TOC

Supporting Data FY 2004 President's Budget
Submitted to OSD – February 2003

# DESCRIPTIVE SUMMARIES OF THE

# RESEARCH, DEVELOPMENT, TEST AND EVALUATION
## Army Appropriation, Budget Activities 4 and 5

Department of the Army
Office of the Secretary of the Army (Financial Management and Comptroller)

***Persuasive in Peace, Invincible in War***

**VOLUME II**

# DESCRIPTIVE SUMMARIES FOR PROGRAM ELEMENTS
# OF THE
# RESEARCH, DEVELOPMENT, TEST AND
# EVALUATION, ARMY
# FY 2004/2005
# PRESIDENT'S BUDGET SUBMISSION
# FEBRUARY 2003

## VOLUME II
## Budget Activities 4 and 5

**Department of the Army**
**Office of the Assistant Secretary of the Army (Financial Management and Comptroller)**

# FY 2004/2005 RDT&E, ARMY
# PROGRAM ELEMENT DESCRIPTIVE SUMMARIES

## INTRODUCTION AND EXPLANATION OF CONTENTS

**1. General**. The purpose of this document is to provide summary information concerning the Research, Development, Test and Evaluation, Army program. The Descriptive Summaries are comprised of R-2 (Army RDT&E Budget Item Justification – Program Element level), R-2A (Army RDT&E Budget Item Justification – project level) and R-3 (Army RDT&E Cost Analysis) Exhibits, which provide narrative information on all RDT&E program elements and projects for FY 2002 through FY2005.

**2. Relationship of the FY 2004/2005 Budget Submission to the FY 2003 Budget Submitted to Congress**. This paragraph provides a list of program elements restructured, transitioned, or established to provide specific program identification.

**A. Program Restructures.** Explanations for these changes can be found in the narrative sections of the Program Element R-2/R-2A/R-3 Exhibits.

| OLD PE/PROJECT | NEW PROJECT TITLE | NEW PE/PROJECT |
|---|---|---|
| 0601103D | University Research Initiative | 0601103A/D55 |
| 0602720A/F25 | Pollution Prevention | 0602720A/895 |
| 0603004A/43A | Advanced Munitions Demonstration | 0603004A/232 |
| 0603006A/592 | High Altitude Airship ACTD | 0603006A/588 |
| 0603238A/177 | Joint Virtual Battlespace | 0603015A/S30 |
| 0603001A/545 | Force Projection Logistics | 0603015A/S31 |
| 0603104D | Explosives Demil Tech | 0603103A/D51 |
| 0603734A/T08 | Base Camp Protection | 0603125A/DF1 |
| 0603308A/99A | Army SIAP Systems Engineering | 0603327A/S24 |
| 0603305A/TR4 | Army SIAP Operational Integration | 0603327A/S25 |
| 0603305A/TR6 | Joint Distributed Engineering Plant (JDEP) | 0603327A/S27 |
| 0603879N | Joint SIAP System Engineering | 0603327A/S32 |
| 0603006A/592 | Overwatch ACTD | 0603710A/590 |

| | | |
|---|---|---|
| 0603711BR | Nuclear Arms Control Tech – Sensor & Network Mon | 0603782A/F98 |
| 0603801A/B33 | Adv Maint Concepts/EQ | 0603801A/B32 |
| 0603869C | Medium Extended Air Defense System (MEADS) | 0603869A/01B |
| BA0510 | Ground CID (BCIS) | 0604817A/482 |
| 0604818A/C12 | Standard Integrated Command Posts (SICPS) | 0604818A/C39 |
| 0605605A | Big Crow Support | 0605601A/F38 |
| 0603858D | Unexploded Ordnance Clearance Technology Spt | 0605857A/06H |
| 0303140A/491 | Army Common Access Card/Public Key Infrastructure | 0303140A/50B |
| 0305204A/114 | Extended Range UAV (JMIP) | 0305204A/D09 |
| 0305208A/956 | DCGS-A Sensor Integration (JMIP) | 0305208A/D08 |
| 0305208A/956 | DCGS-A Common Modules (JMIP) | 0305208A/D07 |
| 0604321A/B19 | DCGS-A ASAS Integration (JMIP) | 0305208A/D06 |
| 0708045A/E27 | MFG Science and Technology | 0708045A/E25 |

**B. Developmental Transitions.** Explanations for these changes can be found in the narrative sections of the Program Element R-2/R-3 Exhibits.

| **FROM** | | **TO** |
|---|---|---|
| **PE/PROJECT** | **PROJECT TITLE** | **PE/PROJECT** |
| 0602308A/D02 | Institute for Creative Technology (ICT) | 0603015A/S28 |
| 0602308A/C90 | Modeling & Simulation | 0603015A/S29 |
| 0602308A/C90 | RDEC Federation | 0603015A/S31 |
| 0602303A/214 | Advanced Missile Demonstration | 0603313A/704 |
| 0603607A/627 | Adv Crew Svc Wpn | 0604601A/033 |
| 0603854A/F47 | Objective Force Indirect Fires | 0604645A/F50 |
| 0603802A/AS3 | Obj Ind Cbt Wpn Eng Dev | 0604802A/134 |
| 0603009A/B34 | Z02 | 0203806A/Z02 |

**C. Establishment of New FY 2004/2005 Program Elements/Projects.** There are no major system new starts. Minor new initiatives for FY 2004/2005 are shown below with asterisks. The remaining programs listed are outyear initiatives, restructures beyond FY 2004/2005, or were previously funded from other Defense appropriations.

| TITLE | PE/PROJECT |
|---|---|
| National Aerospace Initiative* | 0602303A/G02* |
| AC60* | 0602786A/C60* |
| High Energy Laser Technology Demo | 0603004A/L96 |
| DB96* | 0603020A/B96* |
| National Aerospace Initiative – Adv Dev* | 0603313A/G03* |
| Smoke/Obscurant System* | 0603627A/E79* |
| Comanche Companion UAV | 0604223A/C79 |
| Trailer Development* | 0604622A/E50* |
| Army Tactical Missile System – Penetrator* | 0604768A/MD6* |
| NAVSTAR GPS Equip* | 0604778A/168* |
| Maintenance Support Equipment* | 0604804A/L46* |
| Surf Lnch Adv Med Rng Air-to-Air Msl (SLAMRAAM)* | 0604802A/S23* |
| DTSP Development (JMIP)* | 0305204A/11B* |
| MLRS Smart Tactical Rocket* | 0603778A/783* |
| HIMARS P3I | 0603778A/787 |

**D. FY 2004/2005 programs for which funding existed in the FY 2003 Amended President's Budget Submit (July 2002), but which are no longer funded beginning in FY 2004**.

| PE/PROJECT | TITLE | BRIEF EXPLANATION |
|---|---|---|
| 0602308A/D03 | JMASS | Program Terminated |
| 0604619A/088 | Wide Area Mine Engineering Development | Program Terminated |
| 0604738A/J11 | Alliance Executive Development & Integration | Program Terminated |
| 0604746A/L66 | Embedded Diagnostics/Prognostics Dev | Program Completed |
| 0604768A/687 | BAT P3I | Program Terminated |
| 0604768A/2NT | BAT Operational Test | Program Terminated |
| 0303028A/H13 | Information Dominance Center (IDC) | Program Terminated |

**3. Classification.** This document contains no classified data. Classified/Special Access Programs that are submitted offline are listed below.

| | | |
|---|---|---|
| * 0203735A/C64 | 0602601A/C84 | 0603020A/B77/B84/B85/B96 |
| 0203806A | 0602786A/C60 | 0603322A/B92 |
| 0203808A/E11 | 0603005A/C66 | 0603710A/C65/C67 |
| 0301359A | 0603009A/B18/B31/B34 | 0603851A/C75 |
| 0602122A/B72/622 | 0603017A/B69 | 0604328A/C71 |

*Funding ends in FY02

**4. Comprehensive Program Review.** This year, the Administration undertook a comprehensive review of 20% of the programs of the Executive Branch, including the same portion of programs within the Department of Defense. The Basic Research programs of the Department were reviewed as a whole, including Basic Research programs of the Army. The Basic Research program merited a rating of "Effective". A summary sheet describing the rating from the Basic Research evaluation follows.

Exhibit R-1

Summary

03-Feb-2003

| Summary Recap of Budget Activities | Thousands of Dollars | | | |
|---|---|---|---|---|
| | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
| Basic research | 220,960 | 244,411 | 343,037 | 344,398 |
| Applied Research | 865,270 | 857,766 | 641,263 | 654,784 |
| Advanced technology development | 906,920 | 1,040,392 | 805,696 | 829,188 |
| Advanced Component Development and Prototypes | 859,300 | 856,512 | 784,347 | 694,361 |
| System Development and Demonstration | 2,141,017 | 2,512,282 | 4,737,771 | 5,243,019 |
| Management support | 928,420 | 950,090 | 860,457 | 872,978 |
| Operational system development | 1,096,365 | 1,073,396 | 950,254 | 899,963 |
| Total RDT&E, Army | 7,018,252 | 7,534,849 | 9,122,825 | 9,538,691 |

Appropriation: 2040 A RDT&E, Army

03-Feb-2003

| Line No | Program Element Number | Act | Item | Thousands of Dollars FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|---|---|---|
| | Basic research | | | | | | |
| 1 | 0601101A | 01 | IN-HOUSE LABORATORY INDEPENDENT RESEARCH | 13,726 | 20,608 | 24,121 | 24,256 |
| 2 | 0601102A | 01 | DEFENSE RESEARCH SCIENCES | 135,535 | 140,493 | 128,798 | 129,586 |
| 3 | 0601103A | 01 | UNIVERSITY RESEARCH SCIENCES (H) | 0 | 0 | 71,642 | 77,166 |
| 4 | 0601104A | 01 | UNIVERSITY AND INDUSTRY RESEARCH CENTERS | 71,699 | 83,310 | 84,816 | 79,750 |
| 5 | 0601105A | 01 | FORCE HEALTH PROTECTION | 0 | 0 | 9,847 | 9,796 |
| 6 | 0601114A | 01 | DEFENSE EXPERIMENTAL PROGRAM TO STIMULATE COMPETIT | 0 | 0 | 9,730 | 9,614 |
| 7 | 0601228A | 01 | HISTORICALLY BLACK COLLEGES AND UNIVERSITIES/MINOR | 0 | 0 | 14,083 | 14,230 |
| | Total: Basic research | | | 220,960 | 244,411 | 343,037 | 344,398 |
| | Applied Research | | | | | | |
| 8 | 0602105A | 02 | MATERIALS TECHNOLOGY | 20,206 | 33,621 | 15,186 | 14,881 |
| 9 | 0602120A | 02 | SENSORS AND ELECTRONIC SURVIVABILITY | 31,635 | 21,820 | 22,765 | 25,510 |
| 10 | 0602122A | 02 | TRACTOR HIP | 7,197 | 8,006 | 5,835 | 6,097 |
| 11 | 0602211A | 02 | AVIATION TECHNOLOGY | 41,295 | 39,693 | 39,459 | 41,886 |
| 12 | 0602270A | 02 | EW TECHNOLOGY | 16,427 | 17,303 | 17,029 | 17,923 |
| 13 | 0602303A | 02 | MISSILE TECHNOLOGY | 58,855 | 53,308 | 43,269 | 50,407 |
| 14 | 0602307A | 02 | ADVANCED WEAPONS TECHNOLOGY | 25,460 | 19,976 | 14,189 | 17,560 |
| 15 | 0602308A | 02 | ADVANCED CONCEPTS AND SIMULATION | 30,319 | 30,150 | 15,941 | 15,643 |
| 16 | 0602601A | 02 | COMBAT VEHICLE AND AUTOMOTIVE TECHNOLOGY | 109,394 | 79,952 | 80,910 | 71,108 |
| 17 | 0602618A | 02 | BALLISTICS TECHNOLOGY | 60,646 | 62,458 | 53,478 | 52,392 |
| 18 | 0602622A | 02 | CHEMICAL, SMOKE AND EQUIPMENT DEFEATING TECHNOLOGY | 6,079 | 15,643 | 3,540 | 3,553 |
| 19 | 0602623A | 02 | JOINT SERVICE SMALL ARMS PROGRAM | 5,088 | 5,468 | 5,835 | 5,979 |
| 20 | 0602624A | 02 | WEAPONS AND MUNITIONS TECHNOLOGY | 62,914 | 72,504 | 39,485 | 45,598 |
| 21 | 0602705A | 02 | ELECTRONICS AND ELECTRONIC DEVICES | 48,000 | 59,682 | 33,694 | 42,005 |
| 22 | 0602709A | 02 | NIGHT VISION TECHNOLOGY | 22,172 | 19,696 | 22,233 | 22,420 |
| 23 | 0602712A | 02 | COUNTERMINE SYSTEMS | 21,995 | 16,857 | 21,291 | 21,422 |
| 24 | 0602716A | 02 | HUMAN FACTORS ENGINEERING TECHNOLOGY | 20,144 | 20,516 | 16,749 | 16,357 |
| 25 | 0602720A | 02 | ENVIRONMENTAL QUALITY TECHNOLOGY | 16,692 | 26,747 | 18,252 | 17,157 |

Appropriation: 2040 A RDT&E, Army

03-Feb-2003

| Line No | Program Element Number | Act | Item | Thousands of Dollars FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|---|---|---|
| 26 | 0602782A | 02 | COMMAND, CONTROL, COMMUNICATIONS TECHNOLOGY | 22,130 | 21,150 | 18,728 | 18,696 |
| 27 | 0602783A | 02 | COMPUTER AND SOFTWARE TECHNOLOGY | 3,895 | 4,001 | 4,142 | 4,102 |
| 28 | 0602784A | 02 | MILITARY ENGINEERING TECHNOLOGY | 56,911 | 55,304 | 45,407 | 46,034 |
| 29 | 0602785A | 02 | MANPOWER/PERSONNEL/TRAINING TECHNOLOGY | 14,367 | 15,358 | 15,548 | 15,607 |
| 30 | 0602786A | 02 | LOGISTICS TECHNOLOGY | 31,650 | 34,239 | 29,421 | 21,375 |
| 31 | 0602787A | 02 | MEDICAL TECHNOLOGY | 122,121 | 124,314 | 58,877 | 61,072 |
| 32 | 0602805A | 02 | DUAL USE SCIENCE AND TECHNOLOGY | 9,678 | 0 | 0 | 0 |
| | | | Total: Applied Research | 865,270 | 857,766 | 641,263 | 654,784 |
| | | | Advanced technology development | | | | |
| 33 | 0603001A | 03 | WARFIGHTER ADVANCED TECHNOLOGY | 59,815 | 57,014 | 63,882 | 68,763 |
| 34 | 0603002A | 03 | MEDICAL ADVANCED TECHNOLOGY | 169,598 | 166,406 | 35,168 | 38,686 |
| 35 | 0603003A | 03 | AVIATION ADVANCED TECHNOLOGY | 37,290 | 41,924 | 72,083 | 70,327 |
| 36 | 0603004A | 03 | WEAPONS AND MUNITIONS ADVANCED TECHNOLOGY | 34,244 | 63,230 | 47,752 | 72,404 |
| 37 | 0603005A | 03 | COMBAT VEHICLE AND AUTOMOTIVE ADVANCED TECHNOLOGY | 220,196 | 264,795 | 210,856 | 205,245 |
| 38 | 0603006A | 03 | COMMAND, CONTROL, COMMUNICATIONS ADVANCED TECHNOLO | 33,272 | 6,814 | 10,379 | 13,073 |
| 39 | 0603007A | 03 | MANPOWER, PERSONNEL AND TRAINING ADVANCED TECHNOLO | 3,077 | 7,663 | 4,931 | 7,158 |
| 40 | 0603008A | 03 | ELECTRONIC WARFARE ADVANCED TECHNOLOGY | 0 | 26,931 | 40,347 | 41,982 |
| 41 | 0603009A | 03 | TRACTOR HIKE | 12,027 | 17,141 | 8,781 | 10,094 |
| 42 | 0603015A | 03 | NEXT GENERATION TRAINING & SIMULATION SYSTEMS | 0 | 0 | 18,649 | 20,379 |
| 43 | 0603017A | 03 | TRACTOR RED | 300 | 0 | 0 | 0 |
| 44 | 0603020A | 03 | TRACTOR ROSE | 8,952 | 4,602 | 2,872 | 3,284 |
| 45 | 0603103A | 03 | EXPLOSIVE DEMILITARIZATION TECHNOLOGY | 0 | 0 | 9,349 | 9,860 |
| 46 | 0603105A | 03 | MILITARY HIV RESEARCH | 5,697 | 0 | 6,733 | 6,746 |
| 47 | 0603125A | 03 | COMBATING TERRORISM, TECHNOLOGY DEVELOPMENT FOR | 0 | 41,842 | 4,916 | 3,436 |
| 48 | 0603238A | 03 | GLOBAL SURVEILLANCE/AIR DEFENSE/PRECISION STRIKE T | 34,963 | 29,788 | 12,660 | 8,833 |
| 49 | 0603270A | 03 | EW TECHNOLOGY | 23,537 | 18,756 | 11,273 | 9,213 |
| 50 | 0603313A | 03 | MISSILE AND ROCKET ADVANCED TECHNOLOGY | 76,979 | 99,695 | 111,321 | 94,062 |
| 51 | 0603322A | 03 | TRACTOR CAGE | 3,078 | 2,939 | 7,592 | 9,165 |
| 52 | 0603606A | 03 | LANDMINE WARFARE AND BARRIER ADVANCED TECHNOLOGY | 24,718 | 28,595 | 24,552 | 25,476 |

| Line No | Program Element Number | Act | Item | Thousands of Dollars FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|---|---|---|
| 53 | 0603607A | 03 | JOINT SERVICE SMALL ARMS PROGRAM | 4,264 | 12,998 | 6,193 | 5,979 |
| 54 | 0603654A | 03 | LINE-OF-SIGHT TECHNOLOGY DEMONSTRATION | 72,530 | 26,955 | 8,847 | 0 |
| 55 | 0603710A | 03 | NIGHT VISION ADVANCED TECHNOLOGY | 54,913 | 73,609 | 47,088 | 54,635 |
| 56 | 0603728A | 03 | ENVIRONMENTAL QUALITY TECHNOLOGY DEMONSTRATIONS | 7,026 | 12,846 | 15,776 | 14,897 |
| 57 | 0603734A | 03 | MILITARY ENGINEERING ADVANCED TECHNOLOGY | 4,554 | 13,696 | 3,441 | 3,926 |
| 58 | 0603772A | 03 | ADVANCED TACTICAL COMPUTER SCIENCE AND SENSOR TECH | 15,890 | 22,153 | 20,255 | 31,565 |
| | | | Total: Advanced technology development | 906,920 | 1,040,392 | 805,696 | 829,188 |
| | | | Advanced Component Development and Prototypes | | | | |
| 59 | 0603305A | 04 | ARMY MISSILE DEFENSE SYSTEMS INTEGRATION | 0 | 37,233 | 51,547 | 51,802 |
| 60 | 0603308A | 04 | ARMY MISSILE DEFENSE SYSTEMS INTEGRATION (DEM/VAL) | 68,481 | 57,429 | 9,632 | 9,649 |
| 61 | 0603327A | 04 | AIR AND MISSILE DEFENSE SYSTEMS ENGINEERING | 0 | 0 | 79,959 | 71,887 |
| 62 | 0603619A | 04 | LANDMINE WARFARE AND BARRIER - ADV DEV | 20,300 | 9,716 | 36,976 | 42,262 |
| 63 | 0603627A | 04 | SMOKE, OBSCURANT AND TARGET DEFEATING SYS-ADV DEV | 0 | 2,323 | 10,262 | 12,972 |
| 64 | 0603639A | 04 | TANK AND MEDIUM CALIBER AMMUNITION | 52,252 | 26,492 | 11,249 | 1,943 |
| 65 | 0603653A | 04 | ADVANCED TANK ARMAMENT SYSTEM (ATAS) | 98,145 | 143,296 | 61,377 | 52,429 |
| 66 | 0603747A | 04 | SOLDIER SUPPORT AND SURVIVABILITY | 14,939 | 19,558 | 13,987 | 12,213 |
| 67 | 0603766A | 04 | TACTICAL SUPPORT DEVELOPMENT - ADV DEV (TIARA) | 16,225 | 16,107 | 17,068 | 16,079 |
| 68 | 0603774A | 04 | NIGHT VISION SYSTEMS ADVANCED DEVELOPMENT | 10,662 | 11,170 | 5,283 | 5,227 |
| 69 | 0603779A | 04 | ENVIRONMENTAL QUALITY TECHNOLOGY DEM/VAL | 39,047 | 31,121 | 11,514 | 9,454 |
| 70 | 0603782A | 04 | WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL | 12,140 | 48,556 | 90,774 | 75,332 |
| 71 | 0603790A | 04 | NATO RESEARCH AND DEVELOPMENT | 6,202 | 4,559 | 4,779 | 5,263 |
| 72 | 0603801A | 04 | AVIATION - ADV DEV | 12,807 | 10,767 | 9,968 | 9,320 |
| 73 | 0603802A | 04 | WEAPONS AND MUNITIONS - ADV DEV | 33,567 | 34,257 | 31,856 | 4,868 |
| 74 | 0603804A | 04 | LOGISTICS AND ENGINEER EQUIPMENT - ADV DEV | 7,412 | 9,243 | 12,008 | 10,713 |
| 75 | 0603805A | 04 | COMBAT SERVICE SUPPORT CONTROL SYSTEM EVALUATION A | 8,395 | 8,415 | 8,682 | 8,658 |
| 76 | 0603807A | 04 | MEDICAL SYSTEMS - ADV DEV | 19,270 | 13,340 | 11,042 | 10,012 |
| 77 | 0603850A | 04 | INTEGRATED BROADCAST SERVICE (JMIP/DISTP) | 1,960 | 1,927 | 2,097 | 1,901 |
| 78 | 0603851A | 04 | TRACTOR CAGE (DEM/VAL) | 3,566 | 0 | 0 | 0 |
| 79 | 0603854A | 04 | ARTILLERY SYSTEMS - DEM/VAL | 427,273 | 356,651 | 0 | 0 |

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| Line No | Program Element Number | Act | Item | Thousands of Dollars FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|---|---|---|
| 80 | 0603856A | 04 | SCAMP BLOCK II | 6,657 | 14,352 | 28,028 | 15,107 |
| 81 | 0603869A | 04 | MEADS CONCEPTS - DEM/VAL | 0 | 0 | 276,259 | 267,270 |
| | | | Total: Advanced Component Development and Prototypes | 859,300 | 856,512 | 784,347 | 694,361 |
| | | | System Development and Demonstration | | | | |
| 82 | 0604201A | 05 | AIRCRAFT AVIONICS | 48,999 | 39,559 | 64,650 | 44,685 |
| 83 | 0604220A | 05 | ARMED, DEPLOYABLE OH-58D | 1,764 | 1,790 | 0 | 0 |
| 84 | 0604223A | 05 | COMANCHE | 754,381 | 874,018 | 1,079,257 | 1,181,563 |
| 85 | 0604270A | 05 | EW DEVELOPMENT | 53,411 | 38,309 | 33,214 | 19,526 |
| 86 | 0604280A | 05 | JOINT TACTICAL RADIO SYSTEM | 72,742 | 62,921 | 134,693 | 91,583 |
| 87 | 0604321A | 05 | ALL SOURCE ANALYSIS SYSTEM | 44,242 | 54,366 | 20,168 | 15,548 |
| 88 | 0604328A | 05 | TRACTOR CAGE | 4,967 | 9,309 | 16,215 | 15,147 |
| 89 | 0604329A | 05 | COMMON MISSILE | 16,075 | 28,602 | 183,790 | 182,932 |
| 90 | 0604601A | 05 | INFANTRY SUPPORT WEAPONS | 0 | 0 | 21,637 | 28,515 |
| 91 | 0604604A | 05 | MEDIUM TACTICAL VEHICLES | 1,883 | 1,866 | 4,366 | 2,879 |
| 92 | 0604609A | 05 | SMOKE, OBSCURANT AND TARGET DEFEATING SYS-ENG DEV | 7,611 | 7,654 | 12,094 | 4,223 |
| 93 | 0604611A | 05 | JAVELIN | 2,870 | 467 | 956 | 952 |
| 94 | 0604619A | 05 | LANDMINE WARFARE | 22,165 | 0 | 0 | 0 |
| 95 | 0604622A | 05 | FAMILY OF HEAVY TACTICAL VEHICLES | 2,510 | 14,521 | 9,200 | 10,756 |
| 96 | 0604633A | 05 | AIR TRAFFIC CONTROL | 1,116 | 2,199 | 2,514 | 2,596 |
| 97 | 0604641A | 05 | TACTICAL UNMANNED GROUND VEHICLE (TUGV) | 1,439 | 1,146 | 0 | 0 |
| 98 | 0604642A | 05 | LIGHT TACTICAL WHEELED VEHICLES | 1,920 | 7,531 | 15,700 | 10,022 |
| 99 | 0604645A | 05 | ARMORED SYSTEMS MODERNIZATION (ASM)-ENG. DEV. | 0 | 239,213 | 1,701,331 | 2,458,373 |
| 100 | 0604649A | 05 | ENGINEER MOBILITY EQUIPMENT DEVELOPMENT | 8,902 | 7,786 | 0 | 0 |
| 101 | 0604710A | 05 | NIGHT VISION SYSTEMS - ENG DEV | 24,783 | 36,581 | 29,022 | 22,399 |
| 102 | 0604713A | 05 | COMBAT FEEDING, CLOTHING, AND EQUIPMENT | 90,579 | 86,449 | 67,283 | 66,748 |
| 103 | 0604715A | 05 | NON-SYSTEM TRAINING DEVICES - ENG DEV | 29,010 | 56,002 | 71,616 | 62,634 |
| 104 | 0604716A | 05 | TERRAIN INFORMATION - ENG DEV | 7,779 | 8,096 | 6,977 | 5,965 |
| 105 | 0604726A | 05 | INTEGRATED METEOROLOGICAL SUPPORT SYSTEM | 1,899 | 3,361 | 3,309 | 3,300 |
| 106 | 0604738A | 05 | JSIMS CORE PROGRAM | 29,758 | 19,213 | 0 | 0 |

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03-Feb-2003

| Line No | Program Element Number | Act | Item | Thousands of Dollars FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|---|---|---|
| 107 | 0604741A | 05 | AIR DEFENSE COMMAND, CONTROL AND INTEL - ENG | 16,669 | 27,262 | 29,297 | 32,415 |
| 108 | 0604742A | 05 | CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT | 64,279 | 43,813 | 16,994 | 1,155 |
| 109 | 0604746A | 05 | AUTOMATIC TEST EQUIPMENT DEVELOPMENT | 12,751 | 12,899 | 4,634 | 4,707 |
| 110 | 0604760A | 05 | DISTRIBUTIVE INTERACTIVE SIMULATIONS (DIS) - ENGIN | 21,333 | 18,128 | 26,358 | 20,567 |
| 111 | 0604766A | 05 | TACTICAL EXPLOITATION SYSTEM/DCGS (TIARA) | 59,668 | 57,255 | 19,695 | 16 |
| 112 | 0604768A | 05 | BRILLIANT ANTI-ARMOR SUBMUNITION (BAT) | 106,860 | 42,942 | 55,075 | 9,836 |
| 113 | 0604770A | 05 | JOINT SURVEILLANCE/TARGET ATTACK RADAR SYSTEM | 7,485 | 4,511 | 4,705 | 0 |
| 114 | 0604778A | 05 | POSITIONING SYSTEMS DEVELOPMENT (SPACE) | 0 | 0 | 1,574 | 2,065 |
| 115 | 0604780A | 05 | COMBINED ARMS TACTICAL TRAINER (CATT) | 11,799 | 8,247 | 3,998 | 5,596 |
| 116 | 0604783A | 05 | JOINT NETWORK MANAGEMENT SYSTEM | 21,225 | 7,677 | 9,437 | 10,811 |
| 117 | 0604801A | 05 | AVIATION - ENG DEV | 5,365 | 3,481 | 2,379 | 2,390 |
| 118 | 0604802A | 05 | WEAPONS AND MUNITIONS - ENG DEV | 16,546 | 50,341 | 129,409 | 133,444 |
| 119 | 0604804A | 05 | LOGISTICS AND ENGINEER EQUIPMENT - ENG DEV | 31,204 | 64,808 | 86,288 | 88,153 |
| 120 | 0604805A | 05 | COMMAND, CONTROL, COMMUNICATIONS SYSTEMS - ENG DEV | 112,970 | 89,546 | 219,088 | 162,970 |
| 121 | 0604807A | 05 | MEDICAL MATERIEL/MEDICAL BIOLOGICAL DEFENSE EQUIPM | 17,070 | 18,790 | 12,202 | 11,715 |
| 122 | 0604808A | 05 | LANDMINE WARFARE/BARRIER - ENG DEV | 55,502 | 123,314 | 90,396 | 90,126 |
| 123 | 0604814A | 05 | SENSE AND DESTROY ARMAMENT MISSILE - ENG DEV | 59,329 | 102,188 | 133,994 | 153,389 |
| 124 | 0604817A | 05 | COMBAT IDENTIFICATION | 2,892 | 4,985 | 3,541 | 0 |
| 125 | 0604818A | 05 | ARMY TACTICAL COMMAND & CONTROL HARDWARE & SOFTWAR | 59,276 | 96,326 | 98,129 | 86,950 |
| 126 | 0604819A | 05 | LOSAT | 24,773 | 13,597 | 30,809 | 22,610 |
| 127 | 0604820A | 05 | RADAR DEVELOPMENT | 4,952 | 0 | 0 | 0 |
| 128 | 0604823A | 05 | FIREFINDER | 25,875 | 24,913 | 27,107 | 28,515 |
| 129 | 0604854A | 05 | ARTILLERY SYSTEMS - EMD | 63,655 | 26,614 | 32,629 | 9,636 |
| 130 | 0604865A | 05 | PATRIOT PAC-3 THEATER MISSILE DEFENSE ACQ - EMD | 0 | 0 | 174,475 | 78,440 |
| 131 | 0605013A | 05 | INFORMATION TECHNOLOGY DEVELOPMENT | 108,734 | 69,686 | 47,566 | 57,167 |
| | | | Total: System Development and Demonstration | 2,141,017 | 2,512,282 | 4,737,771 | 5,243,019 |
| | | | Management support | | | | |
| 132 | 0604256A | 06 | THREAT SIMULATOR DEVELOPMENT | 19,896 | 18,158 | 17,751 | 18,915 |
| 133 | 0604258A | 06 | TARGET SYSTEMS DEVELOPMENT | 22,504 | 10,226 | 13,890 | 12,582 |

