		FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate
729	YOUTH SCIENCE ACTIV	2111	1833	2088	2174	2169	2277	2321	2366

A. Mission Description and Budget Item Justification: This project supports science activities to encourage over 1 , high school youths to develop an interest and pursue higher education and employment in the scientific, engineering, and mathematics career fields. These activities are consolidated entirely within this program to "present the Army" to a large potential pool of technical talent to fill future Army S&T workforce needs. The joint Army/Navy Washington regional area Science and Engineering Apprenticeship Program (SEAP) is included in the overall effort. The SEAP provides an eight-week hands-on learning experience for high school students to work with bench level scientists in Army laboratories to encourage more students to pursue scientific/engineering careers. This program enhances the national laboratory science and engineering pool, which in turn supports Defense industry and Army laboratory needs. 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 Army Research Laboratory (ARL) and Medical Research and Materiel Command (MRMC).

Accomplishments/Planned Program	FY 2004	FY 2005	FY 2006	FY 2007
- Foster high school student interest nationally in science, mathematics, engineering and computer science by sponsoring the Junior Science & Humanities Symposium JSHS), International Mathematics Olympiad IMO), International Science and Engineering Fair ISEF), and the Research and Engineering Apprenticeship Program REAP).	1509	1239	1425	1457
- Sponsor joint Army/Navy Washington Regional Area SEAP and increase Army Laboratory/RDEC sponsorship of students	177	215	229	239
- Conduct the Uninitiated Introduction to Engineering UNITE) program to increase the numbers of Native Americans, African Americans, and Spanish-speaking Americans attending and completing engineering and/or science curricula at the university level.	200	160	200	235
- Conduct West Point cadet research internship program to enhance cadet training through field experience within Army research labs and centers.	225	219	234	243
Totals	2111	1833	2088	2174

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2005

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
6 - Management support	**0605803A - Technical Information Activities**	**730**

COST (In Thousands)	FY 2□□4 Actual	FY 2□□5 Estimate	FY 2□□6 Estimate	FY 2□□7 Estimate	FY 2□□8 Estimate	FY 2□□9 Estimate	FY 2□1□ Estimate	FY 2□11 Estimate
73□ PERS & TRNG ANALYS ACT	2269	2039	2105	2282	2421	2524	2547	2565

A. Mission Description and Budget Item Justification: This project provides the Army's behavioral and social science research-based studies and analyses to address current and near term Soldier, training, and leader development issues. The project provides a unique capability to address a number of issues that affect, directly or indirectly, Soldier and unit performance and readiness, such as the effects of changes in training on individual and unit performance, the personnel costs of alternative programs and policies, and the effects of program changes on retention of quality Soldiers. Requirements for research-based studies and analyses for critical personnel and training issues of immediate importance are solicited on an annual basis from the Training and Doctrine Command (TRADOC), the Assistant Secretary of the Army for Manpower and Reserve Affairs, the Army Deputy Chief of Staff, G-1, and the Human Resources Command. 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 in this project is managed by the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI).

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2005

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
6 - Management support	**0605803A - Technical Information Activities**	**730**

Accomplishments/Planned Program	FY 2004	FY 2005	FY 2006	FY 2007
- In FY04, the behavioral and social science research-based studies and analysis projects provided guidance for the design and optimization of helicopter gunnery training programs; examined various methods of distance mentoring compared to classroom interaction for battle command training at the Armor School; identified causes and potential solutions to Initial Entry Training attrition; provided information that the Army can use to reduce absence without leave (AWOL) and desertion; and developed a web-based Selective Reenlistment Bonus (SRB) management system. Studies planned for FY05 will conduct a pilot evaluation of the Basic Officer Leadership Course (BOLC II); evaluate structured Communities of Practice as a leader development tool; define the effects of simulator motion on task performance; provide a longitudinal validation of a Leadership Assessment Tool (LAT) for predicting junior NCO performance above and beyond the current promotion point worksheet system; assess the impacts and effectiveness of using sergeants in pay grade E-5 as drill sergeants; determine if Soldiers graduating from Basic Combat Training are adequately trained to succeed in Advanced Individual Training; assess the Warrior Transition Course; identify strategies for increasing the retention of commissioned officers beyond their obligation; assess the impacts of the deployment for Operation Iraqi Freedom; recommend new screening tools to decrease attrition of non high school diploma graduate recruits; and evaluate the usefulness of the Non-commissioned Officer Leadership Skills Inventory (NLSI) for predicting drill sergeant duty performance and attrition. Projects for FY06 and FY07 will be based on issues identified by the Training and Doctrine Command (TRADOC), the Assistant Secretary of the Army for Manpower and Reserve Affairs, the Army Deputy Chief of Staff, G-1, and the Human Resources Command (HRC).	2269	2039	2105	2282
Totals	2269	2039	2105	2282

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2005

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
6 - Management support	**0605803A - Technical Information Activities**	**731**

COST (In Thousands)		FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate
731	ARMY HIGH PERFORMANCE COMPUTING CENTERS (AHPCC)	20844	7491	6216	6706	7161	7470	7533	7589

A. Mission Description and Budget Item Justification: This project directly supports Future Force requirements by providing high fidelity modeling, simulation, and analysis of materials, systems, and operational constructs to be employed within the Future Force. The project supports collaborative efforts to advance computational science and its application to critical Army technologies. The Centers work with researchers at Army laboratories to explore new algorithms in the computational sciences to address critical technology issues in numerous, diverse computational research areas. The Centers also sustain high performance computing environments and educational outreach as an integral part of their mission. The cited work is consistent with Army 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 Army Research Laboratory (ARL).