Appropriation: 2040 A RDT&E, Army

03-Feb-2003

| Line No | Program Element Number | Act | Item | Thousands of Dollars FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|---|---|---|
| 134 | 0604759A | 06 | MAJOR T&E INVESTMENT | 47,304 | 51,168 | 62,135 | 66,524 |
| 135 | 0605103A | 06 | RAND ARROYO CENTER | 19,467 | 21,172 | 22,804 | 23,016 |
| 136 | 0605301A | 06 | ARMY KWAJALEIN ATOLL | 144,005 | 126,486 | 137,307 | 139,394 |
| 137 | 0605326A | 06 | CONCEPTS EXPERIMENTATION | 30,678 | 23,564 | 26,473 | 27,121 |
| 138 | 0605502A | 06 | SMALL BUSINESS INNOVATIVE RESEARCH | 160,561 | 178,120 | 0 | 0 |
| 139 | 0605601A | 06 | ARMY TEST RANGES AND FACILITIES | 115,473 | 130,727 | 174,603 | 172,114 |
| 140 | 0605602A | 06 | ARMY TECHNICAL TEST INSTRUMENTATION AND TARGETS | 35,560 | 41,052 | 54,986 | 60,018 |
| 141 | 0605604A | 06 | SURVIVABILITY/LETHALITY ANALYSIS | 35,060 | 35,236 | 39,138 | 41,647 |
| 142 | 0605605A | 06 | DOD HIGH ENERGY LASER TEST FACILITY | 22,445 | 16,679 | 17,806 | 17,999 |
| 143 | 0605606A | 06 | AIRCRAFT CERTIFICATION | 3,524 | 3,618 | 3,098 | 3,132 |
| 144 | 0605702A | 06 | METEOROLOGICAL SUPPORT TO RDT&E ACTIVITIES | 6,727 | 6,795 | 9,669 | 9,771 |
| 145 | 0605706A | 06 | MATERIEL SYSTEMS ANALYSIS | 10,695 | 8,982 | 15,832 | 16,209 |
| 146 | 0605709A | 06 | EXPLOITATION OF FOREIGN ITEMS | 3,381 | 3,431 | 3,579 | 5,465 |
| 147 | 0605712A | 06 | SUPPORT OF OPERATIONAL TESTING | 85,714 | 91,566 | 67,795 | 67,757 |
| 148 | 0605716A | 06 | ARMY EVALUATION CENTER | 29,763 | 37,923 | 57,074 | 57,404 |
| 149 | 0605718A | 06 | SIMULATION & MODELING FOR ACQ, RQTS, & TNG (SMART) | 0 | 0 | 2,654 | 2,731 |
| 150 | 0605801A | 06 | PROGRAMWIDE ACTIVITIES | 58,366 | 57,831 | 71,555 | 68,870 |
| 151 | 0605803A | 06 | TECHNICAL INFORMATION ACTIVITIES | 41,695 | 45,516 | 28,520 | 28,929 |
| 152 | 0605805A | 06 | MUNITIONS STANDARDIZATION, EFFECTIVENESS AND SAFET | 29,443 | 30,029 | 19,855 | 19,627 |
| 153 | 0605857A | 06 | ENVIRONMENTAL QUALITY TECHNOLOGY MANAGEMENT SPT | 1,662 | 1,820 | 4,938 | 5,217 |
| 154 | 0605898A | 06 | MANAGEMENT HEADQUARTERS (RESEARCH AND DEVELOPMENT) | 4,058 | 9,991 | 8,995 | 8,536 |
| 155 | 0909999A | 06 | FINANCING FOR CANCELLED ACCOUNT ADJUSTMENTS | 439 | 0 | 0 | 0 |
| | Total: Management support | | | 928,420 | 950,090 | 860,457 | 872,978 |
| | Operational system development | | | | | | |
| 156 | 0102419A | 07 | JOINT LAND ATTACK CRUISE MISSILES DEFENSE (JLENS) | 31,114 | 28,792 | 57,549 | 56,420 |
| 157 | 0203610A | 07 | DOMESTIC PREPAREDNESS AGAINST WEAPONS OF MASS DEST | 2,511 | 2,438 | 0 | 0 |
| 158 | 0203726A | 07 | ADV FIELD ARTILLERY TACTICAL DATA SYSTEM | 35,716 | 44,978 | 28,917 | 22,551 |
| 159 | 0203735A | 07 | COMBAT VEHICLE IMPROVEMENT PROGRAMS | 159,759 | 82,702 | 24,486 | 16,121 |
| 160 | 0203740A | 07 | MANEUVER CONTROL SYSTEM | 40,231 | 42,229 | 39,581 | 17,883 |

Appropriation: 2040 A RDT&E, Army

03-Feb-2003

| Line No | Program Element Number | Act | Item | Thousands of Dollars FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|---|---|---|
| 161 | 0203744A | 07 | AIRCRAFT MODIFICATIONS/PRODUCT IMPROVEMENT PROGRAM | 141,751 | 204,562 | 187,959 | 167,274 |
| 162 | 0203752A | 07 | AIRCRAFT ENGINE COMPONENT IMPROVEMENT PROGRAM | 14,443 | 6,767 | 3,399 | 3,451 |
| 163 | 0203758A | 07 | DIGITIZATION | 31,420 | 32,158 | 18,251 | 18,716 |
| 164 | 0203759A | 07 | FORCE XXI BATTLE COMMAND, BRIGADE AND BELOW (FBCB2 | 54,927 | 61,961 | 48,436 | 20,224 |
| 165 | 0203761A | 07 | FORCE XXI WRAP | 39 | 0 | 0 | 0 |
| 166 | 0203801A | 07 | MISSILE/AIR DEFENSE PRODUCT IMPROVEMENT PROGRAM | 13,302 | 41,787 | 44,468 | 32,025 |
| 167 | 0203802A | 07 | OTHER MISSILE PRODUCT IMPROVEMENT PROGRAMS | 52,921 | 12,445 | 9,822 | 4,915 |
| 168 | 0203806A | 07 | TRACTOR RUT | 0 | 0 | 8,851 | 3,342 |
| 169 | 0203808A | 07 | TRACTOR CARD | 11,081 | 8,499 | 9,255 | 9,118 |
| 170 | 0208010A | 07 | JOINT TACTICAL COMMUNICATIONS PROGRAM (TRI-TAC) | 25,614 | 13,506 | 16,543 | 18,664 |
| 171 | 0208053A | 07 | JOINT TACTICAL GROUND SYSTEM | 5,152 | 2,812 | 9,767 | 35,064 |
| 172 | 0301359A | 07 | SPECIAL ARMY PROGRAM | 6,811 | 9,645 | 5,968 | 5,500 |
| 173 | 0303028A | 07 | SECURITY AND INTELLIGENCE ACTIVITIES | 2,420 | 26,193 | 0 | 0 |
| 174 | 0303140A | 07 | INFORMATION SYSTEMS SECURITY PROGRAM | 12,875 | 22,163 | 20,728 | 24,845 |
| 175 | 0303141A | 07 | GLOBAL COMBAT SUPPORT SYSTEM | 79,012 | 49,360 | 58,983 | 65,158 |
| 176 | 0303142A | 07 | SATCOM GROUND ENVIRONMENT (SPACE) | 43,059 | 68,915 | 87,352 | 64,538 |
| 177 | 0303150A | 07 | WWMCCS/GLOBAL COMMAND AND CONTROL SYSTEM | 13,131 | 16,999 | 20,124 | 19,206 |
| 178 | 0305114A | 07 | TRAFFIC CONTROL, APPROACH AND LANDING SYSTEM-FY 19 | 753 | 935 | 956 | 1,903 |
| 179 | 0305204A | 07 | TACTICAL UNMANNED AERIAL VEHICLES | 35,213 | 67,435 | 60,493 | 66,730 |
| 180 | 0305206A | 07 | AIRBORNE RECONNAISSANCE ADV DEVELOPMENT | 10,910 | 11,438 | 4,751 | 5,094 |
| 181 | 0305208A | 07 | DISTRIBUTED COMMON GROUND SYSTEMS (JMIP) | 71,836 | 44,823 | 32,292 | 42,377 |
| 182 | 0603778A | 07 | MLRS PRODUCT IMPROVEMENT PROGRAM | 101,595 | 94,623 | 84,839 | 110,537 |
| 183 | 0708045A | 07 | END ITEM INDUSTRIAL PREPAREDNESS ACTIVITIES | 98,769 | 74,728 | 65,981 | 67,706 |
| 184 | 1001018A | 07 | NATO JOINT STARS | 0 | 503 | 503 | 601 |
| | | | Total: Operational system development | 1,096,365 | 1,073,396 | 950,254 | 899,963 |
| | | | Total: RDT&E, Army | 7,018,252 | 7,534,849 | 9,122,825 | 9,538,691 |

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| 60 | 0603308A | Army Missile Defense Systems Integration (Dem/Val) | 13 |
| 61 | 0603327A | Air and Missile Defense Systems Engineering | 20 |
| 62 | 0603619A | Landmine Warfare and Barrier - Adv Dev | 49 |
| 63 | 0603627A | Smoke, Obscurant and Target Defeating Sys-Adv Dev | 62 |
| 64 | 0603639A | Tank and Medium Caliber Ammunition | 73 |
| 65 | 0603653A | ADVANCED TANK ARMAMENT SYSTEM (ATAS) | 93 |
| 66 | 0603747A | Soldier Support and Survivability | 101 |
| 67 | 0603766A | Tactical Support Development - Adv Dev (TIARA) | 122 |
| 68 | 0603774A | Night Vision Systems Advanced Development | 128 |
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| 73 | 0603802A | Weapons and Munitions - Adv Dev | 200 |
| 74 | 0603804A | Logistics and Engineer Equipment - Adv Dev | 208 |
| 75 | 0603805A | Combat Service Support Control System Evaluation a | 227 |
| 76 | 0603807A | Medical Systems - Adv Dev | 233 |
| 77 | 0603850A | Integrated Broadcast Service (JMIP/DISTP) | 252 |
| 79 | 0603854A | Artillery Systems - Dem/Val | 258 |

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| 81 | 0603869A | Meads Concepts - Dem/Val | 267 |
| **#5 - System Development and Demonstration** | | | |
| 82 | 0604201A | AIRCRAFT AVIONICS | 275 |
| 83 | 0604220A | Armed, Deployable OH-58D | 285 |
| 84 | 0604223A | COMANCHE | 289 |
| 85 | 0604270A | EW DEVELOPMENT | 308 |
| 86 | 0604280A | Joint Tactical Radio System | 331 |
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| 89 | 0604329A | Common Missile | 353 |
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| 92 | 0604609A | Smoke, Obscurant and Target Defeating Sys-Eng Dev | 372 |
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| 94 | 0604619A | LANDMINE WARFARE | 383 |
| 95 | 0604622A | Family of Heavy Tactical Vehicles | 386 |
| 96 | 0604633A | AIR TRAFFIC CONTROL | 404 |
| 97 | 0604641A | TACTICAL UNMANNED GROUND VEHICLE (TUGV) | 411 |
| 98 | 0604642A | LIGHT TACTICAL WHEELED VEHICLES | 414 |
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| 103 | 0604715A | Non-System Training Devices - Eng Dev | 513 |
| 104 | 0604716A | TERRAIN INFORMATION - ENG DEV | 525 |
| 105 | 0604726A | Integrated Meteorological Support System | 533 |
| 106 | 0604738A | JSIMS Core Program | 542 |
| 107 | 0604741A | Air Defense Command, Control and Intel - Eng | 548 |
| 108 | 0604742A | CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT | 563 |
| 109 | 0604746A | Automatic Test Equipment Development | 576 |
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| 115 | 0604780A | COMBINED ARMS TACTICAL TRAINER (CATT) | 645 |
| 116 | 0604783A | JOINT NETWORK MANAGEMENT SYSTEM | 658 |
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| 118 | 0604802A | Weapons and Munitions - Eng Dev | 671 |
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| 124 | 0604817A | Combat Identification | 876 |
| 125 | 0604818A | Army Tactical Command & Control Hardware & Softwar | 889 |
| 126 | 0604819A | LOSAT | 931 |
| 127 | 0604820A | RADAR DEVELOPMENT | 937 |
| 128 | 0604823A | FIREFINDER | 940 |
| 129 | 0604854A | Artillery Systems - EMD | 948 |
| 130 | 0604865A | Patriot PAC-3 Theater Missile Defense Acq - EMD | 955 |
| 131 | 0605013A | Information Technology Development | 962 |

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| ADVANCED TANK ARMAMENT SYSTEM (ATAS) | 0603653A | 65 | 93 |
| Air and Missile Defense Systems Engineering | 0603327A | 61 | 20 |
| Air Defense Command, Control and Intel - Eng | 0604741A | 107 | 548 |
| AIR TRAFFIC CONTROL | 0604633A | 96 | 404 |
| AIRCRAFT AVIONICS | 0604201A | 82 | 275 |
| ALL SOURCE ANALYSIS SYSTEM | 0604321A | 87 | 339 |
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| Army Missile Defense Systems Integration | 0603305A | 59 | 1 |
| Army Missile Defense Systems Integration (Dem/Val) | 0603308A | 60 | 13 |
| Army Tactical Command & Control Hardware & Softwar | 0604818A | 125 | 889 |
| Artillery Systems - Dem/Val | 0603854A | 79 | 258 |
| Artillery Systems - EMD | 0604854A | 129 | 948 |
| Automatic Test Equipment Development | 0604746A | 109 | 576 |
| Aviation - Adv Dev | 0603801A | 72 | 177 |
| Aviation - Eng Dev | 0604801A | 117 | 664 |
| Brilliant Anti-Armor Submunition (BAT) | 0604768A | 112 | 623 |
| COMANCHE | 0604223A | 84 | 289 |
| Combat Feeding, Clothing, and Equipment | 0604713A | 102 | 475 |
| Combat Identification | 0604817A | 124 | 876 |
| Combat Service Support Control System Evaluation a | 0603805A | 75 | 227 |

# Alphabetic Listing - RDT&E Volume II


| Program Element Title | PE | Line No. | Page |
|---|---|---|---|
| COMBINED ARMS TACTICAL TRAINER (CATT) | 0604780A | 115 | 645 |
| Command, Control, Communications Systems - Eng Dev | 0604805A | 120 | 775 |
| Common Missile | 0604329A | 89 | 353 |
| CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT | 0604742A | 108 | 563 |
| Distributive Interactive Simulations (DIS) - Engin | 0604760A | 110 | 595 |
| ENGINEER MOBILITY EQUIPMENT DEVELOPMENT | 0604649A | 100 | 444 |
| Environmental Quality Technology Dem/Val | 0603779A | 69 | 139 |
| EW DEVELOPMENT | 0604270A | 85 | 308 |
| Family of Heavy Tactical Vehicles | 0604622A | 95 | 386 |
| FIREFINDER | 0604823A | 128 | 940 |
| Infantry Support Weapons | 0604601A | 90 | 359 |
| Information Technology Development | 0605013A | 131 | 962 |
| Integrated Broadcast Service (JMIP/DISTP) | 0603850A | 77 | 252 |
| Integrated Meteorological Support System | 0604726A | 105 | 533 |
| JAVELIN | 0604611A | 93 | 380 |
| JOINT NETWORK MANAGEMENT SYSTEM | 0604783A | 116 | 658 |
| Joint Surveillance/Target Attack Radar System | 0604770A | 113 | 631 |
| Joint Tactical Radio System | 0604280A | 86 | 331 |
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| Program Element Title | PE | Line No. | Page |
|---|---|---|---|
| Landmine Warfare/Barrier - Eng Dev | 0604808A | 122 | 832 |
| LIGHT TACTICAL WHEELED VEHICLES | 0604642A | 98 | 414 |
| Logistics and Engineer Equipment - Adv Dev | 0603804A | 74 | 208 |
| Logistics and Engineer Equipment - Eng Dev | 0604804A | 119 | 721 |
| LOSAT | 0604819A | 126 | 931 |
| Meads Concepts - Dem/Val | 0603869A | 81 | 267 |
| Medical Materiel/Medical Biological Defense Equipm | 0604807A | 121 | 815 |
| Medical Systems - Adv Dev | 0603807A | 76 | 233 |
| MEDIUM TACTICAL VEHICLES | 0604604A | 91 | 365 |
| NATO Research and Development | 0603790A | 71 | 166 |
| Night Vision Systems - Eng Dev | 0604710A | 101 | 447 |
| Night Vision Systems Advanced Development | 0603774A | 68 | 128 |
| Non-System Training Devices - Eng Dev | 0604715A | 103 | 513 |
| Patriot PAC-3 Theater Missile Defense Acq - EMD | 0604865A | 130 | 955 |
| Positioning Systems Development (SPACE) | 0604778A | 114 | 639 |
| RADAR DEVELOPMENT | 0604820A | 127 | 937 |
| SCAMP Block II | 0603856A | 80 | 260 |
| Sense and Destroy Armament Missile - Eng Dev | 0604814A | 123 | 859 |
| Smoke, Obscurant and Target Defeating Sys-Adv Dev | 0603627A | 63 | 62 |
| Smoke, Obscurant and Target Defeating Sys-Eng Dev | 0604609A | 92 | 372 |
| Soldier Support and Survivability | 0603747A | 66 | 101 |

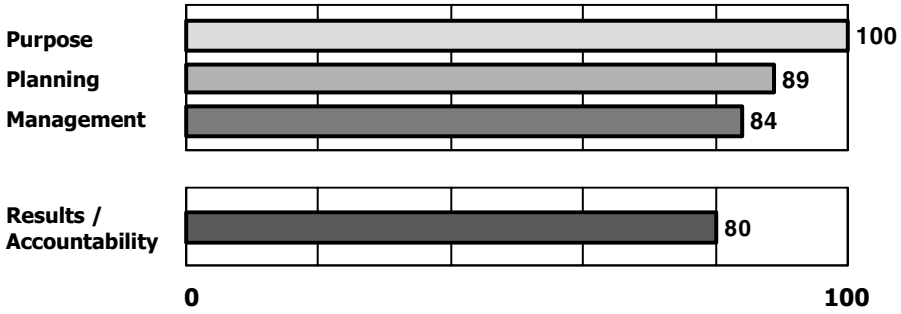
# Alphabetic Listing - RDT&E Volume II


| Program Element Title | PE | Line No. | Page |
|---|---|---|---|
| Tactical Exploitation System/DCGS (TIARA) | 0604766A | 111 | 613 |
| Tactical Support Development - Adv Dev (TIARA) | 0603766A | 67 | 122 |
| TACTICAL UNMANNED GROUND VEHICLE (TUGV) | 0604641A | 97 | 411 |
| Tank and Medium Caliber Ammunition | 0603639A | 64 | 73 |
| TERRAIN INFORMATION - ENG DEV | 0604716A | 104 | 525 |
| WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL | 0603782A | 70 | 154 |
| Weapons and Munitions - Adv Dev | 0603802A | 73 | 200 |
| Weapons and Munitions - Eng Dev | 0604802A | 118 | 671 |

## ***Program:*** *Basic Research*

***Agency:*** *Department of Defense--Military*

***Bureau:*** *Research, Development, Test, and Evaluation*




☑ Results Achieved ☑ Measures Adequate

☐ Results Not Demonstrated ☐ New Measures Needed

| ***Key Performance Measures*** | ***Year*** | ***Target*** | ***Actual*** |
|---|---|---|---|
| Certification in biennial reviews by technically competent independent reviewers that the supported work, as a portfolio, is of high quality, serves to advance the national security and is efficiently managed and carried out. | 2003 and later | 100% | |
| Long-term Measure:<br>Portion of funded research that is chosen on the basis of merit review<br>Reduce non-merit-reviewed and -determined projects by one half in two years (from 6.0% to 3.0%) | 2005 | -50% | |
| | | | |

## ***Rating:*** *Effective*

***Program Type:*** *Research and Development*

***Program Summary:***

The Basic Research program includes scientific study and experimentation to increase fundamental knowledge in the physical, engineering, environmental and life sciences and consists of a wide portfolio of projects. The program is carried out primarily through grants to universities and non-profits. The results of this research are expected to improve the country's defense capabilities, although the actual results of any specific project are unpredictable. Notable successes in the past have led to advances in satellite communications and imagery, precision navigation, stealth, night vision and technologies allowing greatly expanded battlefield awareness. Due to the long-term nature of research results, the R&D PART emphasizes assessment of the process of choosing funded projects and independent assessments of how well the research portfolio is managed.

The assessment indicates that the basic research program has clear purposes of providing options for new weapons systems, helping prevent technological surprise by adversaries, and developing new scientists who will contribute to the DoD mission in the future. DoD can document--through its contracts and grants management regulations, public announcements of award competitions and results from independent review panels--the methodical management of its program. Additional findings include:

1. The grants/contract solicitation, review and award processes are competitive.
2. The program is reviewed regularly by technically capable outside reviewers, which recommend improvements they would like to be implemented. They indicate that the work is of overall high quality.
3. The program has competent planning and management.
4. Earmarking of projects in the program has increased in the past decade and contribute less than the typical research project to meeting the agency's mission.

In response to these findings, the Administration will:

1. Continue to emphasize the use of independent review panels in assessing the performance of the program.
2. Work with the research community and Congress to explain the need to limit claims on research grant funds to proposals that independently can meet the standards of a strict merit-review process.

***Program Funding Level (in millions of dollars)***

| **2002 Actual** | **2003 Estimate** | **2004 Estimate** |
|---|---|---|
| 1,334 | 1,417 | 1,309 |

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

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603305A - Army Missile Defense Systems Integration**

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Program Element (PE) Cost | | 0 | 37233 | 51547 | 51802 | 37206 | 76891 | 154362 | 269031 | Continuing | Continuing |
| TR3 | MOBILE TACTICAL HIGH ENERGY LASER (MTHEL) | 0 | 3275 | 39118 | 39010 | 24295 | 59396 | 141123 | 255694 | Continuing | Continuing |
| TR4 | MISSILE DEFENSE INTEGRATION | 0 | 18695 | 0 | 0 | 0 | 0 | 28 | 35 | 0 | 8120 |
| TR5 | MISSILE DEFENSE BATTLELAB | 0 | 12290 | 12429 | 12792 | 12911 | 17495 | 13211 | 13302 | Continuing | Continuing |
| TR6 | ARMY AIR AND MISSILE DEFENSE | 0 | 2973 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17390 |

**A. Mission Description and Budget Item Justification:** This Program Element funds missile defense systems integration efforts for both the Army Space and Missile Defense Command (SMDC) and the Program Executive Office for Air and Missile Defense (PEO-AMD).

Mobile Tactical High Energy Laser: This project funds a chemical laser weapon system assessment and hardware development effort for the Army Transformation. Low rate initial production (LRIP) scheduled to start approximatly FY10.

SMDC: HQDA General Order No. 5, 1 March 1998, designated the US Army Space and Missile Defense Command (USASMDC) the specified proponent for space and National Missile Defense (NMD), and the operational integrator for Theater Missile Defense (TMD). In response to this designation, the Missile Defense Battle Integration Center (MDBIC) and other existing USASMDC elements were reorganized and merged to form the Space and Missile Defense Battle Lab (SMDBL). The SMDBL is chartered to develop warfighting concepts, focus military science and technology research, and conduct warfighting experiments. The reorganization also created the Force Development and Integration Center (FDIC), a major support element of USASMDC. This program element funds the FDIC, created to execute the specified proponency role of the USASMDC. The FDIC develops space and NMD solutions to Doctrine, Training, Leader Development, Organization, Materiel, and Soldiers (DTLOMS) and executes their implementation. This program element funds the production of requirements for hardware and software solutions, the interfaces with technology development, and the development of operational and system architectures for space, NMD and TMD. In addition, this program element funds analysis and experimentation integrating the pillars of TMD (active defense, passive defense, attack operations, and battle management/command, control, communications, computers, and intelligence functions) and inputting Army TMD requirements into Joint forums. This program also supports Aviation and Artillery attack operation systems, and passive missile defense materiel solutions. This Program also supports the Technical and Integration of the Army's Single Integrated Air Picture (SIAP) through FY03. FY04 and beyond, the SIAP effort has been moved to a new Program Element, 0603327A.

PEO-AMD: The mission of the United States Army Program Executive Office for Air and Missile Defense (PEO AMD) is to develop, acquire, and field Theater Air and Missile Defense (TAMD) systems. These systems provide the capabilities needed to defend friendly forces and assets against attack by enemy aircraft, cruise missiles, and theater ballistic missiles (TBMs).

The Army is developing and procuring individual TAMD weapon systems that must be integrated to form a Family of Systems (FoS). It is the PEO's responsibility to ensure the Army TAMD FoS is developed as an integrated capability. The PEO must integrate Army and Joint requirements in order to satisfy both needs. The PEO must support interoperability systems engineering, simulation, analysis, and evaluation in order to integrate the Family of Systems. Funding will allow the PEO to sufficiently address both Army and Joint interoperability requirements, ensuring an effective Army TAMD FoS.

This program supports the Legacy to Objective transition path of the Tranformation Campaign Plan (TCP).

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 0 | 27887 | 68837 | 68840 |
| Current Budget (FY 2004/2005 PB) | 0 | 37233 | 51547 | 51802 |
| Total Adjustments | 0 | 9346 | -17290 | -17038 |
| Congressional program reductions | | | | |
| Congressional rescissions | | -939 | | |
| Congressional increases | | 11600 | | |
| Reprogrammings | | -242 | | |
| SBIR/STTR Transfer | | -1073 | | |
| Adjustments to Budget Years | | | -17290 | -17038 |

FY04/05 decreases due to realignment of funding to PEs 0603308A (project 990) and 0603327A, the new PE for Air and Missile Defense Systems Engineering.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603305A - Army Missile Defense Systems Integration** | **TR3** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TR3 | MOBILE TACTICAL HIGH ENERGY LASER (MTHEL) | 0 | 3275 | 39118 | 39010 | 24295 | 59396 | 141123 | 255694 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This project funds weapon system prototype assessment and hardware development/integration effort for the Army Transformation applications. The Mobile Tactical High Energy Laser (MTHEL) development and integration effort is a follow-on to the combined US/ Israel Tactical High Energy Laser Advanced Concept Technology Demonstration (THEL ACTD) program. The THEL ACTD was initiated in Jul 96 to evaluate the effectiveness of THELs to negate the threat posed to population areas by short range Katyusha rockets, and was successfully completed in Oct 00. The THEL demonstrator is a complete fixed site weapon system which includes an HEL beam generator, based on deuterium fluoride chemical laser (DFCL) technologies; an acquisition, pointing, and tracking system; and battle management systems, including an organic fire control radar. The THEL device is currently being used as an MTHEL risk reduction testbed at the High Energy Laser Systems Test Facility (HELSTF). The demonstrated effectiveness of the fixed site THEL demonstrator led to the initiation of a system engineering trade study in FY01 to transition to mobile THEL variants that meet both Israeli and US Army mission needs. The mission of the MTHEL is based on a Common Operational Requirement developed by the US Army Air Defense School and the Israeli Air Force. Low rate initial production (LRIP) is scheduled to start approximately FY10. The work in this program element is consistent with the Army Directed Energy Master Plan and the Army Modernization Plan. Work in this program element is related to and fully coordinated with efforts in PE 0603308A (Army Missile Defense Systems Integration (DEM/VAL), PE 0605605 (DOD High Energy Laser Systems Test Facility) and PE 0602307A (Advanced Weapons Technology, Project 042 - High Energy Technology) in accordance with the ongoing Reliance joint planning process and contains no unwarranted duplication of effort among the military departments. Work is performed by the US Army Space and Missile Defense Command (SMDC) in Huntsville, AL. This system supports the Legacy to Objective path of the Army Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| o Assess MTHEL Common Operational Requirements Document and Lethality testing results. Major efforts include:<br>o Modify THEL component and subsystem designs for pressure recovery, exhaust management, thermal management closed cycle operation, gain generation, vibration damping, beam control, etc. for MTHEL application<br>o Conduct Lethality and propagation testing to validate codes related to system engineering and performance specifications<br>o Integrate mature chemical HEL component technologies into weapon prototype design | 0 | 3275 | 0 | 0 |
| o Conduct risk reduction and design verification testing<br>oConduct static and dynamic lethality tests against extended threat set<br>o Select components and complete prototype preliminary design and evaluation<br>o Complete prototype final design.<br>oConduct static and dynamic lethality tests against extended threat set<br>o Complete prototype final design<br>o Conduct static and dynamic lethality tests against extended threat set<br>o Conduct long lead item acquisition and begin fabrication | 0 | 0 | 39118 | 39010 |
| Total | 0 | 3275 | 39118 | 39010 |

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

Israel provided $10M under a Foreign Military Sales Case in FY 02 to support this effort. Under the terms of an amendment (yet to be negotiated) to the THEL ACTD Memorandum of Agreement for MTHEL, Israel is expected to match the majority of the Army's MTHEL funding on a 50/50 basis. In FY03, Congress added $15M for the MTHEL effort in PE 0603308A, which will initiate risk reduction/design verification testing and static dynamic lethality tests against an extended threat set using the existing MTHEL testbed at HELSTF.

**C. Acquisition Strategy:** The MTHEL acquisition strategy is to assess chemical laser technologies in FY02 and FY03 in System Engineering Trade Studies and lethality testing, and then select those demonstrated technologies that will be integrated into a fully mobile tactical high energy laser system beginning in FY04. The fabrication, integration, and functional testing of the MTHEL is expected to take approximately 3 years, followed by one to three years of demonstration/validation testing at the High Energy Laser Systems Test Facility to enable the Army to effectively address key doctrinal, training, operational tactics, techniques, and procedures, logistics, etc., for developing, fielding, integrating and deploying a HEL weapon system into the US Army arsenal.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603305A - Army Missile Defense Systems Integration**

PROJECT
**TR3**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . MTHEL Development | CPAF | TBD | 7200 | 2783 | 1Q | 35338 | 1Q | 35327 | 1Q | Continue | 80648 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 7200 | 2783 | | 35338 | | 35327 | | Continue | 80648 | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Program Management | CPFF | SMDC PEOAMD/Hsv, AL | 0 | 300 | 1Q | 1500 | 1Q | 1500 | 1Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 300 | | 1500 | | 1500 | | Continue | Continue | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603305A - Army Missile Defense Systems Integration**

PROJECT
**TR3**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Multiple | Various | Various | 0 | 192 | 1Q | 2280 | 1Q | 2183 | 1Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 192 | | 2280 | | 2183 | | Continue | Continue | 0 |
| Project Total Cost: | | | 7200 | 3275 | | 39118 | | 39010 | | Continue | Continue | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603305A - Army Missile Defense Systems Integration**

PROJECT
**TR3**

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Conduct Assessment of DF & COIL Technologies | 2-4Q | 1-4Q | | | | | | |
| Initiate Long Leads & Fabrication | 2-4Q | 1-4Q | | | | | | |
| Complete Fabrication/Integration | | 1-4Q | 1-4Q | 1-4Q | 1-2Q | | | |
| Complete Functional Testing | | | | | 1-4Q | | | |
| Complete Field Testing at HELSTF | | | | | 1-4Q | 1-4Q | 1-2Q | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603305A - Army Missile Defense Systems Integration** | **TR5** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TR5 | MISSILE DEFENSE BATTLELAB | 0 | 12290 | 12429 | 12792 | 12911 | 17495 | 13211 | 13302 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This project funds the delivery of space, missile defense and computer network operations (CNO) innovations to the warfighter through prototyping, operational analysis, and experimentation to integrate space and missile defense into the Legacy, Interim, and Objective Forces and to address interoperability issues. This effort supports legacy to objective transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Space and Missile Defense Experiments/Advanced Prototype Components into Command and Control (C2) Systems-Participate in major Army and Joint Experiments integrating space, missile defense, and CNO technologies and organizational/operational concepts into the Army's TCP. Assess Space and Missile Defense impacts on doctrine and materiel. Over 15 experiments including: Unit of Action, Millennium Challenge (MC02), Roving Sands, Total Defender and Army Transformation Exp 02. Insert state of the art BMC4I into experiments using the Future Operational Capability Tactical Operations Center (FOC TOC). This effort was funded in PE 0603308A prior to FY03. | 0 | 7315 | 7397 | 7613 |
| Operational Analysis/Tools, Modeling and Simulation (M&S)-Conduct operational analysis for Space, Missile Defense and CNO. Examples include: Space Control, Roving Sands, MCO2, Space to Transformation Force, and Brigade Operational Analysis. Tools, M&S include: federation of M&S for experimentation and operational assessments, space and missile defense systems, doctrine and capabilities placed into functional description of the battlespace, identification of space representation requirements for existing M&S, and the maintenance of analysis M&S tools. This effort was funded in PE 0603308A prior to FY03. | 0 | 4975 | 5032 | 5179 |
| Totals | 0 | 12290 | 12429 | 12792 |

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

**C. Acquisition Strategy:** Not applicable for this item.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603305A - Army Missile Defense Systems Integration**

PROJECT
**TR5**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Experiments, Exercises, Enhancements, Maintenance analysis | CPAFF/CPFF | Various, AL & CO | 0 | 5427 | | 5360 | | 5511 | | Continue | 16298 | 0 |
| b . Govt Support and Support Contracts | MIPR/Allot | Various, AL , CO & NM | 0 | 6863 | | 7069 | | 7281 | | Continue | 21213 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 12290 | | 12429 | | 12792 | | Continue | 37511 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603305A - Army Missile Defense Systems Integration**

PROJECT
**TR5**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| Project Total Cost: | | | 0 | 12290 | | 12429 | | 12792 | | Continue | 37511 | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603305A - Army Missile Defense Systems Integration**

PROJECT
**TR5**

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Conduct experiments, conduct operational analysis and maintain M&S tools for space & missile defense | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |

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

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603308A - Army Missile Defense Systems Integration (Dem/Val)**

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Program Element (PE) Cost | | 68481 | 57429 | 9632 | 9649 | 9438 | 9374 | 12799 | 11159 | 0 | 273870 |
| 978 | SPACE CONTROL | 963 | 956 | 985 | 978 | 980 | 979 | 4907 | 4903 | 0 | 18936 |
| 989 | MOBILE TACTICAL HIGH ENERGY LASER (MTHEL) | 12472 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14420 |
| 990 | SPACE AND MISSILE DEFENSE INTEGRATION | 40728 | 50837 | 8647 | 8671 | 8458 | 8395 | 7892 | 6256 | 0 | 196797 |
| 997 | SPACE AND MISSILE DEFENSE BATTLELAB | 12785 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 36234 |
| 99A | ARMY AIR AND MISSILE DEFENSE | 1533 | 5636 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7483 |

**A. Mission Description and Budget Item Justification:** This program element funds space and missile defense systems integration efforts performed by both the Army Space and Missile Defense Command (SMDC) and the Program Executive Office for Air and Missile Defense (PEO-AMD).

SMDC: Headquarters, Department of the Army General Order Number 5, dated 1 March 1998, designated SMDC as the Army specified proponent for space and National Missile Defense (NMD), and the operational integrator for Theater Missile Defense (TMD). As such, SMDC is responsible to develop warfighting concepts, conduct warfighting experiments to validate those concepts, identify capabilities needed to implement the validated concepts, and develop Doctrine, Organization, Training, Materiel, Leader Development, Personnel and Facilities (DOTMLPF) solutions to realize those capabilities. This program supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

Funding for all Non Space projects (989, 997 and 99A) transferred to PE 0603305A beginning in FY03.

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

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603308A - Army Missile Defense Systems Integration (Dem/Val)**

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 70021 | 7417 | 1472 | 1463 |
| Current Budget (FY 2004/2005 PB) | 68481 | 57429 | 9632 | 9649 |
| Total Adjustments | -1540 | 50012 | 8160 | 8186 |
| Congressional program reductions | | | | |
| Congressional rescissions | | -1176 | | |
| Congressional increases | | 53100 | | |
| Reprogrammings | 213 | -374 | | |
| SBIR/STTR Transfer | -1753 | -1538 | | |
| Adjustments to Budget Years | | | 8160 | 8186 |

Change Summary Explanation:
FY 2004 and FY2005 increases due to realignment of funding from PE 0603305A (project TR4) for Space and Missile Defense Integration.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603308A - Army Missile Defense Systems Integration (Dem/Val)** | **990** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 990 | SPACE AND MISSILE DEFENSE INTEGRATION | 40728 | 50837 | 8647 | 8671 | 8458 | 8395 | 7892 | 6256 | 0 | 196797 |

**A. Mission Description and Budget Item Justification:** Headquarters, Department of the Army General Order Number 5, dated 1 March 1998, designated Army Space and Missile Defense Command (SMDC) as the Army specified proponent for space. As such, SMDC is responsible to develop warfighting concepts, conduct warfighting experiments to validate those concepts, identify capabilities needed to implement the validated concepts, and develop Doctrine, Organization, Training, Materiel, Leader Development, Personnel and Facilities (DOTMLPF) solutions to realize those capabilities.

This program supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Continue efforts to plan, develop, and execute concepts and DOTMLPF solutions for Army exploitation of space systems, including Space-Based Infrared System (SBIRS), Multi-Mission Mobile Processor (M3P), Space-Based Radar, and various space control capabilities. Represent Army positions and defend Army equities relative in Joint/DoD and inter-Service activities; e.g., National Security Space Architect (NSSA) Program Assessments, etc. Lead Army's efforts in developing and executing the the Space Domain of the Army Knowledge Enterprise Architecture. Develop space modernization strategies and sponsor exploration of future space warfighting concepts in support of Army Transformation. | 4118 | 0 | 8647 | 8671 |
| Includes Congressional Adds for Low Cost Interceptor Flight Test Demo, MTHEL, Family of Systems Simulator, P3 Micro-Power Devices, Thermionic Technology, Advanced Battery Technology, Supercluster Distributed Memory Technology, Cooperative Micro-Satellite, Gallium Nitride High Power Microwave Switch, Battlefield Ordnance Awareness, Eagle Eyes, Enhanced Scramjet Mixing and Radar Power Technology. | 36610 | 50837 | 0 | 0 |
| Totals | 40728 | 50837 | 8647 | 8671 |

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

**C. Acquisition Strategy:** Program is continuous. Various performers will conduct planned accomplishments.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603308A - Army Missile Defense Systems Integration (Dem/Val)**

PROJECT
**990**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Various | | | 0 | 50321 | 2-3Q | 0 | | 0 | | 0 | 50321 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 50321 | | 0 | | 0 | | 0 | 50321 | 0 |

Remarks: Not Applicable

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . GOVT SUPPORT & SUPPORT CONTRACTS | VARIOUS | VARIOUS | 40728 | 516 | 1-4Q | 8647 | 1-4Q | 8671 | 1-4Q | Continue | 58562 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 40728 | 516 | | 8647 | | 8671 | | Continue | 58562 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603308A - Army Missile Defense Systems Integration (Dem/Val)**

PROJECT
**990**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

Remarks: Not Applicable

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

Remarks: Not Applicable

| Project Total Cost: | | | 40728 | 50837 | | 8647 | | 8671 | | Continue | 108883 | 0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603308A - Army Missile Defense Systems Integration (Dem/Val)** | **990** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Continue development/synchronization of Army space and NMD DTLOMS solutions & TMD integration. | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |

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

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603327A - Air and Missile Defense Systems Engineering**

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Program Element (PE) Cost | | 0 | 0 | 79959 | 71887 | 62593 | 75059 | 52304 | 21576 | Continuing | Continuing |
| S24 | ARMY SIAP SYSTEMS ENGINEERING | 0 | 0 | 14769 | 9823 | 9804 | 9798 | 9813 | 0 | Continuing | Continuing |
| S25 | ARMY SIAP OPERATIONAL INTEGRATION | 0 | 0 | 2816 | 2888 | 2960 | 3037 | 2944 | 2942 | Continuing | Continuing |
| S26 | ARMY SIAP IMPLEMENTATION | 0 | 0 | 10830 | 15718 | 26471 | 40661 | 16682 | 883 | 0 | 111245 |
| S27 | JOINT DISTRIBUTED ENGINEERING PLANT (JDEP) | 0 | 0 | 3692 | 3378 | 3455 | 3437 | 0 | 0 | Continuing | Continuing |
| S32 | JOINT SIAP SYSTEM ENGINEERING | 0 | 0 | 47852 | 40080 | 19903 | 18126 | 22865 | 17751 | Continuing | 166577 |

**A. Mission Description and Budget Item Justification:** This Program Element provides funding for integration of Army Theater Air and Missile Defense (TAMD) Family of systems. The Army Family of Systems comprises a broad range of systems acquired individually to support complementary missions. To provide this integrated capability, the Program Executive Office, Air and Missile Defense (PEO AMD) must ensure that operational effectiveness and acquisition efficiency are achieved. Requirements must be integrated within the Army and also address joint needs. The Joint Distributed Engineering Plan (JDEP) will provide the capability to address Joint and Service system interoperability performance in a system-of-systems environment. The funding in this project provides for Army participation in this activity. The Single Integrated Air Picture (SIAP) is the culmination of four services SIAP developmental efforts into an objective joint capability. The engineering will fuse near real time and real time data to support situational awareness, battle management and target engagements across theater air and missile defense systems. This Program Element will integrate requirements within the Army and address joint needs. This program supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

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

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603327A - Air and Missile Defense Systems Engineering**

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 0 | 0 | 0 | 0 |
| Current Budget (FY 2004/2005 PB) | 0 | 0 | 79959 | 71887 |
| Total Adjustments | 0 | 0 | 79959 | 71887 |
| Congressional program reductions | | | | |
| Congressional rescissions | | | | |
| Congressional increases | | | | |
| Reprogrammings | | | | |
| SBIR/STTR Transfer | | | | |
| Adjustments to Budget Years | | | 79959 | 71887 |

FY04/FY05 funds transferred from PE 603305A and PE 603308A to support the Air and Missile Defense Systems Engineering effort.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603327A - Air and Missile Defense Systems Engineering** | **S24** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| S24 | ARMY SIAP SYSTEMS ENGINEERING | 0 | 0 | 14769 | 9823 | 9804 | 9798 | 9813 | 0 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** The establishment of a Single Integrated Air Picture (SIAP) capability is a critical enabler for many Army and Joint mission areas. Army execution of the SIAP effort requires the establishment and maintenance of an Army Air and Missile Defense (AMD) integrated engineering structure, the management and coordination of Army SIAP activities with numerous Army stakeholders and technical management of Army SIAP tasks. SIAP requires the development of Army integration engineering infrastructure to effectively support joint integration engineering activities.

| Accomplishments/Planned Program | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Program Management / Systems Engineering | 0 | 0 | 7144 | 5523 |
| Test and evaluation / Models and Simulations | 0 | 0 | 4425 | 2584 |
| Interoperability Assessments / Implementation Planning | 0 | 0 | 3200 | 1716 |
| Totals | 0 | 0 | 14769 | 9823 |

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

FY03 funding for this effort in PE 0603308A, Project 99A.

**C. Acquisition Strategy:** Not applicable for this item.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603327A - Air and Missile Defense Systems Engineering**

PROJECT
**S24**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Systems engineering support for the development of an integrated SIAP capability | Various | Varous | 0 | 0 | | 7144 | 1-4Q | 5523 | 1-4Q | Continue | 12667 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 7144 | | 5523 | | Continue | 12667 | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Program Management and Implementation Planning in support of a SIAP | Various | various | 0 | 0 | | 3200 | 1-4Q | 1716 | 1-4Q | Continue | 4916 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 3200 | | 1716 | | Continue | 4916 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603327A - Air and Missile Defense Systems Engineering**

PROJECT
**S24**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Live test and modeling and simulation support for SIAP | various | various | 0 | 0 | | 4425 | 1-4Q | 2584 | 1-4Q | Continue | 7009 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 4425 | | 2584 | | Continue | 7009 | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| Project Total Cost: | | | 0 | 0 | | 14769 | | 9823 | | Continue | 24592 | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603327A - Air and Missile Defense Systems Engineering**

PROJECT
**S24**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Coordinate and integrate SIAP requirements into Army and Joint systems. | | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603327A - Air and Missile Defense Systems Engineering** | **S25** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| S25 | ARMY SIAP OPERATIONAL INTEGRATION | 0 | 0 | 2816 | 2888 | 2960 | 3037 | 2944 | 2942 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This project funds the coordination of Single Integrated Air Picture (SIAP) requirements with the operational community: verification that operational requirements exist to support technical specifications and any subsequent changes; integration and coordination of army operational requirements for SIAP with the user community; determination of which implementation options/roadmaps provide the maximum warfighting benefits; development of the operational view within the Theater Air and Missile Defense (TAMD) integrated architecture; identification of existing and/or required modeling and simulation capabilities to support SIAP; and integration of hardware-in-the-loop and associated assessments and analysis. These products/tasks are required to ensure a specific, focused effort that integrates SIAP with weapons, sensors, BMC3 and concepts of operations. This program also supports Aviation and Artillery attack operation systems and passive missile defense materiel solutions. This project supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Continue efforts for coordinating SIAP requirements with TRADOC Deputy Combat Developers (DCDs) to consolidate SIAP operational requirements across all four pillars, integrating SIAP requirements into current and evolving doctrine, identifying SIAP demonstrations and experiments that showcase Army interoperability, coordinating Army participation in TAMD joint interoperability exercises/demonstrations, assessing the models and simulations that support SIAP and developing the Army position on SIAP-related tools and supporting SIAP Task Force initiatives in resolving Joint Data Network (JDN) fixes. This project is funded in PE 0603305A in FY03. | 0 | 0 | 2816 | 2888 |
| Totals | 0 | 0 | 2816 | 2888 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| PE 603305A/TR4, Army Missile Defense Systems Integration | 0 | 18695 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18695 |

**C. Acquisition Strategy:** Not applicable for this item.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603327A - Air and Missile Defense Systems Engineering**

PROJECT
**S25**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Government support & support contracts | Various | Huntsville, AL | 0 | 0 | | 2816 | 1-4Q | 2888 | 1-4Q | Continue | 5704 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 2816 | | 2888 | | Continue | 5704 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603327A - Air and Missile Defense Systems Engineering**

PROJECT
**S25**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| Project Total Cost: | | | 0 | 0 | | 2816 | | 2888 | | Continue | 5704 | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603327A - Air and Missile Defense Systems Engineering**

PROJECT
**S25**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Coordinate and integrate SIAP requirements into doctrine, demonstrations, experiments and exercises. | | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603327A - Air and Missile Defense Systems Engineering** | **S26** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| S26 | ARMY SIAP IMPLEMENTATION | 0 | 0 | 10830 | 15718 | 26471 | 40661 | 16682 | 883 | 0 | 111245 |

**A. Mission Description and Budget Item Justification:** The establishment of a Single Integrated Air Picture (SIAP) capability is a critical enabler for many Army and Joint mission areas. The SIAP Task Force, along with Service participation, is currently identifying deficiencies in the tactical data link systems. A list of fixes will be identified and addressed in incremental block designs. The funding identified in this project will be used to implement identified fixes into Army system platforms and to perform the engineering associated with implementation of these fixes.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Perform engineering and analysis to determine impacts on systems performance of identified block 1 fixes and begin implementation of those fixes. | 0 | 0 | 10830 | 0 |
| Implement block 1 fixes into identified Army platforms. Begin engineering and analysis of identified block 2 fixes on system performance. | 0 | 0 | 0 | 15718 |
| Totals | 0 | 0 | 10830 | 15718 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| Army SIAP Systems Engineering (S24) | 0 | 0 | 14769 | 9823 | 9804 | 9798 | 9813 | 0 | 0 | 54007 |
| Army Operational Integration (S25) | 0 | 0 | 2816 | 2888 | 2960 | 3037 | 2944 | 2942 | 0 | 17587 |
| Joint SIAP Systems Engineering (S32) | 0 | 0 | 47852 | 40080 | 19903 | 18126 | 22865 | 17751 | 0 | 166577 |

**C. Acquisition Strategy:** Not applicable to this item.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603327A - Air and Missile Defense Systems Engineering**

PROJECT
**S26**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Army Block Engineering and Implementation | Various | Various Army Organizations | 0 | 0 | | 9180 | 1-4Q | 13318 | 1-4Q | 0 | 22498 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 9180 | | 13318 | | 0 | 22498 | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603327A - Air and Missile Defense Systems Engineering**

PROJECT
**S26**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Systems Testing of Block fixes | various | | 0 | 0 | | 1650 | 1-4Q | 2400 | 1-4Q | 0 | 4050 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 1650 | | 2400 | | 0 | 4050 | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| Project Total Cost: | | | 0 | 0 | | 10830 | | 15718 | | 0 | 26548 | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603327A - Air and Missile Defense Systems Engineering**

PROJECT
**S26**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Implement Block Changes in Army Platforms | | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603327A - Air and Missile Defense Systems Engineering** | **S27** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| S27 | JOINT DISTRIBUTED ENGINEERING PLANT (JDEP) | 0 | 0 | 3692 | 3378 | 3455 | 3437 | 0 | 0 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** The Joint Distributed Engineering Plant (JDEP) is a Navy proposed concept expanding their land-based Distributed Plant which assesses integration and interoperability problems (air and missile defense) of the fleet. This program will be used to evaluate interoperability of joint forces, test and evaluate interoperability of new acquisition systems, and engineering hardware and software to correct deficiencies and develop new capabilities. The initial focus of this program is directed toward integrated air defense. The program consists of individual combat systems distributed throughout the US connected with ATM/T1 telecommunication network(s) and distributed interactive simulation (DIS) protocols. The JDEP management structure consists of service execution cells. This funding provides for the Army involvement in the overall JDEP program. This effort supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| JDPE Test Event Participation | 0 | 0 | 2118 | 1935 |
| Communication Equipment | 0 | 0 | 863 | 791 |
| Operational Center Support: Support during JDEP testing and pre-event simulations. | 0 | 0 | 711 | 652 |
| Totals | 0 | 0 | 3692 | 3378 |

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

**C. Acquisition Strategy:** Not applicable for this item.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603327A - Air and Missile Defense Systems Engineering**

PROJECT
**S27**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

Remarks: FY02/FY03 costs are reflected in PE 0603305A, TR6

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Government support, contractor support and communication equipment | | | 0 | 0 | | 2276 | 1-4Q | 1935 | 1-4Q | Continue | 4211 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 2276 | | 1935 | | Continue | 4211 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603327A - Air and Missile Defense Systems Engineering**

PROJECT
**S27**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Government Support Costs & equipment | | | 0 | 0 | | 1416 | 1-4Q | 1443 | 1-4Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 1416 | | 1443 | | Continue | Continue | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 0 | 0 | | 3692 | | 3378 | | Continue | Continue | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603327A - Air and Missile Defense Systems Engineering**

PROJECT
**S27**

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Provide Army interface into the JDEP initiative. | | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603327A - Air and Missile Defense Systems Engineering** | **S32** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| S32 | JOINT SIAP SYSTEM ENGINEERING | 0 | 0 | 47852 | 40080 | 19903 | 18126 | 22865 | 17751 | Continuing | 166577 |

**A. Mission Description and Budget Item Justification:** A Single Integrated Air Picture (SIAP) is the product of fused, near-real-time data from multiple sensors to allow development of common, continuous, and unambiguous tracks of all airborne objects in the surveillance area. All airborne objects must be detected, tracked, and reported. Each object must have one and only one track identifier and associated characteristics to be incorporated into SIAP. Current systems do not provide this capability.

The SIAP Task Force (TF) is developing the tools and processes and performing the system engineering that will identify cost effective fixes to tactical data link systems. The resulting prioritized list of fixes will be addressed in incremental blocks designed to improve the SIAP. Each block will identify specific changes to be implemented in specific systems to improve the Joint Theater Air and Missile Defense Family of Systems SIAP capability. These blocks will identify the engineering specifications, supporting rationale (test results and analysis), and acquisition estimate expected to implement the changes. Once approved by the Joint Requirements Overview Council (JROC), implementation of these recommended changes are the responsiblity of the affected Service programs. Our products are the blocks themselves, and the integrated architecture that gives us the framework on which to build them.

Block 0 addressed the four joint warfighting shortfalls selected for their impact on the JDN, their applicability across the Services, and the engineering maturity reflected by interface change proposals already on-record with the Joint Interoperability for Tactical Command and Control system process. The change proposals addressed were: improved correlation/decorrelation, formation tracking/correlation, identification taxonomy and symbology, and an ID conflict resolution matrix.

Block 1 is addressing a set of Joint Data Network (JDN) deficiencies approved by United States Joint Forces Command (JFCOM) to provide warfighter benefits which can be implemented in the near- to mid-term. The issues being addressed are: further reduction of dual tracks, improved combat ID capability, improved data sharing (network capacity), and improved air picture for theater ballistic missile defense performance.

Block 2 is targeted at improving efficiency and throughput, and improving line-of-sight capability. The issues being addressed are host computer implementation consistency, distributed database consistency improvement, network latency reduction, interface with ground systems, and improving single and multi-unit missile defense performance.

The integrated architecture gives engineers a tool (with operations context and supporting engineering detail) to make smart decisions about what design functions produce the most bang for the buck in meeting Joint Battle Management Command and Control requirements. By using modern software development techniques, we can specify the performance within nodes and between nodes of a tactical network in a way that will increase

machine-to-machine precision and reduce integration costs in legacy and future combat systems.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Block 0 - (FY04) Service implementation of Block 0 fixes in tactical weapon systems continues, monitor and assist the services in the implementation of block 0 fixes. Continue technical configuration of JROC approved solutions for Joint and NATO application. Conduct technical design reviews with affected weapon systems. | 0 | 0 | 2181 | 0 |
| Block 1 - (FY04) Implementation of Block 1 recommendation in Service systems begins. Monitor and assist the Services in the implementation of Block 1 fixes. Monitor technical configuration management of JROC approved solutions for Joint and NATO application. Conduct technical design review with affected weapon systems. (FY05) Implementation of Block 1 fixes in Service systems continues, monitor and assist the Services in the implementation of Block 1 fixes. Establish technical configuration management of JROC approved solutions for Joint and NATO application. Conduct technical design reviews with affected weapon systems. | 0 | 0 | 4365 | 1812 |
| Block 2 - (FY04) Refine planning and requirements, and begin engineering analysis for Block 2. Translate JROC validated requirements into equipment and computer programs with the Services and JFCOM. Coordinate design and solution development with the Services and Agencies. (FY05) Continue detailed engineering of Block 2 SIAP improvements. Monitor technical configuration management of JROC approved solutions for Joint and NATO application. Conduct technical design reviews with affected weapon systems. | 0 | 0 | 13094 | 12681 |
| Architecture - (FY04) Continue development of the SIAP Integrated Architecture. Expand engineering detail to capture additional tactical functionality and updated Joint Theater Air and Missile Defense (TAMD) requirements. Ensure that the Integrated Architecture functions as a Joint requirements engineering structure and decision making tool. Continue to update the behavior model to increase functional scope and begin aligning with other tactical data links. (FY05) Continue development of the SIAP Integrated Architecture. Expand engineering detail to capture additional tactical functionality and updated Joint TAMD requirements. Ensure that the Integrated Architecture functions as a Joint requirements engineering structure and decision making tool. Continue to update the behavior models to increase functional scope and begin aligning with other tactical data links. | 0 | 0 | 17458 | 16304 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Systems Engineering Tools and Analysis - (FY04) Continue to evaluate the technical and warfighting benefits of the SIAP Block improvements. Update analysis tools to support modeling and simulation capabilities, hardware in the loop laboratories and data reduction of open-air live exercises. Coordinate with Joint Tactical Data Link Certification Agency for SIAP Block performance compliance with appropriate levels of approval. Collect, analyze and synchronize implementation opportunities with respect to individual Services and weapon systems. Plot predicted and fielded Joint Tactical Data Line performance capabilites and timelines. (FY05) Continue to evaluate the technical and warfighting benefits of the SIAP Block improvements. Update analysis tools to support modeling and simulation capabilities, hardware in the loop laboratories and data reduction of open-air live exercises. Coordinate with Joint Tactical Data Link Certification Agency for SIAP Block performance compliance with appropriate levels of approval. Collect, analyze and synchronize implementation opportunities. | 0 | 0 | 6547 | 5435 |
| Program Management - Continue to support SIAP TF infrastructure requirements such as rent, LAN (local area network), telephone, computers, VTC (video teleconferences) center rooms, office equipment, facilities management/construction. | 0 | 0 | 4207 | 3848 |
| Totals | 0 | 0 | 47852 | 40080 |

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

**C. Acquisition Strategy:** Not applicable to this project.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603327A - Air and Missile Defense Systems Engineering**

PROJECT
**S32**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Block 0 | MIPR | Army - PEO AMD - Huntsville | 0 | 0 | | 327 | 1-4Q | 0 | 1-4Q | Continue | 327 | 0 |
| b . Block 0 | MIPR | Navy, Arlington - Virginia | 0 | 0 | | 327 | 1-4Q | 0 | 1-4Q | Continue | 327 | 0 |
| c . Block 0 | MIPR | Air Force ESC, Boston, MA | 0 | 0 | | 327 | 1-4Q | 0 | 1-4Q | Continue | 327 | 0 |
| d . Block 0 | MIPR | Marine MARCOR, Quantico, Virginia | 0 | 0 | | 109 | 1-4Q | 0 | 1-4Q | Continue | 109 | 0 |
| e . Block 0 | Various | Various | 0 | 0 | | 1091 | 1-4Q | 0 | 1-4Q | Continue | 1091 | 0 |
| f . Block 1 | MIPR | Army - PEO AMD - Huntsville | 0 | 0 | | 655 | 1-4Q | 272 | 1-4Q | Continue | 927 | 0 |
| g . Block 1 | MIPR | Navy, Arlington, Virigina | 0 | 0 | | 655 | 1-4Q | 272 | 1-4Q | Continue | 927 | 0 |
| h . Block 1 | MIPR | Air Force ESC, Boston, MA | 0 | 0 | | 655 | 1-4Q | 272 | 1-4Q | Continue | 927 | 0 |
| i . Block 1 | MIPR | Marine MARCOR, Quantico, Virginia | 0 | 0 | | 218 | 1-4Q | 90 | 1-4Q | Continue | 308 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603327A - Air and Missile Defense Systems Engineering**

PROJECT
**S32**

| I. Product Development (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| j . Block 1 | Various | Various | 0 | 0 | | 2182 | 1-4Q | 906 | 1-4Q | Continue | 3088 | 0 |
| k . Block 2 | MIPR | Army - PEO AMD - Huntsville, Alabama | 0 | 0 | | 1964 | 1-4Q | 1902 | 1-4Q | Continue | 3866 | 0 |
| l . Block 2 | MIPR | Navy, Arlington, Virginia | 0 | 0 | | 1964 | 1-4Q | 1902 | 1-4Q | Continue | 3866 | 0 |
| m . Block 2 | MIPR | Air Force ESC, Boston, MA | 0 | 0 | | 1964 | 1-4Q | 1902 | 1-4Q | Continue | 3866 | 0 |
| n . Block 2 | MIPR | Marine MARCOR, Quanitico, VA | 0 | 0 | | 655 | 1-4Q | 634 | 1-4Q | Continue | 1289 | 0 |
| o . Block 2 | Various | Various | 0 | 0 | | 6547 | 1-4Q | 6341 | 1-4Q | Continue | 12888 | 0 |
| p . Architecture | MIPR | Army - PEO AMD, Huntsville, AL | 0 | 0 | | 2619 | 1-4Q | 2446 | 1-4Q | Continue | 5065 | 0 |
| q . Architecture | MIPR | Navy, Arlington, VA | 0 | 0 | | 2619 | 1-4Q | 2446 | 1-4Q | Continue | 5065 | 0 |
| r . Architecture | MIPR | Air Force ESC, Boston, MA | 0 | 0 | | 2619 | 1-4Q | 2446 | 1-4Q | Continue | 5065 | 0 |
| s . Architecture | MIPR | Marine MARCOR, Quantico, VA | 0 | 0 | | 873 | 1-4Q | 815 | 1-4Q | Continue | 1688 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603327A - Air and Missile Defense Systems Engineering**

PROJECT
**S32**

| I. Product Development (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| t . Architecture | Various | Various | 0 | 0 | | 8729 | 1-4Q | 8152 | 1-4Q | Continue | 16881 | 0 |
| u . Block Development Engineering | MIPR | Army - PEO AMD, Huntsville, AL | 0 | 0 | | 982 | 1-4Q | 815 | | Continue | 1797 | 0 |
| v . Block Development Engineering | MIPR | Navy, Arlington, VA | 0 | 0 | | 982 | 1-4Q | 815 | | Continue | 1797 | 0 |
| w . Block Development Engineering | MIPR | Air Force ESC, Boston, MA | 0 | 0 | | 982 | 1-4Q | 815 | | Continue | 1797 | 0 |
| x . Block Development Engineering | MIPR | Marine MARCOR, Quantico, VA | 0 | 0 | | 327 | 1-4Q | 272 | | Continue | 599 | 0 |
| y . Block Development Engineering | Various | Various | 0 | 0 | | 3273 | 1-4Q | 2717 | | Continue | 5990 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 43645 | | 36232 | | Continue | 79877 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603327A - Air and Missile Defense Systems Engineering**

PROJECT
**S32**

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Joint SIAP Engineering Support | Various | | 0 | 0 | | 0 | 1-4Q | 0 | 1-4Q | Continue | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | Continue | 0 | 0 |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603327A - Air and Missile Defense Systems Engineering**

PROJECT
**S32**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Program Management Support | Various | | 0 | 0 | 1-4Q | 4207 | 1-4Q | 3848 | | Continue | 8055 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 4207 | | 3848 | | Continue | 8055 | 0 |
| Project Total Cost: | | | 0 | 0 | | 47852 | | 40080 | | Continue | 87932 | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603327A - Air and Missile Defense Systems Engineering** | **S32** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Conduct SIAP Program | | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |

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

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603619A - Landmine Warfare and Barrier - Adv Dev**

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Program Element (PE) Cost | | 20300 | 9716 | 36976 | 42262 | 21757 | 20359 | 60096 | 67964 | 0 | 297234 |
| 005 | CLOSE COMBAT CAPABILITIES ADV DEV | 8842 | 0 | 27026 | 30507 | 12704 | 12105 | 21081 | 24511 | 0 | 144926 |
| 606 | CNTRMN/BARRIER ADV DEV | 11458 | 9716 | 9950 | 11755 | 9053 | 8254 | 39015 | 43453 | 0 | 152308 |

**A. Mission Description and Budget Item Justification:** This program element provides for component development of new mine, countermine, demolition, non-lethal, and shoulder launched munitions/systems by prototyping modern munitions technology, sensors, logic networks, fuzes, power sources, warhead components and modules into complete systems. The program provides for development of grenades, munition simulators, and pyrotechnic devices. The Acquisition Strategy was synchronized with the Future Combat Systems (FCS) resulting in a program restructure. The Program Element (PE) provides for the Intelligent Munitions System (IMS). The IMS provides the FCS Objective Force with capability of intelligent mines, both lethal and non-lethal, demolitions and sensors used by the US Army. It will enhance the effectiveness of the Objective Force by providing situational understanding, real time targeting data and networked fire capabilities. The IMS will significantly enhance minefield effectiveness through coordinated attack/tactics and elimination of overwatch forces. This PE also provides for the initiation and/or continuation of component development of the Airborne Stand-off Minefield Detection System (ASTAMIDS), and Ground Stand-off Mine Detection System (GSTAMIDS) also Objective Force capability systems.

These Systems support the Objective Force Block I of the Transformation Campaign Plan (TCP).

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 19877 | 20286 | 19295 | 21133 |
| Current Budget (FY 2004/2005 PB) | 20300 | 9716 | 36976 | 42262 |
| Total Adjustments | 423 | -10570 | 17681 | 21129 |
| Congressional program reductions | | -10116 | | |
| Congressional rescissions | | -111 | | |
| Congressional increases | | | | |
| Reprogrammings | 976 | -63 | | |
| SBIR/STTR Transfer | -553 | -280 | | |
| Adjustments to Budget Years | | | 17681 | 21129 |

FY03:
Funding: Program reduced by $10.1M due to Congress cancelling the RAPTOR program.