Accomplishments/Planned Program	FY 2004	FY 2005	FY 2006	FY 2007
- Sustain the high performance computing environment and infrastructure in support of the US Army Tank & Automotive Research Development & Engineering Center (TARDEC)	2194	2042	2024	2137
- Sustain the high performance computing environment and infrastructure in support of the Army High Performance Computing Research Center's (AHPCRC) research and education activities.	1151	1095	1121	1215
- Sustain the high performance computing environment and infrastructure in support of the US Army Research Laboratory's Major Shared Research Center (MSRC)	3038	2917	3071	3354
- Army High Performance Computing Research Center (AHPCRC): FY04, Congressional funding provides funds to AHPCRC high performance computing systems and networks; user support; AHPCRC based staff scientist and research support staff; technology exchange (i.e. computational chemistry, fluid structure interactions); and summer institute programs, research activities, and outreach. In FY05, Congressional funding povides for AHPCRC high performance computing research. No additional funding is required to complete this project.	14461	1437	0	0
Totals	20844	7491	6216	6706

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2005

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
6 - Management support	**0605803A - Technical Information Activities**	**733**

COST (In Thousands)		FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate
733	ACQUISITION TECH ACT	7382	4699	5233	5701	6212	6137	3457	2946

A. Mission Description and Budget Item Justification: This project improves the Army's acquisition process by applying decision support and expert information systems, and by supporting analysis and evaluation of alternative acquisition strategies using techniques such as value-added analysis and analysis-of-alternates. This project provides the environment for the analysis and evaluation of new information technologies, and concepts and applications in integrated management activities, and support to meet the dynamic Army acquisition technology requirements. This program supports analysis efforts to conduct critical analyses for Army leadership in support of Army Transformation. These analyses are used by leadership in making acquisition, procurement, and logistics decisions in order to provide quality equipment and procedures to the Soldiers.

Accomplishments/Planned Program	FY 2004	FY 2005	FY 2006	FY 2007
- Distribute and beta test application programs and user interface utilities for executive level information systems that offer Standard Query Language services to Army Acquisition Corps corporate and global databases. Analyze acquisition program financial programming and budgeting requirements. Continue development of Weapon Systems Handbook, long-range planning and policy analysis, resource allocation analysis, cost tracking and analysis, cost-effectiveness and database management/financial analysis, special access required technology application concept research/analysis.	5452	3937	4367	4775
- Conduct analysis and evaluation of new information technologies, and concepts and applications in integrated management activities, and support to meet the dynamic Army acquisition technology requirements.	1930	762	866	926
Totals	7382	4699	5233	5701

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2005

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
6 - Management support	**0605803A - Technical Information Activities**	**C16**

COST (In Thousands)	FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate
C16 FAST	2441	2205	2149	2314	2461	2559	2582	2600

A. Mission Description and Budget Item Justification: The Field Assistance in Science and Technology (FAST) program focuses Army Materiel Command (AMC) resources to rapidly identify and solve Army field technical problems that enable the improvement of readiness, safety, training, and cut operations and support (O&S) costs. FAST tours of duty provide significant professional growth opportunities for the Army's scientists and engineers. Science advisers are recruited from AMC headquarters and all AMC Major Subordinate Commands (MSCs) to serve Combatant Commands and major commands worldwide. The FAST activity is also supported by assigned Quick Reaction Coordinators (QRCs) within each engineering center. All costs associated with science advisor assignments are funded by AMC or the AMC MSCs that supply the science advisers for two to three year tours. FAST manages a level of effort type project with most projects recouping many times their cost in O&S cost savings. FAST also provides emerging technology demonstration opportunities to the Research, Development and Engineering Command's (RDECOM) engineering centers and DARPA and executes biannual Technology Applications Conferences (TAC) on a rotating basis between FORSCOM, USAREUR, and USFK/Eighth Army. FAST also maintains close coordination with the Navy Science Advisor Program (Naval Fleet Forces Technology Integration Office). 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 in this project is performed by the U.S. Army Materiel Command.

Accomplishments/Planned Program	FY 2004	FY 2005	FY 2006	FY 2007
- Respond to Combatant Commanders worldwide for technological solutions to urgent materiel problems they identify; deploy science advisors with U.S. Task Forces in support of Combatant Commanders; execute biannual Technology Applications Conference.	2441	2205	2149	2314
Totals	2441	2205	2149	2314

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2005

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
6 - Management support	**0605803A - Technical Information Activities**	**C18**

COST (In Thousands)	FY 2□4 Actual	FY 2□5 Estimate	FY 2□6 Estimate	FY 2□7 Estimate	FY 2□8 Estimate	FY 2□9 Estimate	FY 2□1□ Estimate	FY 2□11 Estimate
C18 BAST	1249	692	980	1101	1138	1179	1203	1225

A. Mission Description and Budget Item Justification: This project funds efforts in support of the Army by the National Research Council's (NRC) Board on Army Science and Technology (BAST). The BAST provides an independent, objective, and credible source of external advice to the Army. It serves as a convening authority for the discussion of science and technology issues of importance to the Army and oversees independent Army-related studies conducted by the National Academies. Working in close coordination with the Army, the BAST helps define problems, brings together experts to study these problems, and provides recommendations. Committees are assembled in accordance with established NRC procedures and BAST studies often continue longer than 12 months. 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 in this project is performed extramurally by the Army Research Laboratory (ARL).

Accomplishments/Planned Program	FY 2004	FY 2005	FY 2006	FY 2007
- Provide studies and conduct periodic meetings involving research and development in science and technology fields applicable to the U.S. Army. In FY04, completed studies on Portable Power Sources for the Future Force Warrior; and, Technology Under Development for the Army's Contribution to Homeland Defense. Primary study topic for FY05 is Network Sciences. Future topics for FY06 and 07 will be sleceted according to Army S&T strategy and senior leader initiatives.	1249	692	980	1101
Totals	1249	692	980	1101