FY04:
Funding: Received increase of $17.7M from 0604808A D016 to support the Intelligent Munitions System.

FY05:
Funding: Received increase of $21.1M from 0604808A D016 to support the Intelligent Munitions System.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603619A - Landmine Warfare and Barrier - Adv Dev** | **005** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 005 | CLOSE COMBAT CAPABILITIES ADV DEV | 8842 | 0 | 27026 | 30507 | 12704 | 12105 | 21081 | 24511 | 0 | 144926 |

**A. Mission Description and Budget Item Justification:** This project provides for component development of mine, demolition and non-lethal systems. Intelligent Munitions System (IMS) is an integrated system of sensors, lethal and non-lethal munitions, software and communications that may be emplaced by multiple means and is capable of autonomous, unattended employment for the detection, classification, identification, tracking and engagement of selected targets in accordance with the commander's intent. IMS will enhance the effectiveness of the Objective Force by providing situational understanding, real time targeting data and networked fire capabilities while eliminating the need for overwatch forces. The Intelligent Munitions System is an Objective Force Block I system.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Design/Development of Communications, Sensor, and Munition Components for IMS Block I | 2885 | 0 | 21491 | 3907 |
| IMS Concept Exploration Activities | 3407 | 0 | 0 | 0 |
| Source selection preparation | 1200 | 0 | 0 | 0 |
| Component Advanced Development Phase Testing for IMS | 0 | 0 | 1035 | 3000 |
| IMS Modeling and Simulation | 1350 | 0 | 3000 | 3000 |
| Prepare Documentation and conduct MS B review | 0 | 0 | 0 | 100 |
| Prepare IMS Block II procurement package | 0 | 0 | 1500 | 1500 |
| Design/Development of Communications, Sensor, and Munition Components for IMS Block II | 0 | 0 | 0 | 19000 |
| Totals | 8842 | 0 | 27026 | 30507 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| Future Combat Systems PE 654645, Project Number 470 | 0 | 157649 | 1245118 | 1967611 | 1853885 | 1074551 | 1046145 | 807495 | 0 | 8152454 |

**C. Acquisition Strategy:** Award up to two contracts for Component Advanced Development (CAD). Conduct CAD. Downselect to one contractor for the system development and demostration phase.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603619A - Landmine Warfare and Barrier - Adv Dev**

PROJECT
**005**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . IMS Component Advanced Development | C-CPIF | TBD | 10126 | 0 | | 21078 | 1Q | 3452 | 1Q | 0 | 34656 | 29570 |
| b . IMS Block II Component Advcanced Development | C-CPIF | TBD | 0 | 0 | | 0 | | 19000 | 2Q | Continue | 19000 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 10126 | 0 | | 21078 | | 22452 | | Continue | 53656 | Continue |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Eng. support (IMS) | MIPR | TACOM/ARDEC, Picatinny Arsenal NJ | 6290 | 0 | | 1913 | 1Q | 2200 | 1Q | Continue | 10403 | Continue |
| b . Eng. support (IMS) | C-CPIF | CECOM, Ft monmouth, NJ | 310 | 0 | | 500 | | 500 | | Continue | 1310 | Continue |
| c . IMS-Other OGAs/contracts | Various | Various | 6999 | 0 | | 2200 | | 1955 | | Continue | 11154 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 13599 | 0 | | 4613 | | 4655 | | Continue | 22867 | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603619A - Landmine Warfare and Barrier - Adv Dev**

PROJECT
**005**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Test support (IMS) | MIPR | ATEC, Virginia | 1400 | 0 | | 1035 | 1Q | 3000 | 1Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 1400 | 0 | | 1035 | | 3000 | | Continue | Continue | Continue |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Program Management | In-house | PM-CCS, Picatinny Arsenal, New Jersey | 1113 | 0 | 1Q | 300 | | 400 | | Continue | 1813 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 1113 | 0 | | 300 | | 400 | | Continue | 1813 | Continue |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 26238 | 0 | | 27026 | | 30507 | | Continue | Continue | Continue |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603619A - Landmine Warfare and Barrier - Adv Dev**

PROJECT
**005**

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| IMS CAD Decision Review | | 2Q | | | | | | |
| IMS Component Prototype Testing | | | 4Q | 1Q | | | | |
| IMS Milestone B | | | | 2Q | | | | |
| IMS SDD Interim Progress Review | | | | | 3Q | | | |
| IMS Milestone C | | | | | | 4Q | | |
| IMS Full Rate Production review | | | | | | | 3Q | |
| IMS First Unit Equipped (FUE) | | | | | | | 4Q | |
| IMS DT | | | | | 4Q | | | |
| IMS IOTE | | | | | | 2Q | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603619A - Landmine Warfare and Barrier - Adv Dev** | **606** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 606 | CNTRMN/BARRIER ADV DEV | 11458 | 9716 | 9950 | 11755 | 9053 | 8254 | 39015 | 43453 | 0 | 152308 |

**A. Mission Description and Budget Item Justification:** This project provides for component development of new countermine systems by prototyping sensors for neutralizing, clearing, breaching and detection concepts which will enhance the effectiveness of the Objective Force to maintain freedom of maneuver. The program includes the Airborne Standoff Minefield Detection System (ASTAMIDS), and Ground Stand-off Mine Detection System (GSTAMIDS). These Systems are Objective Force Block I systems.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Contractor Technical Testing and Integration Risk Reduction of GSTAMIDS Quadruple Resonance Sensors. | 6856 | 0 | 0 | 0 |
| Conduct Source Selection and award ASTAMIDS System Component Development. | 0 | 700 | 0 | 0 |
| Develop GSTAMIDS Block I Systems (Virtual Prototype) Concept. | 3022 | 0 | 0 | 0 |
| ASTAMIDS System Component Development. | 0 | 6969 | 6278 | 8483 |
| Test planning, preparation ,and support for ASTAMIDS. | 980 | 809 | 1000 | 600 |
| Plants Detecting Minefields. | 400 | 0 | 0 | 0 |
| Procure Mine Marking Foam | 200 | 0 | 0 | 0 |
| ASTAMIDS Modeling, Analysis and Engineering support | 0 | 1238 | 2672 | 2672 |
| Totals | 11458 | 9716 | 9950 | 11755 |

| B. Other Program Funding Summary | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| PE 0604808A, Project 415, Mine Neutralization/Detection | 39459 | 44185 | 33706 | 13234 | 19933 | 28906 | 48003 | 66876 | Continuing | Continuing |
| R68101, GSTAMIDS Block 0 | 8180 | 20359 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 28539 |
| R68102, GSTAMIDS Block 1 | 0 | 0 | 0 | 0 | 0 | 7201 | 20932 | 20226 | Continuing | Continuing |
| S11500, ASTAMIDS | 0 | 0 | 0 | 0 | 0 | 0 | 11486 | 12290 | Continuing | Continuing |

**C. Acquisition Strategy:** Airborne Stand-off Minefield Detection System (ASTAMIDS) will competitively select a system component development contractor and award a sole source System Development and Demonstration (SDD) contract upon completion of System Component Development phase and Milestone Decision Authority (MDA) approval. A sole source production contract with multiple options are anticipated for the successful SDD contractor. Ground Stand-off Minefield Detection System (GSTAMIDS) program is a spiral development and acquisition program designed to field vehicle mounted mine detection and neutralization capabilities in successive block upgrades (Blocks 0,1, and 2). The Block I confirmation sensor is being developed under the Quadrupole Resonance Contract that was awarded on a sole source basis. The Block I Systems Concept Contract was competitively awarded for the Concept and Technology Development and Demostration Phase.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603619A - Landmine Warfare and Barrier - Adv Dev**

PROJECT
**606**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . GSTAMIDS, Blk I ; System concept Contract | C-CPFF | BAE Systems | 2487 | 0 | | 0 | | 0 | | 0 | 2487 | 4012 |
| b . GSTAMIDS BLK I QR | C-CPFF | Quantum Magnetics, San Diego, CA | 13936 | 0 | | 0 | | 0 | | 0 | 13936 | 13986 |
| c . ASTAMIDS | C-CPIF | TBD | 0 | 6694 | 2Q | 6378 | 1Q | 8483 | 1Q | Continue | Continue | Continue |
| d . Plants Detecting Landmines | | | 309 | 0 | | 0 | | 0 | | 0 | 309 | 309 |
| | | | | | | | | | | | | |
| Subtotal: | | | 16732 | 6694 | | 6378 | | 8483 | | Continue | Continue | Continue |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . GSTAMIDS Blk I Eng. Support | MIPR | Various | 2870 | 0 | | 0 | | 0 | | 0 | 2870 | 2870 |
| b . ASTAMIDS | MIPR | Various | 750 | 1313 | 1Q | 1637 | 1Q | 1637 | 1Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 3620 | 1313 | | 1637 | | 1637 | | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603619A - Landmine Warfare and Barrier - Adv Dev**

PROJECT
**606**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . GSTAMIDS Blk I Test Support | MIPR | ATEC, Virginia | 1192 | 0 | | 0 | | 0 | | 0 | 1192 | 1192 |
| b . ASTAMIDS | MIPR | ATEC, Virginia | 430 | 346 | 2-3Q | 900 | 1-3Q | 600 | 2Q | Continue | 2276 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 1622 | 346 | | 900 | | 600 | | Continue | 3468 | Continue |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Prog Mgmt GSTAMIDS | In-house | PM-CCS, Picatinny, NJ | 679 | 0 | | 0 | | 0 | | 0 | 679 | 679 |
| b . Prog Mgmt GSTAMIDS | C-FP | Various | 1558 | 0 | | 0 | | 0 | | 0 | 1558 | 1558 |
| c . ASTAMIDS | In-house | PM-CCS | 0 | 655 | 1-4Q | 335 | 1-4Q | 335 | 1-4Q | Continue | 1325 | Continue |
| d . Prog Mgmt ASTAMIDS | C-FP | Various | 0 | 708 | | 700 | 1Q | 700 | 1Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 2237 | 1363 | | 1035 | | 1035 | | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603619A - Landmine Warfare and Barrier - Adv Dev** | **606** |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 24211 | 9716 | | 9950 | | 11755 | | Continue | Continue | Continue |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603619A - Landmine Warfare and Barrier - Adv Dev** | **606** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| GSTAMIDS Block I MS B | | 4Q | | | | | | |
| GSTAMIDS Block I MS C | | | | | | 4Q | | |
| ASTAMIDS BlockI MS B | | 1Q | | | | | | |

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

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603627A - Smoke, Obscurant and Target Defeating Sys-Adv Dev**

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| Total Program Element (PE) Cost | 0 | 2323 | 10262 | 12972 | 6311 | 8233 | 15218 | 8915 | 0 | 64234 |
| E78 TARGET DEFEATING SYS | 0 | 2323 | 5836 | 6645 | 0 | 0 | 0 | 0 | 0 | 14804 |
| E79 SMOKE/OBSCURANT SYSTEM | 0 | 0 | 4426 | 6327 | 6311 | 8233 | 15218 | 8915 | 0 | 49430 |

**A. Mission Description and Budget Item Justification:** U.S. Forces must be able to defeat target acquisition, weapon guidance systems, and surveillance sensors across the electro-optical spectrum. This program element supports the Component Advanced Development and System Integration developmental phases of high performance obscuration materials and systems to increase the survivability of the combined armed forces and to complement weapon systems. These programs develop systems provide large area and projected obscuration across the spectrum from visual through infrared and millimeter wavelength radar. The technologies supported by this program enhance obscuration systems as combat multipliers.

Systems developed support the Legacy-to-Objective transition path of the Transformation Campaign Plan (TCP).

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 0 | 2432 | 10421 | 13590 |
| Current Budget (FY 2004/2005 PB) | 0 | 2323 | 10262 | 12972 |
| Total Adjustments | 0 | -109 | -159 | -618 |
| Congressional program reductions | | | -159 | -618 |
| Congressional rescissions | | | | |
| Congressional increases | | | | |
| Reprogrammings | | -42 | | |
| SBIR/STTR Transfer | | -67 | | |
| Adjustments to Budget Years | | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603627A - Smoke, Obscurant and Target Defeating Sys-Adv Dev** | **E78** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| E78 TARGET DEFEATING SYS | 0 | 2323 | 5836 | 6645 | 0 | 0 | 0 | 0 | 0 | 14804 |

**A. Mission Description and Budget Item Justification:** U.S. Forces must be able to defeat target acquisition, weapon guidance systems, and surveillance sensors across the electro-optical spectrum. These program elements support the Component Advanced Development and System Integration developmental phases of high performance obscuration materials and systems to increase the survivability of the combined armed forces and to complement weapons systems. These programs develop systems to provide large area and projected obscuration across the spectrum from visual through infrared and millimeter wavelength radar. The technologies supported by this program enhance obscuration systems as combat multipliers. Instead of traditional self-defense procedures, this technology will transfer the visibility defeating materials directly to the threat and remove soldiers from direct-fire risk. This system supports the Legacy-to-Objective transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Initiate program planning and conduct a Milestone A for distant smoke or robotic obscuration systems. | 0 | 1067 | 0 | 0 |
| Conduct contract planning and execution for distant smoke or robotic obscuration systems. | 0 | 1256 | 3836 | 3145 |
| Conduct developmental testing (DT)or distant smoke or robotic obscuration systems. | 0 | 0 | 2000 | 2000 |
| Initiate program planning and conducts a Milestone B for distant smoke or robotic obscuration systems. | 0 | 0 | 0 | 1500 |
| Totals | 0 | 2323 | 5836 | 6645 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| RDTE, A, Budget Activity 2, PE 0602622A, Project 552 | 3190 | 3395 | 3540 | 3553 | 3713 | 3742 | 3830 | 3933 | Continuing | Continuing |

**C. Acquisition Strategy:** Project Smoke/Obscurant and Target Defeat: The Distant Smoke System (DSS) will begin Component Advanced Development in FY2003. The effort will be a combined in-house and competitive contract program.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603627A - Smoke, Obscurant and Target Defeating Sys-Adv Dev**

PROJECT
**E78**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . DSS - Supports robotic hardware development | C/CPFF | TBS | 0 | 758 | 3-4Q | 3500 | 2Q | 3264 | 1Q | 0 | 7522 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 758 | | 3500 | | 3264 | | 0 | 7522 | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . DSS - Supports developmental testing | OGA | TBS | 0 | 0 | | 50 | 1Q | 300 | 1Q | 0 | 350 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 50 | | 300 | | 0 | 350 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603627A - Smoke, Obscurant and Target Defeating Sys-Adv Dev**

PROJECT
**E78**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . DSS - Conducts developmental tests | OGA | TBS | 0 | 0 | | 1409 | 1-2Q | 1581 | 1Q | 0 | 2990 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 1409 | | 1581 | | 0 | 2990 | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . DSS - Supports program management | In house | SBCCOM, APG, MD | 0 | 1000 | 1Q | 877 | 1Q | 1500 | 1Q | 0 | 3377 | 0 |
| b . DSS - Conducts Milestone and Initiates contract planning | In house | SBCCOM, APG, MD | 0 | 565 | 1-3Q | 0 | | 0 | | 0 | 565 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 1565 | | 877 | | 1500 | | 0 | 3942 | 0 |
| Project Total Cost: | | | 0 | 2323 | | 5836 | | 6645 | | 0 | 14804 | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603627A - Smoke, Obscurant and Target Defeating Sys-Adv Dev** | **E78** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| DSS - Milestone A, Program initiation | | 3Q | | | | | | |
| DSS - Initiate RDTE competitive contract planning | | 1-2Q | | | | | | |
| DSS - Award competitive RDTE contract | | 3-4Q | | | | | | |
| DSS - Conduct developmental testing | | | 2-3Q | 4Q | | | | |
| DSS - Conduct Milestone B | | | | 4Q | | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603627A - Smoke, Obscurant and Target Defeating Sys-Adv Dev** | **E79** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| E79 SMOKE/OBSCURANT SYSTEM | 0 | 0 | 4426 | 6327 | 6311 | 8233 | 15218 | 8915 | 0 | 49430 |

**A. Mission Description and Budget Item Justification:** This is a new effort in FY04. U.S. Forces must be able to defeat target acquisition, weapon guidance systems, and surveillance sensors across the electro-optical spectrum. These program elements support the Component Advanced Development and System Integration developmental phases of high performance obscuration materials and systems to increase the survivability of the combined armed forces and to complement weapons systems. These programs develop systems provide large area obscuration across the spectrum from visual through infrared and millimeter wavelength radar. The technologies supported by this program enhance obscuration systems as combat multipliers.

This system supports the Legacy-to-Objective transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Initiate component advance development for a smoke grenade and smoke pot which will have the capability to obscure in the visible, infrared, and millimeter wave spectrums. | 0 | 0 | 4332 | 0 |
| Conduct initial Milestone B for the multispectral grenade and smoke pot. | 0 | 0 | 94 | 0 |
| Execute contract to build candidate smoke grenades and smoke pots with multi-spectral capability. (quantity or cost of each unknown at this time) | 0 | 0 | 0 | 5531 |
| Qualify and quantify test requirements for candidate grenades and pots. | 0 | 0 | 0 | 600 |
| Initiate environmental impact studies on candidates grenades and pots. | 0 | 0 | 0 | 196 |
| Totals | 0 | 0 | 4426 | 6327 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| RDTE, A, Budget Activity 5, PE 0604609A, Project 200 | 7293 | 7320 | 11751 | 3831 | 0 | 0 | 12757 | 11494 | 0 | 54446 |

**C. Acquisition Strategy:** There will be a full and open competition for the development contract. SBCCOM will be the procurement agency.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603627A - Smoke, Obscurant and Target Defeating Sys-Adv Dev**

PROJECT
**E79**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Initial Program Planning and System Design | OGA | PMNBC, APG, MD | 0 | 0 | | 4332 | 1-4Q | 0 | | 0 | 4332 | 0 |
| b . Developmental Contract | C/CPFF | TBS | 0 | 0 | | 0 | | 5531 | 2Q | 0 | 5531 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 4332 | | 5531 | | 0 | 9863 | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Environmental Studies | OGA | TBS | 0 | 0 | | 0 | | 196 | 2Q | 0 | 196 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 196 | | 0 | 196 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603627A - Smoke, Obscurant and Target Defeating Sys-Adv Dev**

PROJECT
**E79**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Test & Evaluation | OGA | TBS | 0 | 0 | | 0 | | 600 | 2Q | 0 | 600 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 600 | | 0 | 600 | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Conduct initial Milestone B | OGA | PMNBC, APG, MD | 0 | 0 | | 94 | 1Q | 0 | | 0 | 94 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 94 | | 0 | | 0 | 94 | 0 |
| Project Total Cost: | | | 0 | 0 | | 4426 | | 6327 | | 0 | 10753 | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603627A - Smoke, Obscurant and Target Defeating Sys-Adv Dev** | **E79** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Conduct Milestone B | | | 3Q | | | | | |
| Award Contract | | | | 2Q | | | | |

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

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603639A - Tank and Medium Caliber Ammunition**

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Program Element (PE) Cost | | 52252 | 26492 | 11249 | 1943 | 86097 | 92032 | 78882 | 84998 | Continuing | Continuing |
| 643 | 120MM CONVENTIONAL TANK AMMUNITION | 28725 | 5013 | 5374 | 1943 | 868 | 866 | 826 | 855 | 0 | 71481 |
| 64B | 105MM CONVENTIONAL TANK AMMUNITION | 23527 | 18621 | 3917 | 0 | 25490 | 39237 | 23339 | 1809 | 0 | 135940 |
| 656 | MULTI ROLE ARMAMENT AND AMMUNITION SYSTEM (MRAAS) | 0 | 0 | 0 | 0 | 59739 | 51929 | 54717 | 82334 | Continuing | Continuing |
| 694 | MEDIUM CALIBER AMMUNITION | 0 | 2858 | 1958 | 0 | 0 | 0 | 0 | 0 | 0 | 4816 |

**A. Mission Description and Budget Item Justification:** The Tank and Medium-caliber Ammunition (TMA) Program Element (PE) encompasses a comprehensive program to develop, rapidly transition to production, and field, advanced tank, medium caliber, and other munitions. These programs will ensure continued battlefield overmatch and lethality of U.S. maneuver forces despite worldwide development and proliferation of enhanced armored vehicle protection technologies. To do this, TMA will identify and develop promising technology through competitive development and streamlined acquisition procedures. All ammunition development funds within this PE are managed to facilitate transitions between phases, avoid administrative delays, and focus resources on the most promising areas.

The current cartridge development areas are in Kinetic Energy (120mm, M829E3), Training Ammunition (120mm, XM1002 and 25mm, M910E1), Anti-Personnel (105mm, XM1040 and 120mm, XM1028) and Mid Range Munition (MRM), in support of weapon platforms. MRM will provide greater hit probability at extended ranges, both line-of-sight and beyond-line-of-sight, increased surivivability and lethality for the Mounted Combat System (MCS) in the Future Combat System and with potential for the Mobile Gun system in the Stryker Brigade Combat Team (SBCT) and Abrams Main Battle Tank in the current force. MRM will expand the Maneuver Task Force Commander's battle space significantly and consequently improve our soldier's survivability.

To date, six rounds of tank ammunition (M829A1, M829A2, M830A1, M865, M831 and M829E3 (Low Rate Production)) have completed development under this program and entered/completed production.

This PE supports the Legacy-to-Objective and Objective Transition Paths of the Transformation Campaign Plan (TCP).

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

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603639A - Tank and Medium Caliber Ammunition**

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 52074 | 11354 | 7618 | 2148 |
| Current Budget (FY 2004/2005 PB) | 52252 | 26492 | 11249 | 1943 |
| Total Adjustments | 178 | 15138 | 3631 | -205 |
| Congressional program reductions | | | | |
| Congressional rescissions | | -456 | | |
| Congressional increases | | 16500 | | |
| Reprogrammings | 1591 | -173 | | |
| SBIR/STTR Transfer | -1413 | -733 | | |
| Adjustments to Budget Years | | | 3631 | -205 |

FY 2003: Congressional increases were provided for the following programs: $1.0M for global positioning system interference suppression unit; $5.0M for mid-range munition (MRM) kinetic energy (KE); $10.5 for mid-range / tank extended range munition tri-mode munition.

FY 2004: Additional funds support the completion of System Development and Demonstration for the XM1028 Anti-Personnel Canister Cartridge.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603639A - Tank and Medium Caliber Ammunition** | **643** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 643 | 120MM CONVENTIONAL TANK AMMUNITION | 28725 | 5013 | 5374 | 1943 | 868 | 866 | 826 | 855 | 0 | 71481 |

**A. Mission Description and Budget Item Justification:** This project develops ammunition for the Current Tank Force and the Future Combat System (FCS).

This project continues development of the 120mm XM1002 Target Practice Multi-Purpose with Tracer (TPMP-T) training cartridge. This cartridge will be a ballistically similar, complementary training cartridge to the currently fielded M830A1 High Explosive Anti-Tank Multi-Purpose with Tracer (HEAT-MP-T) service cartridge and will provide realistic training for Abrams tank crews. Tank training cartridges are required due to installation firing range restrictions on many types of service ammunition.

This program provides for the development of the 120mm XM1028 anti-personnel canister cartridge. This cartridge meets an urgent requirement from the Commander-in-Chief, United States Forces Korea (USFK), to provide rapid, effective, and lethal fire against massed assaulting infantry armed with hand-held anti-tank and automatic weapons at close range (700 meters or less). Upon muzzle exit, 1100 + tungsten balls are expelled, similar in concept to a shotgun shell. Unlike previous anti-personnel tank cartridges, the XM1028 has no fuze and is intended to be a simple, low-cost, low-technology cartridge. Additionally, this project will leverage ongoing and projected International Cooperative developments such as Future Tank Main Armament (FTMA) and other program arrangements and agreements.

This project supports the Legacy-to-Objective and Objective transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Complete M829E3 EMD | 16575 | 0 | 0 | 0 |
| XM1002 TPMP-T Cartridge Engineering and Manufacturing Development (EMD) Phase 1 completion and Phase 2. | 4800 | 3513 | 0 | 0 |
| Systems Development and Demonstration (SDD) (XM1028) | 5350 | 1500 | 5374 | 0 |
| Initial Cartridge/System Integration (MRM) | 2000 | 0 | 0 | 0 |
| Conduct 120mm Lethality Studies | 0 | 0 | 0 | 1943 |
| Totals | 28725 | 5013 | 5374 | 1943 |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603639A - Tank and Medium Caliber Ammunition** | **643** |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| E73300-M831/M831A1 120mm Heat Tank Trainer Cartridge | 46428 | 50690 | 39905 | 34492 | 27261 | 0 | 0 | 0 | 0 | 198776 |
| E73400-M865 120mm KE Tank Trainer Cartridge | 96343 | 101922 | 84650 | 87183 | 88925 | 102617 | 134861 | 126401 | Continuing | Continuing |
| E78013-M829E3 120mm Tank KE Cartridge | 35178 | 39643 | 36520 | 42500 | 44603 | 45875 | 45834 | 45907 | Continuing | Continuing |
| E78011 M1028 120mm Canister Cartridge | 0 | 2954 | 5888 | 7345 | 5863 | 0 | 0 | 0 | 0 | 22050 |
| E73201 M1002 120mm MPAT Tank Trainer Cartridge | 0 | 0 | 9715 | 15473 | 25090 | 49383 | 69603 | 65164 | Continuing | Continuing |

**C. Acquisition Strategy:** These funds support the continuing development of the XM1002 TPMP-T training cartridge. This project will use a streamlined acquisition strategy, keeping costs low while meeting scheduled requirements. Integrated Product Teams (IPTs) are being used. The XM1002 will replace the current M831A1 training cartridge.

These funds support the continuing development of the XM1028 Canister Cartridge. This project will use a streamlined acquisition strategy, keeping costs low while meeting scheduled requirements. Integrated Product Teams (IPTs) are being used.

Prior year funds (FY 2002 and earlier) funded development of the M829E3 APFSDS-T and MRM along with the XM1002 and XM1028. Operational Requirements Documents (ORDs) have been approved for the XM1028, XM1002, and M829E3.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603639A - Tank and Medium Caliber Ammunition**

PROJECT
**643**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Alliant Techsystems (M829E3) | C-CPIF | Alliant Techsystems, Twin Cities Army Ammunition Plant (T-CAAP), New Brighton, MN | 50257 | 0 | | 0 | | 0 | | 0 | 50257 | 0 |
| b . TACOM-ARDEC (M829E3) | MIPR | Picatinny Arsenal, NJ | 47636 | 0 | | 0 | | 0 | | 0 | 47636 | 0 |
| c . Army Research Lab (M829E3) | MIPR | Aberdeen PG, MD | 19395 | 0 | | 0 | | 0 | | 0 | 19395 | 0 |
| d . Rheinmettal(M829E3) | SS-FFP | Germany | 3000 | 0 | | 0 | | 0 | | 0 | 3000 | 0 |
| e . Batelle Northwest Lab (M829E3) | MIPR | Richland, WA | 4410 | 0 | | 0 | | 0 | | 0 | 4410 | 0 |
| f . Miscellaneous (M829E3) | MIPR | Multiple | 2550 | 0 | | 0 | | 0 | | 0 | 2550 | 0 |
| g . MRM Contract) | CPFF | Scientific Technical Associates (STA) | 100 | 0 | | 0 | | 0 | | 0 | 100 | 0 |
| h . MRM (Integration Contract) | C-CPFF | Raytheon, AZ | 450 | 0 | | 0 | | 0 | | 0 | 450 | 0 |
| i . XM1002 TPMP-T Ctg | FFP | Alliant Ammunition Systems, Twin Cities Army Ammunition Plant, New Brighton, MN | 4715 | 0 | | 0 | | 0 | | 0 | 4715 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603639A - Tank and Medium Caliber Ammunition**

PROJECT
**643**

| I. Product Development (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| j . TACOM -ARDEC (XM1002) | MIPR | Picatinny Arsenal, NJ | 1300 | 935 | 1-2Q | 0 | | 0 | | 0 | 2235 | 0 |
| k . Miscellaneous (XM1002) | MIPR | Multiple | 520 | 317 | 1-2Q | 0 | | 0 | | 0 | 837 | 0 |
| l . XM1028 Canister Cartridge | FFP | General Dynamics Ordnance Tactical Systems (G-DOTS), St. Petersburg, FL | 2200 | 0 | | 2500 | 1-2Q | 0 | | 0 | 4700 | 0 |
| m . TACOM -ARDEC (XM1028) | MIPR | Picatinny Arsenal, NJ | 100 | 650 | 1-2Q | 800 | 1-4Q | 0 | | 0 | 1550 | 0 |
| n . Research and Development Contract Awards | | TBD | 0 | 0 | | 0 | | 1943 | 1-2Q | Continue | 1943 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 136633 | 1902 | | 3300 | | 1943 | | Continue | 143778 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603639A - Tank and Medium Caliber Ammunition**

PROJECT
**643**

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

Remarks: Not Applicable

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . YPG, APG (M829E3) | MIPR | Yuma, AZ/APG, MD | 15673 | 0 | | 0 | | 0 | | 0 | 15673 | 0 |
| b . Army Research Lab (M829E3) | MIPR | Aberdeen PG, MD | 8135 | 0 | | 0 | | 0 | | 0 | 8135 | 0 |
| c . Miscellaneous (M829E3) | MIPR | Multiple | 6568 | 0 | | 0 | | 0 | | 0 | 6568 | 0 |
| d . Aberdeen Test Center (XM1002) | MIPR | Aberdeen PG, MD | 375 | 1700 | 1-2Q | 0 | | 0 | | 0 | 2075 | 0 |
| e . Miscellaneous (XM1002) | MIPR | Multiple | 200 | 361 | 1-2Q | 0 | | 0 | | 0 | 561 | 0 |
| f . Aberdeen Test Center (XM1028) | MIPR | Aberdeen PG, MD | 300 | 650 | 1-2Q | 1738 | 1-2Q | 0 | | 0 | 2688 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 31251 | 2711 | | 1738 | | 0 | | 0 | 35700 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603639A - Tank and Medium Caliber Ammunition**

PROJECT
**643**

Remarks: Testing includes all testing needed to support M829E3, MRM, XM1028 and XM1002 Cartridges.

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . PM-MAS (M829E3) | MIPR | Picatinny Arsenal, NJ | 10784 | 0 | | 0 | | 0 | | 0 | 10784 | 0 |
| b . Miscellaneous (M829E3) | MIPR | Multiple | 607 | 0 | | 0 | | 0 | | 0 | 607 | 0 |
| c . PM-MAS (MRM) | MIPR | Multiple | 1450 | 0 | | 0 | | 0 | | 0 | 1450 | 0 |
| d . PM-MAS (XM1002) | MIPR | Picatinny Arsenal, NJ | 610 | 200 | 1-2Q | 0 | | 0 | | 0 | 810 | 0 |
| e . PM-MAS (XM1028) | MIPR | Picatinny Arsenal, NJ | 100 | 200 | 1-2Q | 336 | 1-4Q | 0 | | 0 | 636 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 13551 | 400 | | 336 | | 0 | | 0 | 14287 | 0 |

Remarks: Management Services also includes data line/contract costs to support Contractor Integrated Technical Information Services (CITIS) for M829E3.

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 181435 | 5013 | | 5374 | | 1943 | | Continue | 193765 | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603639A - Tank and Medium Caliber Ammunition**

PROJECT
**643**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| M829E3 APFSDS-T CARTRIDGE | | | | | | | | |
| Low Rate Production Decision | 1Q | | | | | | | |
| Complete Production Qualification Test (PQT) | 3Q | | | | | | | |
| Live Fire Test | 1-4Q | | | | | | | |
| Conduct Initial Operational Test and Evaluation (IOT&E) | 2-4Q | | | | | | | |
| Milestone C --Type Classification - Standard | | 1Q | | | | | | |
| XM1002 TP-T CARTRIDGE | | | | | | | | |
| Cartridge Design Freeze | | 2Q | | | | | | |
| Procure PQT propellant/propulsion components | | 1-2Q | | | | | | |
| Procure other PQT components/LAP | | 1-3Q | | | | | | |
| Test PQT | | 2-4Q | | | | | | |
| Milestone C --Type Classification--Standard | | | | 3Q | | | | |
| XM1028 CANISTER CARTRIDGE | | | | | | | | |
| Award SDD Contract | 4Q | | | | | | | |
| Design and Evaluation Testing | | 1-4Q | | | | | | |
| Prototype Manufacturing | | | 1-2Q | | | | | |
| Qualification testing | | | 2-3Q | | | | | |
| Milestone C Type Classification | | | 4Q | | | | | |
| MID RANGE MUNITION | | | | | | | | |
| Award Integration Contracts | 3Q | | | | | | | |
| User Tactical Development | 1-4Q | | | | | | | |
| 120 MM LETHALITY STUDIES | | | | | | | | |
| System Studies | | | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603639A - Tank and Medium Caliber Ammunition** | **64B** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 64B | 105MM CONVENTIONAL TANK AMMUNITION | 23527 | 18621 | 3917 | 0 | 25490 | 39237 | 23339 | 1809 | 0 | 135940 |

**A. Mission Description and Budget Item Justification:** This project will develop ammunition for the Future Combat System's Mounted Combat System (MCS). The Mid Range Munition (MRM) will provide Future Combat System MCS the ability to hit and kill all battlefield targets at extended ranges, both line of sight and beyond line of sight, increase survivability and lethality, and expand the Maneuver Task Force Commander's battle space. Global Positioning System (GPS) Anti-Jam device for munitions and platforms will allow U.S. forces to fight in environments where low cost GPS jammers exist. Development of the XM1040, 105mm anti-personnel canister cartridge responds to an urgent need of the MGS to immediately suppress dismounted infantry assaults in close/restricted terrain. This two-year development effort will leverage the technology of the preceding XM1028 120mm anti-personnel canister cartridge program. Like the XM1028, the XM1040 canister cartridge is envisioned to be similar in concept to a shotgun shell, expelling the payload upon muzzle exit. Unlike previous anti-personnel tank cartridges, the XM1040 will have no fuze and is intended to be a simple, low-cost, low-technology cartridge.

This project develops the necessary changes to platform weapons and command and control systems brought about by ever more capable ammunition. Additionally, this project will leverage ongoing and projected International Cooperative developments such as Future Tank Main Armament (FTMA) and other program arrangements and agreements.

This project supports the Legacy-to-Objective and Objective Transformation Paths of the Transformation Campaign Plan.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Contract Award/Prototype Manufacturing (XM1040) | 0 | 2877 | 3917 | 0 |
| Kinetic Energy (KE) Smart Ctg Demo | 2750 | 0 | 0 | 0 |
| KE 105mm Preliminary Design (MRM) | 7700 | 5000 | 0 | 0 |
| TM3 105mm Preliminary Design (MRM) | 7700 | 9744 | 0 | 0 |
| GPS and Anti-Jam Development (MRM) | 1000 | 1000 | 0 | 0 |
| KE 105mm Initial Prototype Development (MCS) | 2977 | 0 | 0 | 0 |
| Barrel Development (MCS) | 1400 | 0 | 0 | 0 |
| Totals | 23527 | 18621 | 3917 | 0 |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603639A - Tank and Medium Caliber Ammunition** | **64B** |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| PAA SSN E24300: CTG, 105mm HEP-T, w/Fuze M393A3 | 5966 | 2068 | 7850 | 7834 | 0 | 0 | 0 | 0 | 0 | 23718 |
| PAA SSN E22300: CTG, 105mm TP-T, M467A1 | 0 | 5910 | 9813 | 14689 | 20521 | 20751 | 0 | 0 | 0 | 71684 |
| PAA SSN E67904: CTG, 105mm Mid-Range Munition (MRM) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20765 | 0 | 20765 |
| PAA SSN E24400 CTG, 105mm Canister, M1040 | 0 | 0 | 2944 | 4896 | 1954 | 4743 | 5924 | 7416 | 0 | 27877 |

**C. Acquisition Strategy:** These funds will initiate the development of the XM1040, 105mm anti-personnel Canister cartridge required for the Mobile Gun System (MGS) in the new Stryker Brigade Combat Teams (SBCTs) with follow-on production upon completion. The contract award will be competitive and developed using performance specifications leveraging the technology of the preceding XM1028, 120mm anti-personnel Canister cartridge. This project will use a streamlined acquisition strategy, keeping costs low while meeting scheduled requirements. Integrated Product Teams (IPTs) will be used. The Operational Requirements Document (ORD) for this program has been approved.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603639A - Tank and Medium Caliber Ammunition**

PROJECT
**64B**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Alliant Tech Systems (MRM) | SS-CPFF | Clearwater, FL | 10200 | 3500 | 2Q | 0 | | 0 | | 0 | 13700 | 0 |
| b . Raytheon (MRM) | SS-CPFF | Tucson, AZ | 6000 | 6800 | 2Q | 0 | | 0 | | 0 | 12800 | 0 |
| c . Electro-Radiation Inc. (MRM) | SS-CPFF | Totowa, NJ | 700 | 700 | 2Q | 0 | | 0 | | 0 | 1400 | 0 |
| d . TACOM-ARDEC (MRM) | MIPR | Picatinny Arsenal, NJ | 2610 | 2675 | 2-4Q | 0 | | 0 | | 0 | 5285 | 0 |
| e . Miscellaneous (MRM) | MIPR | Multiple | 1190 | 1169 | 2-4Q | 0 | | 0 | | 0 | 2359 | 0 |
| f . XM1040 | C-CPIF | TBD | 0 | 1684 | 2Q | 2700 | 1-2Q | 0 | | 0 | 4384 | 0 |
| g . TACOM-ARDEC (XM1040) | MIPR | Picatinny Arsenal, NJ | 0 | 843 | 2-4Q | 350 | 1-4Q | 0 | | 0 | 1193 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 20700 | 17371 | | 3050 | | 0 | | 0 | 41121 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603639A - Tank and Medium Caliber Ammunition**

PROJECT
**64B**

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Yuma Proving Ground (YPG) (MRM) | MIPR | Yuma, AZ | 100 | 300 | 2-4Q | 0 | | 0 | | 0 | 400 | 0 |
| b . Army Evaluation Center (AEC) (MRM) | MIPR | Aberdeen, MD | 75 | 100 | 2Q | 0 | | 0 | | 0 | 175 | 0 |
| c . Army Research Lab (ARL) (MRM) | MIPR | Aberdeen, MD | 350 | 200 | 2-4Q | 0 | | 0 | | 0 | 550 | 0 |
| d . Yuma Proving Ground (YPG) (XM1040) | MIPR | Yuma, AZ | 0 | 150 | 3-4Q | 478 | 1-2Q | 0 | | 0 | 628 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 525 | 750 | | 478 | | 0 | | 0 | 1753 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603639A - Tank and Medium Caliber Ammunition**

PROJECT
**64B**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a. PM-MAS (MRM) | Multiple | Picatinny Arsenal, NJ | 2302 | 300 | | 0 | | 0 | | 0 | 2602 | 0 |
| b. PM-MAS (XM1040) | Multiple | Picatinny Arsenal, NJ | 0 | 200 | 1-4Q | 389 | 1-4Q | 0 | | 0 | 589 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 2302 | 500 | | 389 | | 0 | | 0 | 3191 | 0 |
| Project Total Cost: | | | 23527 | 18621 | | 3917 | | 0 | | 0 | 46065 | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603639A - Tank and Medium Caliber Ammunition**

PROJECT
**64B**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Preliminary Design Reviews (KE/TM3) (MRM) | 3Q | | | | | | | |
| Airframe and Propulsion Compulsion Tests (KE/TM3) (MRM) | 4Q | 2Q | | | | | | |
| Seeker and Algorithm Development (MRM) | 4Q | | | | | | | |
| Test Hardware Manufacturing (MRM) | | 2-4Q | | | | | | |
| Preliminary Tests (MRM) | | 3-4Q | | | | | | |
| Guide to Hit Test (MRM) | | 4Q | | | | | | |
| Analog to Digital Coinversion (GPS) | | 4Q | 1Q | | | | | |
| Contract Award (XM1040) | | 2Q | | | | | | |
| Engineering Design Tests (XM1040) | | 3-4Q | | | | | | |
| Prototype Manufacturing (XM1040) | | | 1-3Q | | | | | |
| Qualification Testing (XM1040) | | | 3Q | | | | | |
| Milestone C Type Classification (XM1040) | | | 4Q | | | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603639A - Tank and Medium Caliber Ammunition** | **694** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 694 MEDIUM CALIBER AMMUNITION | 0 | 2858 | 1958 | 0 | 0 | 0 | 0 | 0 | 0 | 4816 |

**A. Mission Description and Budget Item Justification:** This project will develop Medium Caliber Ammunition for the Bradley Fighting Vehicle System (BFVS), the Future Combat System (FCS) and other systems using Medium Caliber Armaments. FY 2003 and 2004 funds the development of the 25mm M910E1 Target Practice, Discarding Sabot w/Tracer (TPDS-T) cartridge. The 25mm M910E1 will provide 0-2500 meter ballistic similitude to the current tactical round, the 25mm M919 Armor Piercing, Fin Stabilized, Discarding Sabot w/Tracer (APFSDS-T) as well as its predecessor, the M791 cartridge. This new training round will resolve a BFVS training issue, since the 25mm M910 TPDS-T cartridge is not ballistically similar to the M919 cartridge.

This project develops the necessary changes to platform weapons and fire control systems brought about by ever more capable ammunition. Additionally, this project will leverage ongoing and projected International Cooperative developments such as Future Tank Main Armament (FTMA) and many other program arrangements and agreements.

This project supports the Legacy-to-Objective and Objective Transition Paths of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Contract Award/Prototype Design and Development (25mm M910E1) | 0 | 2858 | 0 | 0 |
| Contract Award/Option Production Qualification Test (25mm M910E1) | 0 | 0 | 1958 | 0 |
| Totals | 0 | 2858 | 1958 | 0 |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603639A - Tank and Medium Caliber Ammunition** | **694** |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| PAA SSN E08210 , M919 25mm KE (Bradley) | 29700 | 21076 | 491 | 0 | 0 | 0 | 0 | 0 | 0 | 51267 |
| PAA SSN E08204, M910 25mm TPDS-T | 20661 | 16694 | 443 | 40 | 0 | 0 | 0 | 0 | 0 | 37838 |
| PAA SSN E08203 M793 25mm TP-T | 10397 | 28448 | 7878 | 5974 | 6005 | 13987 | 15377 | 16069 | Continuing | Continuing |
| PAA SSN E08211, M910E1 25mm TPDS-T | 0 | 0 | 0 | 39190 | 8620 | 30176 | 29000 | 28559 | Continuing | Continuing |

**C. Acquisition Strategy:** These funds will initiate the two year development of the 25mm M910E1 Target Practice, Discarding Sabot w/Tracer (TPDS-T) for the Bradley Fighting Vehicle System (BFVS) with follow-on production upon completion. The contract award will be competitive. This project will use a streamlined acquisition strategy using performance specifications to keep costs low while meeting schedule requirements. Integrated Product Teams (IPTs) will be used.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603639A - Tank and Medium Caliber Ammunition**

PROJECT
**694**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . TBD (M910E1) | FFP | TBD | 0 | 2365 | 3Q | 958 | 1-2Q | 0 | | 0 | 3323 | 0 |
| b . ARDEC (M910E1) | Picatinny Arsenal, N.J. | | 0 | 293 | 2-4Q | 450 | 1-4Q | 0 | | 0 | 743 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 2658 | | 1408 | | 0 | | 0 | 4066 | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603639A - Tank and Medium Caliber Ammunition**

PROJECT
**694**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Yuma Proving Grounds (M910E1) | Yuma AZ. | | 0 | 0 | | 350 | 2-3Q | 0 | | 0 | 350 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 350 | | 0 | | 0 | 350 | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . PM-MAS (M910E1) | In House | Picatinny Arsenal, NJ | 0 | 200 | 1-4Q | 200 | 1-4Q | 0 | | 0 | 400 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 200 | | 200 | | 0 | | 0 | 400 | 0 |
| Project Total Cost: | | | 0 | 2858 | | 1958 | | 0 | | 0 | 4816 | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603639A - Tank and Medium Caliber Ammunition**

PROJECT
**694**

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| 25MM M910E1 | | | | | | | | |
| Contract Award | | 3Q | | | | | | |
| Engineering Design Tests | | 2-3Q | | | | | | |
| Prototype Manufacturing | | 3-4Q | | | | | | |
| Qualification Testing | | | 1-3Q | | | | | |
| Milestone C Type Classification | | | 4Q | | | | | |

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

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603653A - ADVANCED TANK ARMAMENT SYSTEM (ATAS)**

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Program Element (PE) Cost | | 98145 | 143296 | 61377 | 52429 | 7688 | 88 | 21384 | 93 | 0 | 649921 |
| B99 | TANK & MEDIUM CALIBER ARMAMENTS | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10476 |
| C03 | INTERIM ARMORED VEHICLE (IAV) FAMILY | 98144 | 143296 | 61377 | 52429 | 7688 | 88 | 21384 | 93 | 0 | 639445 |

**A. Mission Description and Budget Item Justification:** Project B99: The Tank and Medium Caliber Armaments is an Acquisition Category (ACAT) Level III project that involves several efforts. It looks at promising tank and medium caliber technologies and assesses advantages and disadvantages of each technology, as well as, costs and implementation impacts. If successful, the technology can move into further development or into production. It also supports the International Quadripartite Agreement among the U.S., France, Germany and the United Kingdom for cooperative development/interoperability efforts to reduce risks on Tank and Medium Caliber Ammunition Systems.

Project C03: An immediate need exists for a Stryker Vehicle equipped C-130 transportable Brigade Combat Team (BCT), capable of deployment anywhere on the globe in a combat ready configuration. The Stryker family consists of an Infantry Carrier (ICV), Reconnaissance Vehicle (RV), Mobile Gun System (MGS), Mortar Carrier (MC), Commander's Vehicle (CV), Fire Support Vehicle (FSV), Engineer Squad Vehicle (ESV), Medical Evacuation Vehicle (MEV), Anti-Tank Guided Missile Vehicle (ATGM), and Nuclear/Biological/Chemical (NBC) Reconnaissance (NBC RV). Stryker supports the Interim transition path of the Transformation Campaign Plan (TCP).

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 100587 | 124108 | 43062 | 26092 |
| Current Budget (FY 2004/2005 PB) | 98145 | 143296 | 61377 | 52429 |
| Total Adjustments | -2442 | 19188 | 18315 | 26337 |
| Congressional program reductions | | | | |
| Congressional rescissions | | -1646 | | |
| Congressional increases | | 25900 | | |
| Reprogrammings | -2401 | -934 | | |
| SBIR/STTR Transfer | -41 | -4132 | | |
| Adjustments to Budget Years | | | 18315 | 26337 |

FY2003 Congressional increase provided funds for the Mobile Gun System (MGS), Stryker Vehicle Testing and for the Common Remote Stabilized Sensor System (CRS3).
Adjustment to Budget Year FY2004 is PBD 105 directed plus-up for increased contract costs in the Stryker Program.
Adjustment to Budget Year FY2005 is Program Objective Memorandum (POM) increase.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603653A - ADVANCED TANK ARMAMENT SYSTEM (ATAS)** | **C03** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C03 | INTERIM ARMORED VEHICLE (IAV) FAMILY | 98144 | 143296 | 61377 | 52429 | 7688 | 88 | 21384 | 93 | 0 | 639445 |

**A. Mission Description and Budget Item Justification:** This project supports the development of the Stryker Vehicles. An immediate need exists for a rapid force to improve the deployability and operational effectiveness of rapid response/early entry forces. The Stryker equipped C-130 transportable Brigade Combat Team (BCT) will be capable of deployment to anywhere on the globe in a combat ready configuration. Immediate response by a lethal, versatile, tactically agile joint force capable of operational maneuver once in the Area of Operations is essential to fulfilling the Warfighting needs of the U. S. Army. The Stryker family includes: Infantry Carrier (ICV), Reconnaissance Vehicle (RV), Mobile Gun System (MGS), Mortar Carrier (MC), Commander's Vehicle (CV), Fire Support Vehicle (FSV), Engineer Squad Vehicle (ESV), Medical Evacuation Vehicle (MEV), Anti-Tank Guided Missile Vehicle (ATGM), and Nuclear/Biological/Chemical (NBC) Reconnaissance (NBC RV). The use of a common platform/common chassis design reduces requirements for repair parts and logistics support in the area of operations. RDTE funding will be used to integrate the mission equipment packages that make each platform unique and effective. This system supports the Interim transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Vehicle design refinement and support to government testing. Complete design integration of NBCRV. Complete design work on MGS: gun turret drives, fighting compartment assembly, fire control target acquisition and vehicle weight reduction. Development of Block modifications: mounted mortar on Mortar Carrier, add-on armor, Integated Electronic Technical Manuals (IETM). Complete weapon integration and design for ATGM and FSV. | 68828 | 43039 | 39296 | 19759 |
| Government Testing of Vehicles. Peform Live Fire Test & Evaluation (LFT&E). Perform Development Testing: Production Qualification Test (PQT), MC unique, Ammo Requal, MGS Unique, Remote Weapons Station (RWS). Initial Operational Test & Evaluation (IOT&E) on all variants. Separate Live Fire Test & Evaluation (LFT&E), Initial Operational Testing and Evaluation (IOT&E), and Production Qualification Test (PQT) on NBCRV and MGS. | 22650 | 90176 | 18170 | 28874 |
| Government Systems Engineering and Program Management | 4186 | 4051 | 3911 | 3796 |
| Training Devices | 2480 | 3930 | 0 | 0 |
| Common Remote Stabilized Sensor System (CRS3) | 0 | 2100 | 0 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Totals | 98144 | 143296 | 61377 | 52429 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| PA, WTCV, G85100 Interim Armored Vehicle Family | 653315 | 774776 | 955027 | 969773 | 903365 | 779889 | 76365 | 168393 | 761800 | 6042703 |
| PA, OPA, W61900 IAV APPLIQUE* | 16912 | 14628 | 14702 | 14667 | 15713 | 14614 | 9569 | 7106 | 0 | 107911 |

*Funding summary represents a portion of the overall funding in W61900, Other Procurement, Army. (FBCB2)

**C. Acquisition Strategy:** The Brigade Combat Team is providing an accelerated procurement of the Family of Stryker Vehicles. On 16 Nov 00, the program completed a successful MS II DAB and awarded a requirements contract to GM/GDLS Defense Group. L.L.C. with delivery orders for integration efforts and limited rate initial production (LRIP) vehicles. The Army has accepted over 400 vehicles through the 2nd qtr of FY03, concurrently; the program is entering Initial Operating Test and Evaluation (IOT&E) and Live fire testing for an anticipated successful MS III DAB approval in 1st qtr FY04 for eight of the ten Variants. The remaining two variants, the MGS and the NBCRV are scheduled for their LRIP approval by the DAB in the 4thqtr FY03 and 1st qtr FY04, respectively. The re maining RDT&E will complete development on the MGS and NBCRV and a limited scope IOT&E for each vehicle for their entry in MS III scheduled for FY05 and FY06, respectively. Work has also begun on block improvements the Family of Stryker will benefit from; add-on armor, a mounted mortar and integrated electronic technical manuals. These block improvements are expected to be cut into production late FY03 and into FY04.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603653A - ADVANCED TANK ARMAMENT SYSTEM (ATAS)**

PROJECT
**C03**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . IAV Development | CPAF | GM GDLS DG L.L.C. Shelby, MI | 230288 | 27839 | 2Q | 31696 | 2Q | 14059 | 2Q | 25237 | 329119 | 329119 |
| b . GFE | Requisition | Various | 851 | 0 | | 0 | | 0 | | 199 | 1050 | 1050 |
| c . Prototype Development (8) | Firm Fixed Price | GM GDLS DG L.L.C Shelby, MI | 37220 | 0 | | 0 | | 0 | | 0 | 37220 | 37220 |
| d . Training Devices | MIPR | STRICOM, Orlando, FL | 3775 | 3930 | 3Q | 0 | | 0 | | 0 | 7705 | 7705 |
| e . TOW for Missile Developement | Reprogram | | 13894 | 0 | | 0 | | 0 | | 0 | 13894 | 13894 |
| f . Common Remote Stabilized Sensor System (CRS3) | Unknown | Unknown | 0 | 2100 | | 0 | | 0 | | 0 | 2100 | 2100 |
| | | | | | | | | | | | | |
| Subtotal: | | | 286028 | 33869 | | 31696 | | 14059 | | 25436 | 391088 | 391088 |

Remarks: Stryker development supports the following 10 vehicles: Infantry Carrier Vehicle (ICV), Reconnaissance Vehicle, Mobile Gun System, Mortar Carrier, Commander's Vehicle, Fire Support Vehicle, Engineer Squad Vehicle, Medical Evacuation Vehicle, Anti-Tank Guided Missile Vehicle, and NBC Reconnaissance Vehicle.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603653A - ADVANCED TANK ARMAMENT SYSTEM (ATAS)**

PROJECT
**C03**

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Other Gov't Agencies | MIPR | TACOM, Warren, MI Various | 10290 | 2570 | 2Q | 2404 | 2Q | 2261 | 2Q | 2100 | 19625 | 19625 |
| b . Source Selection Board | | | 2300 | 0 | | 0 | | 0 | | 0 | 2300 | 2300 |
| | | | | | | | | | | | | |
| Subtotal: | | | 12590 | 2570 | | 2404 | | 2261 | | 2100 | 21925 | 21925 |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Developmental System Testing | MIPR | ATEC, APG, MD/Various | 18061 | 41786 | 2-3Q | 9432 | 2-3Q | 2411 | 2-3Q | 0 | 71690 | 71690 |
| b . Fort Lewis Concept Prove Out | MIPR | BCT Materiel Dev Cell, Ft Lewis, WA | 1118 | 0 | | 0 | | 0 | | 0 | 1118 | 1118 |
| c . Procure Test Vehicles | Competitive/ CPAF | General Motors/General Dynamics Land Systems Defense Group L.L.C. Shelby, MI | 3715 | 0 | | 0 | | 0 | | 0 | 3715 | 3715 |
| d . Live Fire Test & Evaluation | MIPR | Army Test Center, Army Research Lab, Army Evaluation Center - Various | 8352 | 8557 | 2-3Q | 764 | 2-3Q | 6966 | 2-3Q | 0 | 24639 | 24639 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603653A - ADVANCED TANK ARMAMENT SYSTEM (ATAS)**

PROJECT
**C03**

| III. Test and Evaluation (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| e . Initial Operational Test & Evaluation | MIPR | OTC, Ft. Knox, KY | 11293 | 39833 | 2Q | 7974 | 2-3Q | 19497 | 2-3Q | 0 | 78597 | 78597 |
| f . Contractor Support to Test | CPFF | GM GDLS DG L.L.C. Shelby, MI | 16311 | 15200 | 2Q | 7600 | 2Q | 5700 | 2Q | 0 | 44811 | 44811 |
| | | | | | | | | | | | | |
| Subtotal: | | | 58850 | 105376 | | 25770 | | 34574 | | 0 | 224570 | 224570 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . PMO | NA | TACOM, Warren, MI | 8196 | 1481 | 1-2Q | 1507 | 1-2Q | 1535 | 1-2Q | 1717 | 14436 | 14436 |
| b . Consultant Contract PM Support | Competitive/ Various | ICI, Camber, Warren, MI | 2038 | 0 | | 0 | | 0 | | 0 | 2038 | 2038 |
| | | | | | | | | | | | | |
| Subtotal: | | | 10234 | 1481 | | 1507 | | 1535 | | 1717 | 16474 | 16474 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 367702 | 143296 | | 61377 | | 52429 | | 29253 | 654057 | 654057 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603653A - ADVANCED TANK ARMAMENT SYSTEM (ATAS)** | **C03** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Final Production Technical Data Package Available (ICV) | 1Q | | | | | | | |
| First Vehicle Delivery | 2Q | | | | | | | |
| Begin Testing of Vehicles | 3Q | | | | | | | |
| First Unit Equipped (Battalion -) | | 2Q | | | | | | |
| Planned Initial Operational Capability (IOC) | | 3Q | | | | | | |
| Planned Milestone III | | | 1Q | | | | | |

Reflects current program schedule.

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

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603747A - Soldier Support and Survivability**

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Program Element (PE) Cost | | 14939 | 19558 | 13987 | 12213 | 11617 | 10073 | 11567 | 11828 | Continuing | 118899 |
| 610 | FOOD ADV DEVELOPMENT | 3627 | 3569 | 3771 | 3847 | 3441 | 1872 | 2129 | 2195 | Continuing | 27743 |
| 669 | CLOTHING AND EQUIPMENT | 4638 | 4645 | 8864 | 8366 | 8176 | 8201 | 9438 | 9633 | 0 | 65321 |
| C09 | SOLDIER SUPPORT EQUIPMENT - AD | 6674 | 11344 | 1352 | 0 | 0 | 0 | 0 | 0 | 0 | 25835 |

**A. Mission Description and Budget Item Justification:** This program element supports component development and prototyping for organizational equipment, improved individual clothing and equipment, and other combat service support equipment that will enhance soldier battlefield effectiveness, survivability, and sustainment. The program element also supports the development of personnel and cargo parachutes, airdrop containers, and other aerial delivery equipment to improve safety and efficiency of airborne operations. This program element includes a development project for food, packaging, and combat feeding equipment systems; an advanced development project for individual clothing and equipment items; and an advanced development project for a new generation of field service support items, shelters, tents, space heaters, showers, and latrines to advance the quality of life for field soldiers.

This program supports the Legacy-to-Objective transition path of the Army's Transformation Campaign Plan (TCP).

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 17331 | 20788 | 22758 | 22637 |
| Current Budget (FY 2004/2005 PB) | 14939 | 19558 | 13987 | 12213 |
| Total Adjustments | -2392 | -1230 | -8771 | -10424 |
| Congressional program reductions | | -584 | -772 | -642 |
| Congressional rescissions | | -127 | | |
| Congressional increases | | | | |
| Reprogrammings | -1987 | | | |
| SBIR/STTR Transfer | -405 | -519 | | |
| Adjustments to Budget Years | | | -7999 | -9782 |

HQDA realigned funding to Program Element (PE) 0603804A (K39)

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603747A - Soldier Support and Survivability** | **610** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 610 FOOD ADV DEVELOPMENT | 3627 | 3569 | 3771 | 3847 | 3441 | 1872 | 2129 | 2195 | Continuing | 27743 |

**A. Mission Description and Budget Item Justification:** This project provides for the component development and prototyping of joint service food and combat feeding equipment designed to reduce the logistics burden and Operation and Support (O&S) costs of subsistence support to service personnel. Project supports development of rations and rapidly deployable field food service equipment. Project conducts demonstration and validation of improved subsistence and subsistence support items used to enhance soldier effectiveness and quality of life in all three Services, as part of an integrated DoD Food Research, Development, Test, Evaluation and Engineering Program. The Program is reviewed and validated twice annually by the DoD Food and Nutrition Research and Engineering Board as part of the Joint Service Food Program. This project develops critical enablers that support the Army's Transformation Campaign Plan Axes I (Trained and Ready), Line of Operation 2 (Modernization and Re-capitalization) by maintaining readiness through fielding and integrating new equipment. Also Line of Operation 3 (Manning the Force) by enhancing the field soldier's well-being and providing soldier usable equipment; Axes II (transforming the Operational Force), Line of Operation 9 (Deploying and Sustaining) by reducing sustainment requirements, related Combat Support/Combat Service Support (CS/CSS) demands on lift, combat zone footprint, and costs for logistical support.

This project supports the Legacy-to-Objective transition path of the Army's Transformation Campaign Plan.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Developed and evaluate improvements to field feeding systems as required by the Services for integration into future procurements. | 120 | 380 | 0 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Continued improvement efforts to increase variety, enhance acceptability, increase consumption and improve nutritional intake to maintain peak performance on the battlefield. Conducted comprehensive field evaluation of the Unitized Group Ration Heat and Serve (UGR H&S). Completed data collection of Right-Sizing of Secondary Menu Components Project and based on usage data and developed recommendations for number and/or size of portions per menu. Obtained Joint Service approval to convert from metal traycan to polymeric tray for bakery items. Continue to improve fielded group operational rations to increase variety, enhance acceptability, increase consumption and improve nutritional intake to maintain peak performance on the battlefield. Integrate state-of-the-art packaging technologies and other Science and Technology (S&T) transitions into fielded group rations. Provide support for the Defense Supply Center Philadelphia (DSCP) procurement of the Arctic supplement for the UGR H&S. Develop a medical supplement to the UGR and transition technology to procurement. | 617 | 540 | 569 | 553 |
| Completed evaluation of nanocomposite-enhanced barrier layer for current polymeric tray design and continued investigation of monolayer tray design and/other enhancements to optimize polymeric tray producibility, cost, shelf life, utility in the field and survivability in frozen environments. Leveraged Defense Logistics Agency (DLA) MANTECH efforts to increase poly tray production throughout via validated changes to the item packaging specification. Complete in-house testing of monolayer polymeric tray prototypes. Demonstrate commercial producibility of monolayer tray and transition best nanocomposite-based technology to procurement for use with the UGR H&S. | 200 | 181 | 0 | 0 |
| Initiated efforts to investigate the practicality and field suitability of converting from #10 cylindrical cans to Institutional-Sized Pouches (ISPs) for group-serving rations. Obtained prototype pouch materials and ISP product samples and initiated testing. Complete in-house testing of ISP product and packaging (material and assembly configuration). Conduct field testing of ISPs to ensure compatibility with military food service equipment. Based on performance, cost and commercial availability prepare a recommendation for military procurement and transition to procurement. | 189 | 152 | 0 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Continued improvement of individual rations to improve quality and warfighter acceptability. Conducted warfighter field test to determine ration type and effect on morale and performance. Completed producibility evaluation of shelf stable sandwich. Completed Carob Pack design for high-energy expenditure warfighters. Continue improvements of individual and assault rations; conduct field evaluations to evaluate advances in food processing and packaging technologies to improve quality and warfighter acceptability. Complete statistical analysis and report for warfighter field test to determine ration type and effect on morale and performance. Advance development of packaging and self-heating improvements. Advance development of nutrient supplementation fortification. | 864 | 683 | 828 | 1377 |
| Upgraded and reduced the cost of the components on the Mobile Kitchen Trailer. Upgraded and reduced the cost of the field ice chest and insulated food container. Investigated flexible insulated food containers, tested and reported. Develop and evaluate improvements to field feeding equipment and systems as required by the services for integration into future procurements. | 150 | 40 | 0 | 0 |
| Continued storage studies and determined correlation and validation protocols for accelerated rations storage to reduce cost and ensure that operational requirements are met. Complete storage studies and finalize predictive protocols for accelerated storage of rations, transition recommended changes to procurement documents. Initiate efforts to provide storage guidelines that correlate commercial use-by dates with Unitized Group Ration (UGR) shelf life requirements and to develop a predictive model using accelerated storage data. | 203 | 201 | 159 | 135 |
| Completed modification to the Air Force all-electric kitchen and transitioned the technical data to the Air Force for procurement. | 407 | 0 | 0 | 0 |
| Fabricated two 8x8x10 Refrigerated Containers for the Marine Corps and initiated development testing to verify technical requirements. Conduct technical testing, transition to production, procurement; provide support. | 358 | 266 | 140 | 0 |
| Completed right sizing of secondary menu components and transition to Defense Supply Center Philadelphia (DSCP). Conducted warfighter field test to determine ration type and effect on morale and performance. FY03: Continue feeding pattern database; design ration delivery system prototype; and conduct evaluation to optimize consumption patterns, enhance warrior performance, and reduce waste. | 220 | 54 | 0 | 0 |
| Prepared Request For Procurement (RFP) to solicit and award a Research & Development (R&D)/production contract for design and fabrication of the initial systems demonstration prototype Multi-Temperature refrigerated container. | 299 | 0 | 0 | 0 |
| Design and fabricate prototype Multi-Temperature refrigerated container. | 0 | 411 | 0 | 0 |
| Design and fabricate a single pallet expeditionary kitchen which uses commercial food service equipment. Conduct technical and user tests, prepare technical data package and transition to the Air Force. | 0 | 182 | 0 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Conduct technical testing and operational testing of the prototype Multi-Temperature refrigerated container. | 0 | 0 | 466 | 0 |
| Conduct field evaluation of biocide agents and sanitizing wipes for enhanced field feeding sanitation. | 0 | 122 | 0 | 0 |
| Award Research and Development (R&D) contract for the development of gray water treatment system for use in handling and reuse of the water in a field food sanitation system. | 0 | 0 | 261 | 0 |
| Complete development of an ultra-filtration gray water treatment device and initiate design on lightweight components for a field food sanitation system. | 0 | 0 | 0 | 299 |
| Prepare and release performance specification and contract solicitation for the development of the Battlefield Kitchen. | 0 | 0 | 0 | 156 |
| Design, fabricate, and test a ruggedized field portable surface scanning biosensor instrument for the detection of chemical and microbial contaminants on field rations. | 0 | 0 | 0 | 351 |
| Design, procure, and install additional freezer space aboard Navy ships to accommodate the transition to advanced foods and support shortages in mission endurance loading requirements, using modular technology. | 0 | 181 | 175 | 0 |
| Design and build a sanitation steam heater using wet base technology to heat the sanitation tanks, provide hot water for beverages and warm water for hand wash. Conduct technical and user tests; prepare technical data package and transition to Air Force. | 0 | 176 | 182 | 0 |
| Initiate development of final package configuration for compressed meal technology. Initiate producibility and field testing of compressed meals as components of fielded group-serving operational rations. Complete development of final package configuration for compressed meal technology. Complete producibility and field testing of compressed meals and transition technology to procurement. | 0 | 0 | 280 | 285 |
| Initiate final design changes for Remote Unit Self-Heating Meal (RUSHM) and conduct pre-production testing to validate commercial producibility. Initiate final confirmatory field tests validating utility for remote site feeding. FY05: Complete producibility demonstrations and field testing of Remote Unit Self-Heating Meal (RUSHM) and transition performance-based contract requirements to Procurement. | 0 | 0 | 226 | 285 |
| Complete Ration Monitoring, Inventory and Tracking System (RMITS) field test and modify/upgrade sensor-based logistics tracking system. Prepare performance-based contracts requirements for transition to Procurement. | 0 | 0 | 255 | 0 |
| Conduct developmental/operational testing of prototype storage/dosing system(s) for fresh fruits and vegetables. | 0 | 0 | 230 | 116 |
| Initiate efforts to develop an optimized secondary packaging system (i.e., right-sized multi-service ration) based on lowest common economical denominator in terms of group-feeding entree/component capabilities (e.g., tray size, portions) as well as logistical/ requisitioning needs. | 0 | 0 | 0 | 191 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Develop an automated food preparation system using prepared food for use on future Navy ships. | 0 | 0 | 0 | 99 |
| Totals | 3627 | 3569 | 3771 | 3847 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| RDTE, 0604713.548, Military Subsistence System | 1800 | 1799 | 1985 | 1984 | 3361 | 1450 | 965 | 965 | Continuing | Continuing |
| OPA3, M65803, Kitchen, Containerized, Field | 3813 | 11984 | 7287 | 7032 | 7893 | 0 | 0 | 0 | 0 | 38009 |
| OPA 3, M65802, Sanitation Center, Field Feeding | 2771 | 9616 | 8734 | 9643 | 8738 | 8933 | 9598 | 9091 | Continuing | Continuing |
| OPA 3, M65801, Refrigerated Containers | 1066 | 0 | 0 | 5249 | 5178 | 10057 | 10230 | 10415 | Continuing | Continuing |

**C. Acquisition Strategy:** Project development transition to System Development & Demonstration into procurement.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603747A - Soldier Support and Survivability**

PROJECT
**610**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Joint Service Food/Combat Feeding Equipment | In-House | SBCCOM, Natick, MA | 18940 | 1520 | 1-4Q | 1559 | 1-4Q | 1564 | 1-4Q | Continue | 23583 | Continue |
| b . Joint Service Food/Combat Feeding Equipment | Contracts | Various | 7353 | 1403 | 1-3Q | 1518 | 1-4Q | 1524 | 1-4Q | Continue | 11798 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 26293 | 2923 | | 3077 | | 3088 | | Continue | 35381 | Continue |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603747A - Soldier Support and Survivability**

PROJECT
**610**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Joint Service Food/Combat Feeding Equipment | MIPR | DTC, Maryland & AEC, Virginia | 3302 | 565 | 1-3Q | 572 | 1-4Q | 637 | 1-4Q | Continue | 5076 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 3302 | 565 | | 572 | | 637 | | Continue | 5076 | Continue |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Project Ofc Management | In-House | SBCCOM, Natick, MA | 1494 | 81 | 1-4Q | 122 | 1-4Q | 122 | 1-4Q | Continue | 1819 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 1494 | 81 | | 122 | | 122 | | Continue | 1819 | Continue |
| Project Total Cost: | | | 31089 | 3569 | | 3771 | | 3847 | | Continue | 42276 | Continue |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603747A - Soldier Support and Survivability** | **669** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 669 CLOTHING AND EQUIPMENT | 4638 | 4645 | 8864 | 8366 | 8176 | 8201 | 9438 | 9633 | 0 | 65321 |

**A. Mission Description and Budget Item Justification:** This project provides state-of-the-art technology to develop improved tactical and non-tactical clothing and individual equipment to enhance the lethality, survivability, sustainability, and mobility of the individual soldier. This project supports the Legacy-to-Objective transition path of the Army's Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Procured test items and conducted user evaluation for the Military Eye Protection System, completed contract phase II. | 1250 | 0 | 0 | 0 |
| Conducted user evaluation, obtained feedback, conducted early configuration management planning, and achieved Milestone A/B for the Advanced Combat Uniform and continued design integration and fabricated 9-12 prototype systems. | 2402 | 0 | 0 | 0 |
| Complete initial testing for the Advanced Combat Uniform and commence developmental contract phase II. | 0 | 3460 | 0 | 0 |
| Commence developmental contract phase III for the Advanced Combat Uniform and complete developmental contract phase II. | 0 | 0 | 4798 | 0 |
| Conducted market survey and evaluated alternative approaches to developing a Modular Combat Boot and obtained user input. | 193 | 0 | 0 | 0 |
| Obtain test items and initiate technical testing and commence for extended user evaluation for the Modular Combat Boot and achieve Milestone A/B. | 0 | 310 | 0 | 0 |
| Complete user evaluation, present results to the Army Uniform Board for the Modular Combat Boot. | 0 | 0 | 1500 | 0 |
| Improve Small Arms Protective Insert, investigate lighter, more producible ceramic materials for increased ballistic protection and reduced weight in the Small Arms Protective Insert for the Interceptor Body Armor System. | 0 | 150 | 0 | 0 |
| Improve Small Arms Protective Insert, solicit sample items from industry, conduct technical testing, and downselect to a single contractor. | 0 | 0 | 800 | 0 |
| Improve Small Arms Protective Insert, award developmental contract and commence development. | 0 | 0 | 0 | 2850 |
| Improve Chemical Protective Gear, investigate lighter, less expensive materials for increased chemical protection for soldiers in the tactical environment. | 0 | 0 | 0 | 2220 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Individual Water Purification/Generation System: conduct market survey and evaluate the availability of technology to allow individual soldiers to purify/generate water. | 0 | 0 | 150 | 0 |
| Individual Water Purification/Generation System: achieve Milestone A/B, solicit sample items from industry, and initiate technical testing. | 0 | 0 | 0 | 1950 |
| Conduct technical and program reviews, provide In-house engineering support services, and computer services. | 793 | 725 | 1616 | 1346 |
| Totals | 4638 | 4645 | 8864 | 8366 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| RDTE, 0604713.L40, Clothing and Equipment | 4884 | 1310 | 3100 | 4451 | 8013 | 9008 | 9242 | 9164 | Continuing | Continuing |
| OMA, 121017, Central Funding and Fielding | 90013 | 73401 | 80941 | 113533 | 114101 | 114672 | 0 | 0 | Continuing | Continuing |

**C. Acquisition Strategy:** Programs will transition to System Development and Demonstration (SDD) followed by sufficient maturity of items, which will be type classified and transitioned into production.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603747A - Soldier Support and Survivability**

PROJECT
**669**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Clothing & Individual Equipment | MIPR | SBCCOM, Natick, MA | 2551 | 1578 | 2Q | 1654 | 2Q | 2421 | 2Q | Continue | 8204 | Continue |
| b . Clothing & Individual Equipment | Contracts | Various | 6472 | 1728 | 2Q | 3579 | 2Q | 3572 | 2Q | Continue | 15351 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 9023 | 3306 | | 5233 | | 5993 | | Continue | 23555 | Continue |

Remarks: Product development costs vary annually depending on the number and type of programs being evaluated.

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Misc Support | MIPR | LOGSA, AL | 150 | 50 | 2Q | 50 | 2Q | 100 | 2Q | Continue | 350 | Continue |
| b . Misc Support | Contract | Various | 0 | 0 | 2Q | 550 | 2Q | 600 | 2Q | 0 | 1150 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 150 | 50 | | 600 | | 700 | | Continue | 1500 | Continue |

Remarks: Support costs can vary annually depending on the number and types of items being evaluated.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603747A - Soldier Support and Survivability**

PROJECT
**669**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Various | MIPR | ATEC, VA | 712 | 564 | 2Q | 1415 | 2Q | 327 | 2Q | Continue | 3018 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 712 | 564 | | 1415 | | 327 | | Continue | 3018 | Continue |

Remarks: Testing costs vary annually by item.

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Project Management Support | In House | PM Soldier, Fort Belvoir, VA | 1365 | 725 | 2Q | 1616 | 2Q | 1346 | 2Q | Continue | 5052 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 1365 | 725 | | 1616 | | 1346 | | Continue | 5052 | Continue |

Remarks: Management services costs vary annually depending on the number and type of programs being evaluated.

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 11250 | 4645 | | 8864 | | 8366 | | Continue | 33125 | Continue |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603747A - Soldier Support and Survivability** | **669** |

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Advanced Combat Uniform: conducted controlled user evaluation and achieved Milestone A/B. | 4Q | | | | | | | |
| Modular Combat Boot: achieve Milestone A/B, obtain test items and initiate testing. | | 2Q | | | | | | |
| Individual Water Purification/Generation System: achieve Milestone A/B. | | | | 2Q | | | | |

A Life Cycle Systems Review is held during the 2nd and 4th quarter of each fiscal year.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603747A - Soldier Support and Survivability** | **C09** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| C09 SOLDIER SUPPORT EQUIPMENT - AD | 6674 | 11344 | 1352 | 0 | 0 | 0 | 0 | 0 | 0 | 25835 |

**A. Mission Description and Budget Item Justification:** This project supports component development and prototyping of critical soldier support systems such as shelter systems, showers, latrines, heaters, environmental control units, and other combat service support equipment that will improve unit sustainability and combat effectiveness. Project supports demonstration and validation of aerial delivery systems for personnel and equipment, with emphasis on reduced incidence of injuries, improved safety and accuracy, and increased survivability of aircraft, personnel, and equipment. Project also supports the development of tactical rigid-wall shelters which provide highly mobile, joint service platforms for the digitization of the battlefield, housing of critical vehicle-mounted battlefield systems, medical care capabilities and high tech maintenance. Additionally, the project develops critical enablers that support the Army's Transformation Campaign Plan Axes I (Trained and Ready), Line of Operation 2 (Modernization and Re-capitalization) by maintaining readiness through fielding and integrating new equipment. Also Line of Operation 3 (Manning the Force) by ensuring Army forces are capable of rapid deployment through aerial delivery initiatives and by reducing sustainment requirements, related Combat Support/Combat Service Support (CS/CSS) demands in lift, combat zone footprint, and costs for logistical support.

This project supports the Legacy-to-Objective transition path of the Army's Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Conducted initial testing to evaluate integrated technologies and assess integration risks on Low Cost Aerial Delivery System (LCADS). | 600 | 0 | 0 | 0 |
| Completed Market Investigation for the Mobile Integrated Remains Collection System (MIRCS) and initiate solicitation development. | 180 | 0 | 0 | 0 |
| Conduct Milestone A decision and award contract to develop initial test prototypes of Mobile Integrated Remains Collection System (MIRCS) (2 @ $350K ea) and transition to System Development & Demonstration (SDD). | 0 | 1708 | 0 | 0 |
| Completed Dual Row Airdrop System (DRAS) single ship and formation drop evaluations. | 1270 | 0 | 0 | 0 |
| Purchase initial developmental test items and data items for Extraction Parachute Jettison System (Heavy) EPJS(H). | 0 | 1150 | 0 | 0 |
| Conducted safety of flight tests to assess risks associated with follow on development of components and to define operational conditions for Extraction Parachute Jettison System (Heavy) EPJS(H). | 800 | 0 | 0 | 0 |
| Award contracts for EPJS-H component development. | 0 | 1309 | 0 | 0 |
| Conducted proposal evaluation and initial concept testing on EPJS(H). | 900 | 0 | 0 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Purchased initial developmental test items for Enhanced Container Delivery System (ECDS). | 750 | 0 | 0 | 0 |
| Prepared and conducted initial testing on the ECDS to evaluate integrated technologies and assess risk. Transition to System Development and Demonstration (SDD). | 700 | 0 | 0 | 0 |
| Prepare program documentation for Cargo Bed Covers (CBCs) Types 5 & 6 and Conduct Milestone B. Prepare Solicitation for RDTE/Production Contract for CBCs Type 5 & 6. Acquire Test prototypes, conduct Test & Evaluation on CBCs Type 5 & 6. Initiate program documentation for Milestone C for Types 5 & 6. | 0 | 544 | 0 | 0 |
| Purchase data rights for Advanced Tactical Parachute System (ATPS). | 0 | 1500 | 0 | 0 |
| Conduct Milestone B Automatic Activation Device (AAD). | 0 | 0 | 726 | 0 |
| Conduct in house testing and procure Developmental Testing (DT) test items for AAD. | 0 | 0 | 626 | 0 |
| Conduct Milestone B for Space Heater Convective (60K BTU) and enter Advanced Component Development. | 0 | 1000 | 0 | 0 |
| Completed Milestone C on Cargo Bed Cover (CBC) Types III/IV. Completed P3I effort for CBC III/IV. | 1174 | 0 | 0 | 0 |
| Completed Milestone C on Containerized Latrine. | 300 | 0 | 0 | 0 |
| Award developmental contract for Low Cost Aerial Delivery System (LCADS) components. | 0 | 2000 | 0 | 0 |
| Fabricate prototypes of Large Capacity Field Heater (10@$40K each) and conduct initial evalutation of operational suitability. Transition to SDD. | 0 | 833 | 0 | 0 |
| Complete initial developmental test items for Improved Environmental Control Unit (IECU) effort. | 0 | 900 | 0 | 0 |
| Conduct Milestone A decision and complete Market Investigation for Rapid Rigging/DE-Rigging Airdrop System. | 0 | 400 | 0 | 0 |
| Totals | 6674 | 11344 | 1352 | 0 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| RDTE, 0604713.C40, Soldier Support Equipment | 11083 | 12197 | 2891 | 21 | 0 | 0 | 0 | 0 | 0 | 26192 |
| M82706, Containerized Latrine System | 1021 | 648 | 852 | 0 | 0 | 0 | 0 | 0 | 0 | 2521 |
| M82708, Containerized Batched Laundry | 0 | 2927 | 3913 | 3905 | 0 | 0 | 0 | 0 | 0 | 10745 |

**C. Acquisition Strategy:** Systems will progress to System Development & Demonstration and transition into production.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603747A - Soldier Support and Survivability**

PROJECT
**C09**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Soldier Support Equipment | In-House | SBCCOM (NRDEC), Natick, MA | 18486 | 2150 | 1-4Q | 1352 | 1Q | 0 | | 0 | 21988 | 0 |
| b . Soldier Support Equipment | Contracts | Various | 14886 | 3760 | 2Q | 0 | | 0 | | 0 | 18646 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 33372 | 5910 | | 1352 | | 0 | | 0 | 40634 | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

Remarks: Not Applicable

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603747A - Soldier Support and Survivability**

PROJECT
**C09**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Soldier Support Equipment | MIPR | DTC, MD & ATC, VA | 6955 | 2884 | 1-4Q | 0 | | 0 | | 0 | 9839 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 6955 | 2884 | | 0 | | 0 | | 0 | 9839 | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Project Mamagement Support | In-House | PM Force Sustainment Systems, Natick, MA | 0 | 1200 | 1-4Q | 0 | | 0 | | 0 | 1200 | 0 |
| b . Project Management Support | In-House | PM-Soldier, Fort Belvoir, VA | 3579 | 1350 | 1-4Q | 0 | | 0 | | 0 | 4929 | 0 |
| c . Project Management Support | In-House | SBCCOM, Natick, MA | 361 | 0 | | 0 | | 0 | | 0 | 361 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 3940 | 2550 | | 0 | | 0 | | 0 | 6490 | 0 |
| Project Total Cost: | | | 44267 | 11344 | | 1352 | | 0 | | 0 | 56963 | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603747A - Soldier Support and Survivability**

PROJECT
**C09**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Conducted initial testing on Low Cost Aerial Delivery System. | 3Q | | | | | | | |
| Conduct Market Investigation, conduct MS B for the Clothing Repair System. | | 2Q | | | | | | |
| Completed Market Investigation for the Mobile Integrated Remains Collection System. | 3Q | | | | | | | |
| Conduct MS A and award contract for Mobile Integrated Remains Collection System. | | 2Q | | | | | | |
| Completed Dual Row Airdrop System single ship and formation drop evaluations. | 4Q | | | | | | | |
| Purchase initial developmental test items for Extraction Parachute Jettison System (Heavy). | | 3Q | | | | | | |
| Conducted safety of flight tests for Extraction Parachute Jettison System (Heavy). | 3Q | | | | | | | |
| Award contracts for Extraction Parachute Jettison System (Heavy) components. | | 2Q | | | | | | |
| Conducted proposal evaluation and initial testing on Extraction Parachute Jettison System (Heavy). | 2Q | | | | | | | |
| Conduct market investigation for the Ballistic Protection System. | | 3Q | | | | | | |
| Purchased initial developmental test items for Enhanced Container Delivery System. | 1Q | | | | | | | |
| Conduct initial testing on the Enhanced Container Delivery System. | | 2Q | | | | | | |
| Conduct MS B and award contract for Cargo Bed Covers Type 5 & 6. | | 3Q | | | | | | |
| Purchase data rights for Advanced Tactical Parachute System. | | 2Q | | | | | | |
| Conduct Milestone B Automatic Activation Device. | | | 1Q | | | | | |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603747A - Soldier Support and Survivability**

PROJECT
**C09**

| **Schedule Detail (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Complete IECU test items. | | 2Q | | | | | | |
| Conduct MS A and initiate Market Investigation for Rapid Rigging/DE-Rigging Airdrop System. | | 2Q | | | | | | |
| Conduct in house testing and procure Developmental Testing (DT) test items for AAD. | | | 2Q | | | | | |
| Conduct Milestone B for Space Heater Convective. | | 2Q | | | | | | |
| Completed MS C on Cargo Bed Cover Types III/IV. P3I effort for CBC III/IV was completed. | 3Q | | | | | | | |
| Completed Milestone C on Containerized Latrine. | 4Q | | | | | | | |
| Award developmental contract for Low Cost Aerial Delivery System components. | | 2Q | | | | | | |
| Fabricate prototypes and conduct initial evaluation of Large Capacity Field Heater. | | 3Q | | | | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603766A - Tactical Support Development - Adv Dev (TIARA)** | **907** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 907 | TACTICAL SURVEILLANCE SYSTEMS - TIARA | 16225 | 16107 | 17068 | 16079 | 15928 | 16544 | 17223 | 19841 | 0 | 135015 |

**A. Mission Description and Budget Item Justification:** Support tactical and operational commander's intelligence requirements for combat and contingency operations throughout the spectrum of conflict. Leverage specific data and capabilities available from existing and emerging national and selected theater resources. Meets stated Army tactical intelligence information and targeting needs, correcting deficiencies and developing concepts, techniques and prototypes, exploiting critical data for near real time integration into the appropriate tactical echelon.

Capabilities developed will be incorporated into the Tactical Exploitation System (TES), Division TES (DTES), Future Combat System, and Distributed Common Ground Station - Army (DCGS-A). Common Baseline addresses common Tactical Exploitation of National Capabilities (TENCAP)subsystems, planned improvements, key activities and ongoing/planned initiatives determined to have potential application to future national, theater and tactical intelligence, surveillance and reconnaissance capabilities. The systems in this line item support the legacy to objective transition path of the Transformation Campaign Plan.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Pursue technology to refine the common baseline, fully exploiting national and theater capabilities to meet emerging worldwide contingency scenarios. Effort includes experimentation, SIGINT, IMINT, communincations, and Measurement and Signature Intelligence (MASINT) processing initiatives. | 12924 | 12774 | 13432 | 12074 |
| Support ASPO program management for administrative activities. | 3301 | 3333 | 3636 | 4005 |
| Totals | 16225 | 16107 | 17068 | 16079 |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603766A - Tactical Support Development - Adv Dev (TIARA)** | **907** |

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 16605 | 16392 | 17396 | 16369 |
| Current Budget (FY 2004/2005 PB) | 16225 | 16107 | 17068 | 16079 |
| Total Adjustments | -380 | -285 | -328 | -290 |
| Congressional program reductions | | | | |
| Congressional rescissions | -385 | -285 | | |
| Congressional increases | | | | |
| Reprogrammings | 5 | | | |
| SBIR/STTR Transfer | | | | |
| Adjustments to Budget Years | | | -328 | -290 |

| **C. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| PE 0604766A TENCAP Project 909 | 0 | 1770 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1770 |
| PE 0604766A TES/DCGS-A Project 957 | 59668 | 55485 | 19695 | 16 | 0 | 0 | 0 | 0 | 0 | 134864 |
| PE 0305208A, Project 956 CIG/SS (JMIP) | 71836 | 44823 | 8306 | 18167 | 43471 | 42361 | 46342 | 50380 | Continue | Continue |
| BZ7316 CIG/SS (JMIP) | 2277 | 11303 | 2687 | 9494 | 9885 | 24324 | 32982 | 33662 | Continue | Continue |
| BZ7317 Tactical Surveillance System (TIARA) | 34134 | 17100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 51234 |

**D. Acquisition Strategy:** As pioneers in streamlined acquisition, ASPO's success in delivering systems to warfighters is directly attributed to an environment emphasizing stable funding, low density acquisition, minimal use of MILSPECS, and managed competition. By tailoring existing technology, leveraging the best commercial practices, and using commercial and government-off the shelf software, ASPO minimizes risk while maximizing efficiency. Government and contract personnel and facilities accomplish dedicated Integrated Logistics Support (ILS) for all systems through a coordinated effort.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603766A - Tactical Support Development - Adv Dev (TIARA)**

PROJECT
**907**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Common Baseline | SS/CPAF | Classified | 12924 | 12774 | 1-4Q | 13432 | | 12074 | | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 12924 | 12774 | | 13432 | | 12074 | | Continue | Continue | Continue |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . ASPO | In House | ASPO, Alexandria, VA | 3301 | 3333 | 1-4Q | 3636 | | 4005 | | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 3301 | 3333 | | 3636 | | 4005 | | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603766A - Tactical Support Development - Adv Dev (TIARA)**

PROJECT
**907**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| Project Total Cost: | | | 16225 | 16107 | | 17068 | | 16079 | | Continue | Continue | Continue |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603766A - Tactical Support Development - Adv Dev (TIARA)** | **907** |

**Schedule Detail:** Not applicable for this item.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603774A - Night Vision Systems Advanced Development** | **131** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 131 | NIGHT VISION SYS A/DEV | 10662 | 11170 | 5283 | 5227 | 5368 | 5352 | 3532 | 2681 | 0 | 64106 |

**A. Mission Description and Budget Item Justification:** This program addresses initiatives with the focus on developing and transitioning technologies from the laboratories and industry in order to improve fielded equipment as well as initiation and development of systems for fielding to the Objective Force Units of Action/Employment and FCS. Efforts include the development of an uncooled "B-Kit" that will define parameters and timelines to integrate this technology across many Objective Force systems resulting in lower costs for production, fielding and maintenance. Target Acquisition Sensor Suite for Future Combat System of Systems (TASS for FCS) – Combine infrared, radar and other sensors for full FCS mast mounted suite. Sense Through The Wall technology will improve the survivability and lethality of Unit of Action and Unit of Employment troops in urban environments by allowing these troops to detect motion through buildings, walls, and other man-made objects. This effort will be pursued in two realms, Unattended Ground Sensor (UGS)/ Unattended Ground Vehicle (UGV) mounted for close-in, and a stand-off mode for infantry and intelligence missions. A major thrust will be to develop a primary sensor for Objective Force Reconnaissance, Surveillance and Target Acquisition (RSTA) as a single, integrated suite of sensors. This will include the ability for sensors to accomplish foliage penetration (FOPEN) and Aided Target Recognition (ATR). FOPEN will allow Unit of Action and Unit of Employment troops to discern enemy positions under the cover of trees and other natural cover. ATR will provide the Objective Force unprecedented capability in automatic target hand-off for increased lethality and survivability. The Unattended Ground Sensors (UGS) effort will develop specialty sensors for intelligence, surveillance, reconnaissance (ISR) and physical security unattended ground applications. Pre-milestone B effort will develop systems for FCS and Objective Force. Division Tactical SIGINT Payload (DTSP) has been renamed to Tactical SIGINT Payload (TSP). TSP is an Unmaned Aerial Vehicle (UAV) mounted SIGINT/EW sensor that detects enemy and gray radio frequency (RF) emitters. TSP will provide the Land Commander with a deep looking SIGINT/EW system capable of detecting, identifying, locating and geo-locating RF emitters throughout the Area of Operation (AO). The TSP electronic emitter information will be fused with other sensors [i.e., Prophet, Electro-optical/ Infrared (EO/IR), Moving Target Indicator (MTI), Synthetic Aperture Radar (SAR), Corps Aerial Common Sensor (ACS)] to provide precise targeting information in near real time (NRT). The TSP Component Advanced Development (CAD) phase in FY02/03 focuses on demonstrating payloads that could satisfy the objective system requirements and identify which requirements will be pursued during the System Development and Demonstration (SDD) Phase. The follow-on CAD flight demonstrations and System Development and Demonstration efforts are covered under PE/Project 35204/11B beginning in FY04.

This project supports the Legacy to Objective transition path for both Night Vision /RSTA and TSP of the Transformation Campaign Plan.

FY04/FY05 funding supports completion of Uncooled B Kit prototype efforts, continuing Sense Through The Wall efforts, completing prototype Unattended Ground Sensors efforts, and commencing emerging concepts efforts for Foliage Penetration, Aided Target Recognition and Transparent Armor.

| Accomplishments/Planned Program | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Uncooled B-Kit – Extend uncooled focal plane array technology capability across multiple platforms to allow interchangeable parts for lower cost, weight, and volume. FY03 effort will establish technical specifications, producibility and timelines across FCS and Objective Force systems for a Milestone B decision in FY04. | 1128 | 1500 | 1617 | 0 |
| Target Acquisition Sensor Suite for Future Combat System of Systems (TASS for FCS) – Combine infrared, radar and other sensors for full FCS mast mounted suite. Concept development will include evaluation of Future Scout and Cavalry System (FSCS) prototypes and other sensors, and will produce trade-offs. | 0 | 1060 | 0 | 0 |
| Evaluate alternative "through wall" devices to support United States Army Intelligence Center - Operations Requirement Document (USAIC ORD) development and develop thru wall technology strategy. Demonstrate through wall technologies for urban tactical environment. This effort looks at component advanced development, CONOPS development, and integration of this capability onto FCS unmanned systems to support a Milestone B decision in FY04. | 925 | 200 | 1520 | 0 |
| Sense Through The Wall Stand Off-Technology to sense motion in buildings or behind other small structures from a stand-off distance. This is a concept development effort to address key FCS systems requirements. | 0 | 0 | 550 | 1807 |
| Maintained configuration management of Sensor Link Protocol (SLP) software and coordinated distribution to Army and other DoD agencies. | 143 | 0 | 0 | 0 |
| Initiate the common multi-sensor integration of a Robotic Sensors technology strategy to support networked sensors for the Objective Force concept for Unattended Ground Sensors (UGS). UGS is a family of specialty sensors for ISR and physical security unattended ground applications. This Pre-Milestone B effort will develop concepts and technologies for FCS and the Objective Force. UGS will transition to System Development and Demonstration in FY04. | 1504 | 1290 | 700 | 0 |
| Emerging Concepts – Explore a range of potential technologies for FCS and the Objective Force that will enable combat identification (friend or foe), sensor fusion, Aided Target Recognition (ATR), Foliage Penetration (FOPEN) technology, and transparent armor concepts. | 0 | 450 | 506 | 450 |
| Foliage Penetration (FOPEN) - Technology to sense the presence of personnel and man-made objects under natural foliage. This concept development effort defines technology options, develops alternatives, and refines Army requirements. | 0 | 0 | 130 | 1300 |
| Aided Target Recognition (ATR) - Technology to allow FCS and the Objective Force sensors to automatically detect and recognize targets, and cross cue other sensors in a tactical environment. This concept development effort defines technology, develops alternatives, and refines Army requirements. | 0 | 0 | 260 | 520 |
| Transparent Armor - Perform concept development for a vehicle sensor system that provides an unimpeded 360 degree view of the immediate area around the vehicle from any crew position for situational awareness and threat detection. | 0 | 0 | 0 | 1150 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Complete TSP CAD which evaluates SIGINT payload design approaches on a UAV | 0 | 3502 | 0 | 0 |
| Conduct demonstration of payload and systems integration | 1444 | 1800 | 0 | 0 |
| Conduct operational assessment of payload and systems integration and flight demonstrations | 0 | 1368 | 0 | 0 |
| Continued TSP CAD development of varying capablity SIGINT payload design approaches on a UAV by contractors | 5518 | 0 | 0 | 0 |
| Totals | 10662 | 11170 | 5283 | 5227 |

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 8675 | 11694 | 5366 | 5320 |
| Current Budget (FY 2004/2005 PB) | 10662 | 11170 | 5283 | 5227 |
| Total Adjustments | 1987 | -524 | -83 | -93 |
| Congressional program reductions | | | | |
| Congressional rescissions | -42 | -129 | | |
| Congressional increases | | | | |
| Reprogrammings | 2029 | -73 | | |
| SBIR/STTR Transfer | | -322 | | |
| Adjustments to Budget Years | | | -83 | -93 |

Change Summary Explanation:

FY2002: Funding reprogrammed to support higher priority Tactical Sigint Program (TSP higher priority efforts.

| **C. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| PE 0602709A/Night Vision and Electro-Optical Technology | 22172 | 19696 | 22233 | 22420 | 24359 | 27155 | 28464 | 29997 | Continue | Continue |
| PE 0603710A/Night Vision Advanced Development | 54913 | 73609 | 47088 | 54635 | 62227 | 61928 | 50942 | 48330 | Continue | Continue |
| PE 0604710A/Night Vision Devices Engineering Development | 24783 | 36581 | 29022 | 22399 | 32263 | 35204 | 14560 | 10778 | Continue | Continue |
| K38300 LRAS3 | 40675 | 48577 | 50125 | 49548 | 42344 | 1734 | 0 | 0 | 0 | 233003 |
| G80717 M2A3/M3A3 Bradley | 51442 | 45966 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 97408 |
| GA0750 Abrams Upgrade | 52922 | 18741 | 0 | 0 | 0 | 0 | 5006 | 0 | 0 | 76669 |
| GA0730 M1A2 SEP | 12359 | 18238 | 0 | 0 | 0 | 0 | 16694 | 21700 | Continue | Continue |
| G86100 Future Combat System | 0 | 0 | 0 | 225289 | 829206 | 1638022 | 3562240 | 2918987 | Continue | Continue |
| PE 654270 EW Development (Project L12) | 3723 | 25562 | 22266 | 9479 | 11459 | 14311 | 10403 | 10807 | Continue | Continue |
| BA0330 TUAV | 56860 | 84290 | 108893 | 62788 | 184442 | 186298 | 0 | 0 | Continue | Continue |
| W61900 IAV | 74090 | 65294 | 133996 | 87886 | 98705 | 82593 | 0 | 0 | Continue | Continue |
| PE 375204 Tactial SIGINT Payload (TSP) Development (Project 11B) | 0 | 0 | 5771 | 5898 | 19714 | 21409 | 10906 | 11302 | Continue | Continue |
| BZ9761 Tactical SIGINT Payload: TSP (JMIP) | 0 | 0 | 0 | 0 | 0 | 0 | 16247 | 28027 | Continue | Continue |

**D. Acquisition Strategy:** The advances and improvements for uncooled B-Kit, Sense Through The Wall, Target Acquisition Sensor Suite for FCS, and Unattended Ground Sensors activities utilize various cost reimbursement development contracts that were, and will continue to be competitively awarded using best value source selection procedures.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603774A - Night Vision Systems Advanced Development**

PROJECT
**131**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Laser Protection | C/CP, MIPR | DRS, Dallas, TX /SBRC, Santa Barbara, CA; NVESD | 2326 | 0 | | 0 | | 0 | | 0 | 2326 | 2326 |
| b . ATR/ATC Activities | MIPR | Various | 462 | 0 | | 0 | | 0 | | 0 | 462 | 462 |
| c . TUAV Laser Rangefinder | C/CP | Versitron, Santa Rosa, CA | 300 | 0 | | 0 | | 0 | | 0 | 300 | 300 |
| d . Large Format Array Uncooled Thermal Sight | C/CP | To Be Selected | 400 | 0 | | 0 | | 0 | | 0 | 400 | 360 |
| e . LRAS3 /LLDR Telescopic Mast Demo | MIPR | NVESD | 685 | 0 | | 0 | | 0 | | 0 | 685 | 1781 |
| f . Uncooled B-Kit Evolution/Development | C/CP | ADC, Newington, VA | 957 | 1450 | 1-2Q | 1617 | 1Q | 0 | | 0 | 4024 | 894 |
| g . Head Tracked Commander's Sight | C/CP | Various | 223 | 0 | | 0 | | 0 | | 0 | 223 | 223 |
| h . Demo and eval of ENVG technology | Various | Various | 1778 | 0 | | 0 | | 0 | | 0 | 1778 | 1778 |
| i . Demo and eval of ANVG | Various | Various | 1320 | 0 | | 0 | | 0 | | 0 | 1320 | 1320 |
| j . Cost Benefit Analysis TUAV | MIPR and C/FP | TRAC-WSMR, NM and TBE, Huntsville, AL | 910 | 0 | | 0 | | 0 | | 0 | 910 | 910 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603774A - Night Vision Systems Advanced Development**

PROJECT
**131**

| I. Product Development (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| k . Sense Through the wall unmanned | Various | Various | 400 | 200 | 1-2Q | 1420 | 1Q | 0 | | 0 | 2020 | 1156 |
| l . Sense Through The Wall Stand-Off | TBD | TBS | 0 | 0 | | 550 | 1Q | 1757 | 1Q | 0 | 2307 | 0 |
| m . Develop Robotic Sensor technology strategies/UGS | TBD | TBS | 1497 | 1190 | 1-2Q | 700 | 1Q | 0 | | 0 | 3387 | 900 |
| n . Sensor Link Protocol efforts | MIPR | Various | 105 | 0 | | 0 | | 0 | | 0 | 105 | 0 |
| o . Emerging Concepts efforts | TBD | TBS | 0 | 404 | 1-2Q | 404 | 1Q | 400 | 1Q | Continue | Continue | 0 |
| p . Foliage Penetration efforts | TBD | TBS | 0 | 0 | | 130 | 1Q | 1191 | 1Q | 0 | 1321 | 0 |
| q . Aided Target Recognition efforts | TBD | TBS | 0 | 0 | | 260 | 1Q | 520 | 1Q | 0 | 780 | 0 |
| r . Transparent Armor efforts | TBD | TBS | 0 | 0 | | 0 | | 1150 | 1Q | Continue | Continue | 0 |
| s . Target Acquisition Sensor Suite efforts | TBD | TBS | 0 | 1060 | 1-2Q | 0 | | 0 | | 0 | 1060 | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603774A - Night Vision Systems Advanced Development**

PROJECT
**131**

| I. Product Development (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| t . Award CAD Contract for TSP | C/CPFF | Applied Science Technologies, Sunnyvale, CA; BAE Nashua, NH | 9223 | 1744 | 2Q | 0 | | 0 | | 0 | 10967 | 12199 |
| u . UAV Quieting, Etc. TSP | MIPR | TUAV Proj Office, Redstone Arsenal, AL | 900 | 0 | | 0 | | 0 | | 0 | 900 | 900 |
| v . Demo of payload & systems integration TSP | SS/CPFF | TRW, Sierra Vista, AZ | 0 | 400 | 1Q | 0 | | 0 | | 0 | 400 | 1085 |
| w . Land Warrior | | | 3750 | 0 | | 0 | | 0 | | 0 | 3750 | 3750 |
| x . SR2P | MIPR | NVESD | 658 | 0 | | 0 | | 0 | | 0 | 658 | 658 |
| y . FLIR Develop/Integrate | Various | Various | 1938 | 0 | | 0 | | 0 | | 0 | 1938 | 1938 |
| z . Multifunction Laser Design | C/CP | Raytheon, Dallas, TX | 906 | 0 | | 0 | | 0 | | 0 | 906 | 906 |
| | | | | | | | | | | | | |
| Subtotal: | | | 28738 | 6448 | | 5081 | | 5018 | | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603774A - Night Vision Systems Advanced Development**

PROJECT
**131**

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Matrix Support | MIPR | Various | 1075 | 172 | 1Q | 178 | 1Q | 185 | 1Q | Continue | Continue | Continue |
| b . Matrix Support | MIPR | CECOM Fort Monmouth, NJ | 920 | 1080 | 2Q | 0 | | 0 | | Continue | 2000 | Continue |
| c . Engineering Support | FFP | MITRE; McLean, VA | 856 | 360 | 2Q | 0 | | 0 | | Continue | Continue | Continue |
| d . Engineering Support | FFP | CACI, Fort Monmouth, NJ | 1406 | 950 | 2Q | 0 | | 0 | | 0 | 2356 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 4257 | 2562 | | 178 | | 185 | | Continue | Continue | Continue |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Multispectral Eval | MIPR | WSMR | 308 | 0 | | 0 | | 0 | | 0 | 308 | 308 |
| b . FLIR Demos and Evals | MIPR | Various | 836 | 0 | | 0 | | 0 | | 0 | 836 | 836 |
| c . ENVG Demos and Evals | MIPR | Various | 105 | 0 | | 0 | | 0 | | 0 | 105 | 105 |
| d . HT Command Site Eval | MIPR | Various | 90 | 0 | | 0 | | 0 | | 0 | 90 | 90 |
| e . ANVG Test Plan and Flight Support | MIPR | Various | 480 | 0 | | 0 | | 0 | | 0 | 480 | 480 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603774A - Night Vision Systems Advanced Development**

PROJECT
**131**

| III. Test and Evaluation (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| f . ANVG Simulation/Field Eval | MIPR | Various | 100 | 0 | | 0 | | 0 | | 0 | 100 | 100 |
| g . STTW EUT&E | MIPR | Various | 525 | 0 | | 0 | | 0 | | 0 | 525 | 0 |
| h . Operational Assessment of TSP Flight Demos | MIPR | AEC, APG, MD | 0 | 350 | 1-4Q | 0 | | 0 | | 0 | 350 | 900 |
| i . Payload Demo and Emitter Spt Assessment | MIPR | EPG, Ft Huachuca, AZ | 0 | 1165 | 1-4Q | 0 | | 0 | | 0 | 1165 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 2444 | 1515 | | 0 | | 0 | | 0 | 3959 | 2819 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603774A - Night Vision Systems Advanced Development**

PROJECT
**131**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Program Management | | PM-NV/RSTA, Ft.Belvoir, VA | 260 | 24 | 1-4Q | 24 | 1-4Q | 24 | 1-4Q | Continue | Continue | Continue |
| b . Program Management | | PM, Signals Warfare, Fort Monmouth NJ | 600 | 621 | 1-4Q | 0 | | 0 | | 0 | 1221 | 1221 |
| | | | | | | | | | | | | |
| Subtotal: | | | 860 | 645 | | 24 | | 24 | | Continue | Continue | Continue |
| Project Total Cost: | | | 36299 | 11170 | | 5283 | | 5227 | | Continue | Continue | Continue |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603774A - Night Vision Systems Advanced Development**

PROJECT
**131**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| TSP CAD Contract | 1-4Q | 1-4Q | | | | | | |
| Conduct TSP Rooftop Demonstrations | 4Q | 1Q | | | | | | |
| Conduct TSP Flight Demonstrations | | 3-4Q | | | | | | |
| Conduct IPR for TSP/FCS Development Alignment | | 2Q | | | | | | |
| TSP MS B Decision for FCS | | 3Q | | | | | | |
| Target Acquisition Sensor Suite Studies Block I for FCS UA | | 3Q | | | | | | |
| Uncooled B Kit MS B | | | 2Q | | | | | |
| Sense Through the Wall Unmanned Milestone B for FCS UA | | 3Q | | | | | | |
| Sense Through The Wall Stand-off Milestone B | | | | 4Q | | | | |
| Unattended Ground Sensors Milestone B for FCS UA | | 3Q | | | | | | |
| Foliage Penetration Milestone B for Block II FCS | | | | | 2Q | | | |
| Aided Target Recognition Milestone B for Block II FCS | | | | | 2Q | | | |
| Transparent Armor Milestone B | | | | | 4Q | | | |
| 3rd Gen FLIR Milestone B | | | | | | | 4Q | |

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

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603779A - Environmental Quality Technology Dem/Val**

| | COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Program Element (PE) Cost | 39047 | 31121 | 11514 | 9454 | 9130 | 8913 | 19326 | 12462 | Continuing | Continuing |
| 035 | NATIONAL DEFENSE CNTR FOR ENVIRO EXCELLENCE-NDCEE | 4708 | 4639 | 4886 | 4863 | 8949 | 8913 | 19326 | 12462 | Continuing | Continuing |
| 04E | ENVIRONMENTAL RESTORATION TECH VALIDATION | 2538 | 4072 | 5343 | 3259 | 0 | 0 | 0 | 0 | 0 | 15212 |
| 04F | COMMERCIALIZATION OF TECH TO LOWER DEFENSE COSTS | 5319 | 3008 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13731 |
| 04I | TECHNOLOGIES TO REDUCE NON-HAZARDOUS WASTE | 0 | 1623 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 04J | ENVIRONMENTAL COMPLIANCE TECHNOLOGY VALIDATION | 0 | 203 | 1285 | 1332 | 181 | 0 | 0 | 0 | 0 | 3001 |
| 04K | WASTE MINIMIZATION AND POLLUTION PREVENTION | 0 | 1719 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| E12 | TRANSPORTABLE DETONATION CHAMBER VALIDATION | 5783 | 3343 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5786 |
| EN1 | CASTING EMISSION REDUCTION PROGRAM (CERP) | 5153 | 6305 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11458 |
| EN2 | FORT ORD CLEANUP DEMONSTRATION PROJECT | 1919 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2000 |
| EN3 | MANAGING ARMY TECHNOLOGY ENVIRON ENHANCEMENTS | 964 | 955 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1000 |
| EN4 | PLASMA ENERGY PYROLYSIS SYSTEM (PEPS) | 5748 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6000 |
| EN5 | PORTA BELLA ENVIRONMENTAL CLEANUP | 2398 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2500 |
| EN6 | UNEXPLODED ORDNANCE IN SUPPORT OF MILITARY READ | 3263 | 4060 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3400 |
| EN7 | VANADIUM TECHNOLOGY PROGRAM | 1254 | 1194 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1300 |

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

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603779A - Environmental Quality Technology Dem/Val**

**A. Mission Description and Budget Item Justification:** There is a broad application potential for environmental quality technology (EQT) to be applied to multiple Army weapon systems and installations. However, technology must be validated (total ownership cost and performance data identified) before potential users will consider exploiting it. Therefore, this program element includes projects focused on validating the general military utility or cost reduction potential of technology when applied to different types of military equipment or techniques. It may include validations and proof-of-principle demonstrations in field exercises to evaluate upgrades or provide new operational capabilities. The validation of technologies will be in as realistic an operating environment as possible to assess performance or cost reduction potential. EQT demonstration/validation is systemic; i.e., applies to a class of systems (e.g., tanks or aircraft) or to a Department of Army-wide, multiple site/installation problem (e.g., unexploded ordnance detection and discrimination). This program will address, and eventually resource, programs in each of the environmental quality technology pillars (restoration, conservation, compliance, and pollution prevention). Work must be endorsed by potential users and supported by a state-of-the-art assessment (i.e., technology is well-in-hand).

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 35030 | 9331 | 11694 | 9623 |
| Current Budget (FY 2004/2005 PB) | 39047 | 31121 | 11514 | 9454 |
| Total Adjustments | 4017 | 21790 | -180 | -169 |
| Congressional program reductions | | | | |
| Congressional rescissions | | -359 | | |
| Congressional increases | | 23250 | | |
| Reprogrammings | 4986 | -203 | | |
| SBIR/STTR Transfer | -969 | -898 | | |
| Adjustments to Budget Years | | | -180 | -169 |

Change Summary Explanation: Funding - FY 2002: A Congressionally added project for Transportable Detonation Chamber Validation project was reprogrammed from Army Program Element 0602720A into this Program Element for execution. FY 2003: There were eight Congressionally added projects in FY03: Commercialization of Technology to Lower Defense Costs; Technologies to Reduce Non-Hazardous Waste; Waste Minimization and Pollution Prevention; Transportable Detonation Chamber Validation; Casting Emission Reduction Program (CERP); Managing Army Technology Environmental Enhancements; Unexploded Ordnance in Support of Military Readiness; and Vanadium Technology Program.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603779A - Environmental Quality Technology Dem/Val** | **035** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 035 | NATIONAL DEFENSE CNTR FOR ENVIRO EXCELLENCE-NDCEE | 4708 | 4639 | 4886 | 4863 | 8949 | 8913 | 19326 | 12462 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** The National Defense Center for Environmental Excellence (NDCEE) was established by Congress in 1990 with a directive to "serve as a national leadership organization to address high priority environmental problems for the Department of Defense (DoD), other government organizations, and the industrial community." The NDCEE Program is a national resource for developing and disseminating advanced environmental technologies. The NDCEE is used to demonstrate environmentally acceptable technology to industry; validate new technology prior to transferring that technology; and assist in the training of potential users as part of that technology transfer process. The NDCEE is a DoD resource for environmental quality management and technology validation. This program is managed by the Army on behalf of the Office of the Assistant Deputy Under Secretary of Defense for Environment (ADUSD-E).

This project supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| - Management and operations of the NDCEE by the prime contractor. | 0 | 1000 | 1100 | 1200 |
| - Industrial base integration, operation of the NDCEE environmental technology facility, and environmental information analysis. | 900 | 0 | 500 | 400 |
| - Conduct demonstration/validation of environmentally acceptable technologies that enhance military readiness and reduce production, operating, and/or disposal costs. | 2466 | 2994 | 2886 | 2863 |
| - NDCEE Government program management during contract negotiations and execution and during project formulation, execution, and technology transfer. | 1342 | 645 | 400 | 400 |
| Totals | 4708 | 4639 | 4886 | 4863 |

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

**C. Acquisition Strategy:** The NDCEE is a national asset focused on DoD applications that include technology transfer to appropriate DoD organizations. An NDCEE task has been established that includes training of personnel to help exploit an NDCEE validated capability. This is essential to efficient and effective technology transfer. The NDCEE fosters an outreach program to describe its products and capabilities that includes publication of task results and participation in professional meetings, symposia, conferences, and coordination with industry as much as reasonable. The management strategy for the NDCEE centers on a DoD Executive Advisory Board (EAB) chaired by the DoD NDCEE Executive Agent on behalf of the ADUSD-E and composed of senior DoD leadership to direct and oversee NDCEE operations. The EAB is supported by an EAB Working Group (EABWG) that includes staff members from each of the offices represented on the EAB. The EABWG coordinates all NDCEE activities and reports back the EAB Principals. The EABWG is, in turn, supported by a Technical Working Group (TWG) that addresses the details of NDCEE program execution. The contracting strategy of the NDCEE is based on using an NDCEE Contracting Officer's Representative to validate all the contractual portions of the NDCEE and by technical monitors (TM) to oversee the technical aspects of each contracted task. TMs serve on the TWG. An NDCEE prime contractor operates an NDCEE test facility(s) to validate environmentally compatible technologies on a representative "shop floor". The NDCEE accounts for and conducts work for: (1) direct funded Army tasks; (2) reimbursable tasks from within DoD and from other Government agencies; and (3) Congressionally directed and funded tasks.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603779A - Environmental Quality Technology Dem/Val**

PROJECT
**035**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Not applicable. | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Technical Data | C; CPFF | Concurrent Technologies Corporation (CTC), Johnstown, PA | 900 | 1000 | | 1600 | 1Q | 1600 | | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 900 | 1000 | | 1600 | | 1600 | | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603779A - Environmental Quality Technology Dem/Val**

PROJECT
**035**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Development Testing | C; CPFF | Concurrent Technologies Corp. | 2466 | 0 | | 0 | | 0 | | 0 | 2466 | 2466 |
| b . Development Testing | C; CPFF | To be determined (new contract) | 0 | 2994 | | 2886 | 1Q | 2863 | | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 2466 | 2994 | | 2886 | | 2863 | | Continue | Continue | Continue |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Program Management Support | Allotment | Office of the Assistant Sec Army (Installations and Environment) | 1342 | 645 | 2Q | 400 | 1Q | 400 | | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 1342 | 645 | | 400 | | 400 | | Continue | Continue | Continue |
| Project Total Cost: | | | 4708 | 4639 | | 4886 | | 4863 | | Continue | Continue | Continue |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603779A - Environmental Quality Technology Dem/Val** | **04E** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 04E | ENVIRONMENTAL RESTORATION TECH VALIDATION | 2538 | 4072 | 5343 | 3259 | 0 | 0 | 0 | 0 | 0 | 15212 |

**A. Mission Description and Budget Item Justification:** Unexploded Ordnance (UXO) Identification and Discrimination. The Army reported in the 2000 UXO Report to Congress that 72 installations have identified 531,167 acres of land known to be contaminated with UXO and an additional 940,438 acres of suspected UXO contamination. In addition, formerly used defense sites, many of which may no longer be under military ownership, may also have buried UXO. Current technologies are very expensive and have limited detection and discrimination capability in historical and active ranges, impact areas, landfills, underground storage locations, and open burning and open detonation sites. Technologies must be developed that are non-intrusive, accurately detect and discriminate scrap and shrapnel, and identify the orientation, configuration, and type of UXO. The development of identification/discrimination technologies is critical to increasing the safety to remove UXO, design appropriate removal operations, and decrease removal costs. The purpose is to demonstrate and validate UXO detection, discrimination, and identification systems that minimizes residual risk and significantly reduces remediation costs. The activities funded under this project implement the 1996 UXO Report to Congress and the 1998 Defense Science Board requirements to improve UXO discrimination capabilities by reducing false alarm rates tenfold while achieving greater than 90% probability of detection of a wide range of UXO in a variety of environmental and geologic conditions. The system will consist of arrays of sensors specifically designed to provide reliable signatures of buried UXO and advanced sensor fusion/signal analysis technologies that will allow robust discrimination and identification of buried UXO in the presence of man-made and natural clutter. This demonstration/validation program will be performed in stages, with prototype systems that incorporate the more mature technologies [magnetometry and multi-channel electro-magnetic induction (EMI)] being evaluated during the first year. Starting in FY 2003, sensors will be integrated into a UXO Multisensor and Analysis System as they mature.

This project supports the Legacy transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| - Validation of prototype systems and approaches that integrate advanced magnetometry and EMI sensors with fusion/analysis algorithms to improve buried UXO detection, discrimination, and identification at well-characterized controlled sites. | 1430 | 1114 | 222 | 204 |
| - Controlled and live site validation of prototype UXO Multisensor and Analysis System. | 1108 | 858 | 1141 | 715 |
| - Integrate advanced sensors in prototype UXO Multisensor and Analysis System. | 0 | 1000 | 2670 | 635 |
| - Live site validation of enhanced prototype UXO Multisensor and Analysis System. | 0 | 1100 | 1310 | 1705 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Totals | 2538 | 4072 | 5343 | 3259 |

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

Comment: This program is leveraging resources and knowledge gained from the Strategic Environmental Research and Development Program (SERDP), the Environmental Security Technology Certification Program (ESTCP) and the National Defense Center for Environmental Excellence (NDCEE).

**C. Acquisition Strategy:** The U.S. Army's Environmental Quality Technology (EQT) program provides new or innovative methods, equipment, materials, and/or protocols to reduce the total cost of Army operations and/or allow training operations to continue with minimum adverse impact on the environment that result from base operations and weapons system maintenance/support activities. The restoration demonstration/validation portion of EQT is designed to support Army -wide stewardship of its lands and facilities by focusing on the transfer of potential technological solutions to restoration problems on Army installations and to industry to support restoration of Army lands to their former or redesignated use. The restoration EQT demonstration/validation program goal is to support installation needs through exploitation of technology without compromising readiness or training. It accomplishes this goal in two steps. First, Technology Teams identify, prioritize, and justify technological solutions to Army high-priority environmental quality technology restoration requirements. Second, based on Department of the Army and Office of the Secretary of Defense guidance, funding authority is sought through the Army's planning, programming, and budgeting process. The EQT management oversight process consists of an Environmental Technology Technical Council (ETTC; a program management council), an Environmental Technology Integrated Process Team, (a working group supporting the ETTC) and, in this case, a Restoration Technology Team (composed of experts in restoration technology and in Army user needs).

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603779A - Environmental Quality Technology Dem/Val**

PROJECT
**04E**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Validate developed or commercially available technologies to discriminate and identify buried UXO. | C; BAA and CPFF | TBD - see remarks | 500 | 650 | 1-2Q | 0 | | 0 | | 0 | 1150 | 0 |
| b . In-House Development - Integration of sensors, hardware/software, & navigation system into prototype | Allot | Army Environmental Center (AEC), Aberdeen Proving Ground, MD | 750 | 984 | 1Q | 480 | 1Q | 250 | 1Q | 0 | 2464 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1250 | 1634 | | 480 | | 250 | | 0 | 3614 | 0 |

Remarks: Performing activity and location to be determined through input by an Army Environmental Quality Technology (EQT) UXO Identification and Discrimination Coordinating Committee. Army Environmental Center will consider input from the coordinating committee and determine the appropriate executing organization and location depending on the product to be validated.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603779A - Environmental Quality Technology Dem/Val**

PROJECT
**04E**

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Contractor(s) support at test site(s) to facilitate the validation of technologies, | C; BAA and CPFF | TBD; see remarks. | 250 | 500 | 2Q | 0 | | 0 | | 0 | 750 | 0 |
| b . In-House Development - Preparation of Test Sites | Allot | AEC | 370 | 680 | 1Q | 415 | 1Q | 635 | 1Q | 0 | 2100 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 620 | 1180 | | 415 | | 635 | | 0 | 2850 | 0 |

Remarks: Performing activity and location to be determined through input by an Army Environmental Quality Technology (EQT) UXO Identification and Discrimination Coordinating Committee. Army Environmental Center will consider input from the coordinating committee and determine the appropriate executing organization and location depending on the product to be validated.

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Test & evaluate the effectiveness of potential technologies to discriminate & identify buried UXO. | C; BAA and CPFF | TBD; see remarks. | 209 | 348 | 1Q | 1125 | 1Q | 615 | 1Q | 0 | 2297 | 0 |
| b . In-House Development - Planning and Execution | Allot | AEC | 261 | 510 | 1Q | 3013 | 1Q | 1416 | 1Q | 0 | 5200 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603779A - Environmental Quality Technology Dem/Val**

PROJECT
**04E**

| III. Test and Evaluation (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 470 | 858 | | 4138 | | 2031 | | 0 | 7497 | 0 |

Remarks: Performing activity and location to be determined through input by an Army Environmental Quality Technology (EQT) UXO Identification and Discrimination Coordinating Committee. Army Environmental Center will consider input from the coordinating committee and determine the appropriate executing organization and location depending on the product to be validated.

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . In-house Management (ERDC) | MIPR | Engineer Research and Development Center (ERDC), Vicksburg, MS | 100 | 200 | 1Q | 25 | 1Q | 25 | 1Q | 0 | 350 | 0 |
| b . In-House Management (AEC) | Allot | AEC | 98 | 200 | 1-2Q | 285 | 1-2Q | 318 | 1-2Q | 0 | 901 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 198 | 400 | | 310 | | 343 | | 0 | 1251 | 0 |

Remarks: Performing activity and location to be determined through input by an Army Environmental Quality Technology (EQT) UXO Identification and Discrimination Coordinating Committee. Army Environmental Center will consider input from the coordinating committee and determine the appropriate executing organization and location depending on the product to be demonstrated.

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 2538 | 4072 | | 5343 | | 3259 | | 0 | 15212 | 0 |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603779A - Environmental Quality Technology Dem/Val** | **04J** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 04J | ENVIRONMENTAL COMPLIANCE TECHNOLOGY VALIDATION | 0 | 203 | 1285 | 1332 | 181 | 0 | 0 | 0 | 0 | 3001 |

**A. Mission Description and Budget Item Justification:** This project will support the "Sustainable Army Live-Fire Range Design and Maintenance" task by: (1) identifying risk assessment parameters for determining environmental compliance for training and live-fire operations and to identify on-post and off-post impacts; (2) demonstrating and validating a compliance risk assessment model for range siting, design, and maintenance to provide input to the military construction process; and (3) validating improved design elements for ranges that incorporate erosion and contaminant control technologies for current range problems and to support future sustainable range designs. Sustainable range designs and maintenance procedures will be validated based on lessons-learned and technologies and procedures developed in this effort, other programs, and other requirements. This project will validate a systemic capability to perform range specific assessments that are complementary to the Army Training and Testing Area Carrying Capacity methodology. This project will be overseen and executed by the Army Environmental Center (lead) and the Army Engineer Research and Development Center (testing/validation support).

This project supports the Legacy transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| - Validate a range maintenance prediction and reduction capability and a compliance impact prediction capability incorporating ordnance and erosion considerations. | 0 | 203 | 0 | 0 |
| - Demonstrate a Range Risk Assessment Model | 0 | 0 | 145 | 0 |
| - Demonstrate and validate Range Design Specifications | 0 | 0 | 1080 | 1157 |
| - Demonstrate the Munitions Carrying Capacity Model | 0 | 0 | 60 | 175 |
| Totals | 0 | 203 | 1285 | 1332 |

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

**C. Acquisition Strategy:** The Army Environmental Quality Technology (EQT) is an integrated user-focused program developing technology applications and providing technology transfer to appropriate Army organizations. The EQT requirements generation process is a bottom-up, user driven process. Army installation and major command (MACOM) stakeholders define technology materiel requirements for compliance. An Army Compliance Technology Team, which includes MACOM representation, formulates, defends, and helps oversee technical programs required to satisfy user needs, to include validation. EQT compliance technology demonstration and validation projects are executed in coordination with Army installation and MACOM users. In some cases, technology validation (either pilot or full scale) occurs at one or more installation or facilities having identified the compliance technology requirement. This is essential to efficient and effective technology transfer, as it provides installation participation and helps enable technology pull to occur. Once compliance technology capabilities are validated, technology transfer can occur via 1) direct implementation by using installations, 2) licensing of the technology to commercial entities that will provide service and implementation to the installations, and 3) licensing under cooperative research and development agreements in cases where commercial entities have provided cost sharing in the technology development. Additionally, products and capabilities will be transferred through publication of results and participation in professional meetings, symposia, conferences, and cooperation with industry as much as reasonable.

This project is currently focused on the "Sustainable Army Live-Fire Range Design and Maintenance" task, which is currently the only existing, funded task in this project. That task will validate a systemic capability to perform range specific assessments that are complementary to Army training and testing area carrying capacity estimates. It will be accomplished by using technical expertise from multiple Government organizations. Product development support will utilize personnel from the Construction Engineering Research and Development Laboratories, U.S. Army Engineer Research and Development Center and from the Army Environmental Center. Demonstration site support will be performed primarily by the Huntsville District, U.S. Army Corps of Engineers. Test and evaluation will be executed with a mix of Government personnel and supporting contractors.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603779A - Environmental Quality Technology Dem/Val**

PROJECT
**04J**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Testing requirements and documentation | MIPR | Army Environmental Center, Aberdeen Proving Ground, MD; see remarks. | 0 | 0 | | 150 | 1Q | 150 | 1Q | 181 | 481 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 150 | | 150 | | 181 | 481 | 0 |

Remarks: Actual performing activity and location will be determined through input from an Army EQT product Delivery Team chaired by the Army Environmental Center (AEC).

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Demonstration/validation site support | MIPR | Huntsville Division, US Army Corps of Engineers | 0 | 0 | | 50 | 1Q | 50 | 1Q | 0 | 100 | 0 |
| b . Demonstration/validation site support | MIPR | US Army Construction Engineering Research Laboratories, Urbana, IL | 0 | 0 | | 50 | | 50 | | 0 | 100 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 100 | | 100 | | 0 | 200 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603779A - Environmental Quality Technology Dem/Val**

PROJECT
**04J**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Validation testing | MIPR | Army Environmental Center, MD; see remarks. | 0 | 0 | | 960 | 1Q | 1007 | 1Q | 0 | 1967 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 960 | | 1007 | | 0 | 1967 | 0 |

Remarks: Actual performing activity and location will be determined through input from an Army EQT product Delivery Team chaired by the Army Environmental Center (AEC).

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Management by the Army Environmental Center (AEC) | Allot | AEC, Aberdeen Proving Ground, MD | 0 | 203 | | 75 | | 75 | | 0 | 353 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 203 | | 75 | | 75 | | 0 | 353 | 0 |
| Project Total Cost: | | | 0 | 203 | | 1285 | | 1332 | | 181 | 3001 | 0 |

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

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603782A - WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL**

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Program Element (PE) Cost | | 12140 | 48556 | 90774 | 75332 | 27157 | 28023 | 23951 | 19749 | Continuing | Continuing |
| 355 | WIN-TACTICAL - DEM/VAL | 12140 | 48556 | 82311 | 67006 | 19748 | 20625 | 18013 | 13396 | Continuing | Continuing |
| F98 | NUCLEAR ARMS CONTROL TECH - SENSOR & NETWORK MONIT | 0 | 0 | 8463 | 8326 | 7409 | 7398 | 5938 | 6353 | 0 | 43887 |

**A. Mission Description and Budget Item Justification:** WIN-T is the integrated high-speed and high capacity communications network for the Objective Force (OF). It will be focused on moving information in a manner that supports commanders, staffs, functional units, and capabilities-based information-all mobile, agile, lethal, sustainable, and deployable. Future Combat Systems (FCS), Joint Tactical Radio System (JTRS), satellite terminals and other DoD C4I programs are relying on WIN-T for seamless integration into the DoD Global Information Grid (GIG). WIN-T will be optimized for offensive and joint operations, while providing the Theater Combatant the capability to plan, prepare, and execute multiple missions and tasks simultaneously with campaign quality utilizing a mobile throughput feature. It will be a framework, which will set standards and protocols for OF infospheres while interfacing with and/or replacing equipment in legacy and interim forces. The WIN-T program is essential to the OF and outmodes Mobile Subscriber Equipment (MSE) and Tri-Services Tactical Communications (TRI-TAC) capabilities.

This system supports the Objective transition path of the Transformation Campaign Plan (TCP).

The Nuclear Arms Control Tech project provides RDT&E to meet technology requirements in support of implementation, compliance, monitoring and inspection for existing and emerging nuclear arms control activities and dual use technology for missile defense integration activities. The project addresses requirements validated by the Office of the Under Secretary of Defense (Acquisition, Technology & Logistics (OUSD (AT&L)). This project conforms to the administration's research and development priorities as related to nuclear weapons of mass destruction arms control and disarmament. Technical assessments are made to provide the basis for sound project development, evaluate existing programs and provide the data required to make compliance judgments and support U.S. policy, decision-makers and negotiating teams. Technology developments and system improvement projects are conducted to ensure that capabilities for monitoring systems are available when required.

The program includes development of equipment and procedures for data exchanges, inspections and monitoring capability and analysis. The technologies and procedures developed in the arms control technology program provide an invaluable source of information on equipment and procedures that is extensively used by U.S. and international agencies.

This project element also supports the JCS warfighting capability area of counterproliferation.

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 12464 | 60809 | 43911 | 20202 |
| Current Budget (FY 2004/2005 PB) | 12140 | 48556 | 90774 | 75332 |
| Total Adjustments | -324 | -12253 | 46863 | 55130 |
| Congressional program reductions | | -10000 | | |
| Congressional rescissions | | -558 | | |
| Congressional increases | | | | |
| Reprogrammings | 23 | -317 | | |
| SBIR/STTR Transfer | -347 | -1378 | | |
| Adjustments to Budget Years | | | 46863 | 55130 |

FY03 Congressional decrease of $10M citing reduced program growth.
FY04 Increased operational requirements to align with OF resulted in increased program scope and modification to Acquisition Strategy (+$38.400M). $8.463M plus up for Nuclear Arms Control Technology.
FY05 Increased operational requirements to align with OF resulted in increased program scope and modification to Acquisition Strategy (+$46.804M). $8.326M plus up for Nuclear Arms Control Technology.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603782A - WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL** | **355** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 355 | WIN-TACTICAL - DEM/VAL | 12140 | 48556 | 82311 | 67006 | 19748 | 20625 | 18013 | 13396 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** WIN-T is the integrated high-speed and high capacity communications network for the Objective Force (OF). It will be focused on moving information in a manner that supports commanders, staffs, functional units, and capabilities-based information-all mobile, agile, lethal, sustainable, and deployable. Future Combat Systems (FCS), Joint Tactical Radio System (JTRS), satellite terminals and other DoD C4I programs are relying on WIN-T for seamless integration into the DoD Global Information Grid (GIG). WIN-T will be optimized for offensive and joint operations, while providing the Theater Combatant the capability to plan, prepare, and execute multiple missions and tasks simultaneously with campaign quality utilizing a mobile throughput feature. It will be a framework, which will set standards and protocols for OF infospheres while interfacing with and/or replacing equipment in legacy and interim forces. The WIN-T program is essential to the OF and outmodes Mobile Subscriber Equipment (MSE) and Tri-Services Tactical Communications (TRI-TAC) capabilities.

This system supports the Objective transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Prepare technical assessment and research studies | 280 | 1021 | 880 | 1059 |
| Provide systems engineering and technical support to the WIN-T program. | 4140 | 3714 | 3895 | 4491 |
| Prepare/coordinate Request For Proposal (RFP), and Milestone B Decision documentation, and perform program support and management efforts. | 1109 | 3638 | 0 | 0 |
| Conduct Source Selection Evaluation Board (SSEB) for Phase 1 and Phase 2 contract awards. | 326 | 0 | 0 | 0 |
| Phase 1 Pre MS B. Dual contractors develop system architectures and assess technology maturity. | 6000 | 28414 | 0 | 0 |
| Phase 2 System Development and Demonstration. Dual contractors provide final architecture, modeling and simulation, system design, preliminary design and prototype to support tests. | 0 | 9509 | 69753 | 51007 |
| Provide test support to include modeling and simulation and Early User Test (EUT). | 285 | 2260 | 3221 | 5496 |
| Conduct SDR & PDR, prepare/coordinate production RFP and Milestone C Decision documentation, and perform program support and management efforts. | 0 | 0 | 4562 | 4743 |
| Preparation for and conduct SSEB for Production Contract Award | 0 | 0 | 0 | 210 |
| Totals | 12140 | 48556 | 82311 | 67006 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| B79100 - WIN-Tactical Program | 0 | 0 | 3231 | 1467 | 155838 | 107740 | 259891 | 292039 | Continuing | Continuing |

**C. Acquisition Strategy:** The Army revised the WIN-T Operational Requirements Document (ORD) to align with OF requirements. The revised ORD was validated by the Army Requirements Oversight Council on 5 Nov 02. The increased operational requirements changes resulted in increased program scope and a modification to the acquisition strategy. The modified acquisition strategy utilizes two Cost Plus Fixed Fee contracts for Phase 1 (Pre-Milestone B) activities, followed by an option award in FY03 for System Development and Demonstration (SDD) after a successful Milestone B. During Phase 1, the contractors will develop system architectures and assess technology maturity to support ORD blocking. During Phase 2 (SDD), the contractors will provide a final architecture, Modeling and Simulation, system design, preliminary design, and a prototype for testing. A fixed price production contract to include Low Rate Initial Production (LRIP) and Full Rate Production (FRP) options will be a limited competition between the two successful development contractors after successful completion of the Milestone C Review. It is anticipated that FRP options will be awarded after successful completion of Initial Operational Test and Evaluation (IOT&E) and a Government Decision Review.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603782A - WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL**

PROJECT
**355**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Phase 1 Pre MS B | CPFF/T&M | Lockheed Martin Mission Systems, Gaithersburg, MD | 3000 | 18154 | 1-2Q | 0 | | 0 | | 0 | 21154 | 0 |
| b . Phase 1 Pre MS B | CPFF/T&M | General Dynamics Government Systems Corp, Taunton, MA | 3000 | 10260 | 1-2Q | 0 | | 0 | | 0 | 13260 | 0 |
| c . Phase 2 SDD | CPFF/T&M | Lockheed Martin Mission Systems, Gaithersburg, MD | 0 | 3250 | 4Q | 32197 | 1Q | 26591 | 1Q | Continue | 62038 | 0 |
| d . Phase 2 SDD | CPFF/T&M | General Dynamics Government Systems Corp, Taunton, MA | 0 | 6259 | 4Q | 37556 | 1Q | 24416 | 1Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 6000 | 37923 | | 69753 | | 51007 | | Continue | Continue | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603782A - WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL**

PROJECT
**355**

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . WIN-T Technical Assessment and Research Studies | Various | Various | 280 | 1021 | 1-2Q | 880 | 1Q | 1059 | 1Q | Continue | Continue | 0 |
| b . Systems Engineering and Technical Support | Various | Various | 2891 | 3714 | 1-2Q | 3895 | 1Q | 4491 | 1Q | Continue | 14991 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 3171 | 4735 | | 4775 | | 5550 | | Continue | Continue | 0 |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Modeling and Simulation and Testing | Various | Various | 285 | 2260 | 1-2Q | 3221 | 1Q | 5496 | 1Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 285 | 2260 | | 3221 | | 5496 | | Continue | Continue | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603782A - WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL**

PROJECT
**355**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Documentation Preparation & PM Support | Various | Various | 997 | 1783 | 1Q | 2670 | 1Q | 2829 | 1Q | Continue | 8279 | 0 |
| b . Preparation for Source Selection Evaluation Board | Various | Various | 326 | 0 | | 0 | | 210 | 1Q | Continue | Continue | 0 |
| c . Travel, licenses, facilities, etc. | Various | Various | 128 | 638 | 1Q | 653 | 1Q | 652 | 1Q | Continue | 2071 | 0 |
| d . MITRE Support | PWD | MITRE, Eatontown, NJ | 1233 | 1217 | 1Q | 1239 | 1Q | 1262 | 1Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 2684 | 3638 | | 4562 | | 4953 | | Continue | Continue | 0 |
| Project Total Cost: | | | 12140 | 48556 | | 82311 | | 67006 | | Continue | Continue | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603782A - WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL** | **355** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| RFP Release | 3Q | | | | | | | |
| Contract Award (Phase 1/Phase 2) | 4Q | | | | | | | |
| Milestone B Decision | | 4Q | | | | | | |
| Phase 2 SDD Option | | 4Q | 1-4Q | 1-4Q | | | | |
| Early User Test (EUT) | | | | 3Q | | | | |
| Production RFP Release | | | | 3Q | | | | |
| Milestone C Decision | | | | | 2Q | | | |
| Production Contract | | | | | 2-4Q | 1-4Q | 1-4Q | 1-4Q |
| Initial Operational Test & Evaluation | | | | | | | 3Q | |
| First Unit Equipped | | | | | | | 4Q | |
| Full Rate Production Decision Review | | | | | | | | 2Q |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603782A - WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL** | **F98** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| F98 | NUCLEAR ARMS CONTROL TECH - SENSOR & NETWORK MONIT | 0 | 0 | 8463 | 8326 | 7409 | 7398 | 5938 | 6353 | 0 | 43887 |

**A. Mission Description and Budget Item Justification:** This project provides RDT&E to meet technology requirements in support of implementation, compliance, monitoring and inspection for existing and emerging nuclear arms control activities and dual use technology for missile defense integration activities. The project addresses requirements validated by the Office of the Under Secretary of Defense (Acquisition, Technology & Logistics (OUSD (AT&L)). This project conforms to the administration's research and development priorities as related to nuclear weapons of mass destruction arms control and disarmament. Technical assessments are made to provide the basis for sound project development, evaluate existing programs and provide the data required to make compliance judgments and support U.S. policy, decision-makers and negotiating teams. Technology developments and system improvement projects are conducted to ensure that capabilities for monitoring systems are available when required.

The program includes development of equipment and procedures for data exchanges, inspections and monitoring capability and analysis. The technologies and procedures developed in the arms control technology program provide an invaluable source of information on equipment and procedures that is extensively used by U.S. and international agencies.

This project element also supports the JCS warfighting capability area of counterproliferation.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Conduct analyses as required to support the OSD manager | 0 | 0 | 463 | 326 |
| Development of prototype sensors | 0 | 0 | 1000 | 1400 |
| Development of radionuclide particle detector | 0 | 0 | 350 | 750 |
| Data center system enhancements at the CMR | 0 | 0 | 700 | 750 |
| Continue to support on-going R&D at the CMR | 0 | 0 | 700 | 500 |
| Research on location calibration for seismic events | 0 | 0 | 2460 | 1700 |
| Development of techniques to identify signals from sensor systems | 0 | 0 | 1500 | 1900 |
| Research of source phenomenology for events threshold | 0 | 0 | 1290 | 1000 |
| Totals | 0 | 0 | 8463 | 8326 |

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

**C. Acquisition Strategy:** Not applicable for this item.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603782A - WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL**

PROJECT
**F98**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Product Development | TBD | TBD | 0 | 0 | | 4200 | 3Q | 3826 | 3Q | 0 | 8026 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 4200 | | 3826 | | 0 | 8026 | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . SMDC | | Huntsville, AL | 0 | 0 | | 2050 | 1-4Q | 2350 | 1-4Q | 0 | 4400 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 2050 | | 2350 | | 0 | 4400 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603782A - WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL**

PROJECT
**F98**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Test and Eval | | Huntsville, AL | 0 | 0 | | 1213 | 3-4Q | 1200 | 3-4Q | 0 | 2413 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 1213 | | 1200 | | 0 | 2413 | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . SMDC | | Huntsville, AL | 0 | 0 | | 1000 | 1-4Q | 950 | 1-4Q | 0 | 1950 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 1000 | | 950 | | 0 | 1950 | 0 |
| Project Total Cost: | | | 0 | 0 | | 8463 | | 8326 | | 0 | 16789 | 0 |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603790A - NATO Research and Development** | **691** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 691 NATO RSCH & DEVEL | 6202 | 4559 | 4779 | 5263 | 7612 | 9330 | 9521 | 9696 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This program implements the provisions of Title 10 U.S. Code, Section 2350a, Cooperative Research and Development (R&D) Projects: Allied Countries. The objective is to improve, through the application of emerging technologies, the conventional defense capabilities of the United States, the North Atlantic Treaty Organization (NATO), U.S. major non-NATO allies and Friendly Foreign countries. This program element only funds the U.S. equitable share of the cooperative R&D project spent in the U.S. Projects are implemented with the partners through international agreements which define the scope, cost and work sharing arrangements, management, contracting, security, data protection and third party transfers. By technology sharing the program jointly develops equipment with our partners to improve operational efforts by achieving multi-national force compatibility through the use of similar equipment and improved interfaces. Funds support all the R&D costs including the identification of cooperative opportunities and administration of the program. All funds are used to pay for the U.S. work share in the United States at U.S. Government and U.S. contractors' facilities. This program focuses on international cooperative technology demonstration, validation, and interoperability of Army weapon and command, control, communications and information (C3I) systems.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Multilateral Interoperability Program (MIP) (Partners: Germany, France, United Kingdom, Canada, Italy): Continued integration work from the Command and Control Systems Interoperability Program (C2SIP) into an Advanced Concept Technology Demonstration (ACTD) to achieve NATO levels four (messaging) and five (database) interoperability and also extended the effort into a sustainable program to incorporate lessons learned into national systems. | 1000 | 0 | 0 | 0 |
| Simulation and Command and Control (C2) Information System Connectivity Experimentation (SINCE) (Partner: Germany): Continues to define and demonstrate a generic solution for interfacing and networking Brigade/Battalion (BDE/BN) Command and Control Information Systems (C2IS) and applicable Modeling and Simulation (M&S) systems as required to support Coalition Force Collaborative Mission Management Experimentation. | 900 | 800 | 0 | 0 |
| Automated Identification Technology for Asset Tracking/Total Asset Visibility (TAV) (Partner: United Kingdom): Asset Tracking Data System allows seamless tracking and identification of US and UK materiel shipment/consignments and significantly enhances US coalition warfare capabilities. | 500 | 850 | 900 | 1000 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Senior National Representatives (Army) (SNR(A))/International Cooperative Opportunities (ICO) Projects (Partners: France, Germany, United Kingdom, Italy): Supports harmonization of programs at various levels; exchanging information, identifying knowledge gaps and conducting feasibility studies to further promote cooperative development; standardizing, fielding and roadmapping various processes; distributing the workload among the different nations. The Mine Protection for Armored Vehicles (MPAV) Working Group, specifically, will explore mine protection techniques and technologies in pursuit of advanced armor opportunities in mine protections, and other applicable cooperative R&D areas over FY 2002 and FY 2003. Another ongoing program is Lightweight Soldier System Working Group which examines digitized soldier power-sharing during coalition operations. The study explores various requirements associated with standardization of soldier communications to define levels of interconnectivity and hardware solutions. | 1900 | 1000 | 1000 | 1000 |
| International Agreement Tracking System (IATS)/International Online (IO) Development and Implementation, NATO/International Cooperative R&D Policy Development, and Report to Congress Pursuant to 10 USC 2350a, prepare and provide to USD(A&T) the Army section of the Report to Congress on the International Cooperative Research and Development Program. | 502 | 690 | 710 | 750 |
| Technology Research and Development Projects (TRDP) (Partners: United Kingdom, Germany, France, Canada, Australia, Netherlands, Korea, Norway): The scope of this MOU encompasses R&D collaboration on basic, exploratory and advanced technologies, the maturation of which may lead to the development of technologically superior conventional weapon systems. | 0 | 219 | 669 | 913 |
| Engineer and Scientist Exchange Program (ESEP) (Partner: Major NATO Allies): Supports and facilitates cooperation by expanding the MOU participants' knowledge of each others' research, development and acquisition process. | 500 | 500 | 800 | 800 |
| Low Level Air Defense Interoperability (LLAPI) (Partners: Major NATO Allies): The objective of this program is to successfully demonstrate Command and Control (C2) interoperability among the participant nations' Short Range Air Defense (SHORAD) assets for automated air picture exchange. | 400 | 100 | 100 | 100 |
| Combat Identification (Partners: UK, Germany, France and Italy): Combat ID will pursue the extension of tasks required for implementing the associated NATO Standardization Agreement (STANAG 4579), allied participation in Coalition Combat ID Advanced Concept Technology Demonstrator (ACTD), will pursue the NATO Staff Requirement and a STANAG for the Dismounted Soldier ID. | 500 | 100 | 100 | 100 |
| Artillery Command and Control Interoperability (ASCA) (Partners: France, Germany, Italy, UK): The Participants in this program will develop an automated software interface between their national field artillery command and control systems. The nations will be able to receive and provide mutual fire support (i.e. cannon and rocket fire) in combined operations more rapidly and with minimal errors. | 0 | 300 | 300 | 400 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Joint Tactical Radio System (JTRS) (Partners: Japan, Sweden, UK): The participants in these programs will develop and implement Software-enabled radios as replacements to current radio systems. The projects shall be focused on maintaining interoperability as the countries pursue their own separate software radio programs. The project agreements (PAs) will include a joint development of software radio specifications, separate development and testing of software waveforms, and joint interoperability testing using the system assets developed as part of the agreements. | 0 | 0 | 200 | 200 |
| Totals | 6202 | 4559 | 4779 | 5263 |

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 6375 | 8773 | 8912 | 9110 |
| Current Budget (FY 2004/2005 PB) | 6202 | 4559 | 4779 | 5263 |
| Total Adjustments | -173 | -4214 | -4133 | -3847 |
| Congressional program reductions | | -4000 | | |
| Congressional rescissions | | -53 | | |
| Congressional increases | | | | |
| Reprogrammings | 4 | -30 | | |
| SBIR/STTR Transfer | -177 | -131 | | |
| Adjustments to Budget Years | | | -4133 | -3847 |

Change Summary Explanation: Funding - FY 2004/2005: Funding realigned to higher priority programs.

**C. Other Program Funding Summary:** None

**D. Acquisition Strategy:** All projects are test or technical demonstrations to feed into potential new requirements in support of Army Transformation to the Objective Force or as product improvements to Legacy Force.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603790A - NATO Research and Development**

PROJECT
**691**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Multilateral Interoperability Program (MIP) | CPFF | C3S, CSC Fort Washington, PA | 692 | 0 | | 0 | | 0 | | 0 | 692 | 0 |
| b . International Agreement Tracking System (IATS) - Software Development | TBD | JIL Information Systems Vienna, VA | 347 | 477 | | 491 | | 519 | | 0 | 1834 | 0 |
| c . Automated Identification Technology for Asset Tracking/Total Asset Visibility (TAV) - Software | TBD | TBD | 346 | 588 | | 623 | | 692 | | 0 | 2249 | 0 |
| d . Engineer-Scientist Exchange Program (ESEP) | TBD | TBD | 346 | 346 | | 642 | | 642 | | 0 | 1976 | 0 |
| e . Simulation & C2 Information System Connectivity Experimentation (SINCE) - C2 Systems | TBD | TBD | 623 | 554 | | 0 | | 0 | | 0 | 1177 | 0 |
| f . Senior National Representatives (Army) (SNR[A]) | TBD | TBD | 1315 | 692 | | 692 | | 692 | | 0 | 3391 | 0 |
| g . TRDP | TBD | TBD | 0 | 0 | | 0 | | 300 | | 0 | 300 | 0 |
| h . Low Level Air Defense Interoperability (LLAPI) | | | 277 | 15 | | 58 | | 58 | | 0 | 408 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603790A - NATO Research and Development**

PROJECT
**691**

| I. Product Development (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| i . Combat Identification | | | 346 | 25 | | 25 | | 25 | | 0 | 421 | 0 |
| j . Artillery Command and Control Interoperability (ASCA) | | | 0 | 208 | | 208 | | 277 | | 0 | 693 | 0 |
| k . Joint Tactical Radio System (JTRS) | | | 0 | 0 | | 100 | | 100 | | 0 | 200 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 4292 | 2905 | | 2839 | | 3305 | | 0 | 13341 | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . MIP | MIPR | CECOM Ft. Monmouth, NJ | 154 | 0 | | 0 | | 0 | | 0 | 154 | 0 |
| b . IATS | MIPR | TBD | 77 | 106 | | 110 | | 116 | | 0 | 409 | 0 |
| c . Low Level Air Defense Interoperability (LLAPI) | MIPR | | 62 | 43 | | 21 | | 21 | | 0 | 147 | 0 |
| d . Automated Identification Technology for Asset Tracking/TAV | MIPR | LOGSA | 77 | 131 | | 139 | | 154 | | 0 | 501 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603790A - NATO Research and Development**

PROJECT
**691**

| II. Support Cost (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| e . ESEP | MIPR | TBD | 77 | 77 | | 104 | | 104 | | 0 | 362 | 0 |
| f . Combat Identification | MIPR | | 77 | 25 | | 25 | | 25 | | 0 | 152 | 0 |
| g . Simulation and C2 Information System Connectivity Experimentation (SINCE) | MIPR | CECOM Ft. Monmouth, NJ | 139 | 123 | | 0 | | 0 | | 0 | 262 | 0 |
| h . SNR(A) | MIPR | TBD | 293 | 154 | | 154 | | 154 | | 0 | 755 | 0 |
| i . TRDP | MIPR | TBD | 0 | 109 | | 335 | | 300 | | 0 | 744 | 0 |
| j . Artillery Command and Control Interoperability (ASCA) | | | 0 | 46 | | 46 | | 62 | | 0 | 154 | 0 |
| k . Joint Tactical Radio System (JTRS) | | | 0 | 0 | | 50 | | 50 | | 0 | 100 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 956 | 814 | | 984 | | 986 | | 0 | 3740 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603790A - NATO Research and Development**

PROJECT
**691**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . MIP | MIPR | CECOM Ft Monmouth, NJ | 102 | 0 | | 0 | | 0 | | 0 | 102 | 0 |
| b . IATS | MIPR | TBD | 51 | 71 | | 73 | | 77 | | 0 | 272 | 0 |
| c . Low Level Air Defense Interoperability (LLAPI) | MIPR | TBD | 41 | 12 | | 6 | | 6 | | 0 | 65 | 0 |
| d . Automated Identification Technology for Asset Tracking/TAV | MIPR | AMSAA, Aberdeen Proving Ground, NJ | 51 | 87 | | 92 | | 103 | | 0 | 333 | 0 |
| e . ESEP | MIPR | TBD | 51 | 51 | | 53 | | 53 | | 0 | 208 | 0 |
| f . Combat Identification | MIPR | | 51 | 25 | | 25 | | 25 | | 0 | 126 | 0 |
| g . Simulation and C2 Information System Connectivity Experimentation (SINCE) | MIPR | CECOM Ft Monmouth, NJ | 92 | 82 | | 0 | | 0 | | 0 | 174 | 0 |
| h . SNR(A) | MIPR | TBD | 195 | 103 | | 103 | | 103 | | 0 | 504 | 0 |
| i . TRDP | MIPR | TBD | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| j . ASCA | | | 0 | 31 | | 31 | | 41 | | 0 | 103 | 0 |
| k . Joint Tactical Radio System (JTRS) | | | 0 | 0 | | 25 | | 25 | | 0 | 50 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603790A - NATO Research and Development**

PROJECT
**691**

| III. Test and Evaluation (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 634 | 462 | | 408 | | 433 | | 0 | 1937 | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . MIP | MIPR | PEO C3S, Ft. Monmouth, NJ | 51 | 0 | | 0 | | 0 | | 0 | 51 | 0 |
| b . IATS | MIPR | TBD | 26 | 35 | | 36 | | 38 | | 0 | 135 | 0 |
| c . Low Level Air Defense Interoperability (LLAPI) | MIPR | | 21 | 31 | | 15 | | 15 | | 0 | 82 | 0 |
| d . Automated Identification Technology for Asset Tracking/TAV | MIPR | LOGSA | 26 | 44 | | 46 | | 51 | | 0 | 167 | 0 |
| e . ESEP | MIPR | TBD | 26 | 26 | | 1 | | 1 | | 0 | 54 | 0 |
| f . Combat Identification | MIPR | | 26 | 25 | | 25 | | 25 | | 0 | 101 | 0 |
| g . Simulation and C2 Information System Connectivity Experimentation (SINCE) | MIPR | CECOM, Ft. Monmouth, NJ | 46 | 41 | | 0 | | 0 | | 0 | 87 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603790A - NATO Research and Development**

PROJECT
**691**

| IV. Management Services (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| h . SNR(A) | MIPR | TBD | 98 | 51 | | 51 | | 51 | | 0 | 251 | 0 |
| i . TRDP | MIPR | TBD | 0 | 110 | | 334 | | 313 | | 0 | 757 | 0 |
| j . Artillery Command and Control Interoperability (ASCA) | | | 0 | 15 | | 15 | | 20 | | 0 | 50 | 0 |
| k . JTRS | | | 0 | 0 | | 25 | | 25 | | 0 | 50 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 320 | 378 | | 548 | | 539 | | 0 | 1785 | 0 |
| Project Total Cost: | | | 6202 | 4559 | | 4779 | | 5263 | | 0 | 20803 | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603790A - NATO Research and Development**

PROJECT
**691**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Multilateral Interoperability Program (MIP) | | | | | | | | |
| - Complete C2SIP ATCD | 3Q | | | | | | | |
| - Complete Integration into MCS | | 3Q | | | | | | |
| - Complete System Test and Report | 4Q | | | | | | | |
| SINCE - C2 Systems | | | | | | | | |
| - Interface/Network Definition | 4Q | | | | | | | |
| - Complete Modeling and Simulation | | 4Q | | | | | | |
| - Complete Demonstration | | | 4Q | | | | | |
| - Final Report | | | | 2Q | | | | |
| Total Asset Visibility (TAV) | | | | | | | | |
| - Conclude International Agreement | 3Q | | | | | | | |
| - Complete Requirements Definition | | 4Q | | | | | | |
| - Develop Asset Tracking Architecture | | | 1-4Q | | | | | |
| - Joint Testing and Demonstration | | | | 1-4Q | | | | |
| - Complete Final Report | | | | | 2Q | | | |
| Senior National Representatives (Army) | | | | | | | | |
| - Mine Protection For Armored Vehicles (MPAV) Feasibility Study | 2-4Q | 1-4Q | | | | | | |
| - Identify International Cooperative Opportunities | 1-4Q | 1-4Q | 1-4Q | 1-4Q | | | | |
| International Agreement Tracking System (IATS) / International On Line (IOL) | | | | | | | | |
| - Initial Operational Capability of IOL | 3Q | | | | | | | |
| - Incorporate Tier II and Tier III IOL Requirements | 3-4Q | 1-4Q | | | | | | |
| Engineer and Scientist Exchange Program (ESEP) | | | | | | | | |
| - Identify and Complete ESEP Assignments | 1-4Q | 1-4Q | | | | | | |
| Technology Research and Development Projects (TRDP) | | | | | | | | |
| - Identify and Conclude TRDP Project Agreements | 1-4Q | 1-4Q | | | | | | |

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

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603801A - Aviation - Adv Dev**

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Program Element (PE) Cost | | 12807 | 10767 | 9968 | 9320 | 9971 | 10211 | 9972 | 10599 | Continuing | Continuing |
| B32 | ADV MAINT CONCEPTS/EQ | 3329 | 3418 | 7095 | 6458 | 6534 | 6775 | 6456 | 6987 | 0 | 49988 |
| B33 | CARGO HANDLING & MISSION SPT | 2881 | 3073 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8679 |
| B45 | AIRCREW INTEGRATED SYS-AD | 6597 | 4276 | 2873 | 2862 | 3437 | 3436 | 3516 | 3612 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This PE provides advanced development aviation support of tactical programs associated with air mobility, advanced maintenance concepts and equipment, and Aircrew Integrated Systems (ACIS).

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 13196 | 8643 | 10389 | 10482 |
| Current Budget (FY 2004/2005 PB) | 12807 | 10767 | 9968 | 9320 |
| Total Adjustments | -389 | 2124 | -421 | -1162 |
| Congressional program reductions | | | | |
| Congressional rescissions | | -346 | | |
| Congressional increases | | 2800 | | |
| Reprogrammings | -68 | -70 | | |
| SBIR/STTR Transfer | -321 | -260 | | |
| Adjustments to Budget Years | | | -421 | -1162 |

FY 04/05 funds realigned ($421/1162K) to higher priority requirements.

Beginning in FY04, funds from Project B33 have been moved to Project B32.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603801A - Aviation - Adv Dev** | **B32** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B32 | ADV MAINT CONCEPTS/EQ | 3329 | 3418 | 7095 | 6458 | 6534 | 6775 | 6456 | 6987 | 0 | 49988 |

**A. Mission Description and Budget Item Justification:** This program explores, develops, and integrates affordable aviation ground support equipment (AGSE) and diagnostic technologies to replace obsolete and unsupportable AGSE and diagnostic equipment. It enhances utilization of current and future aircraft by improving the efficiency of maintenance and servicing operations by validating new maintenance concepts to improve man to machine interface, enhance aircraft maintenance processes and reduce operation and support (O&S) costs. Included in this program are projects such as the evaluation of: database management software, diagnostic/prognostic monitoring systems, battle damage assessment and repair (BDAR) procedures and tools, advanced maintenance aid concepts (AMAC), automated configuration management, hybrid electric vehicle concepts, aviation turbine engine diagnostic system (ATEDS) concept, vibration management enhancement program, and concept exploration for the new aviation ground power system (NAPS). This Program Element also develops equipment and procedures for improvement of loading, transport, and off-loading of helicopter cargo. The most promising concepts/evaluations will be pursued. These efforts will significantly enhance aviation asset availability and flight safety, and allow the WSM to develop prototype systems and initiate the acquisition process.

This program element enhances utilization of current and future aircraft by improving the efficiency of maintenance and servicing operations by validating new maintenance concepts to improve man to machine interface, enhance aircraft maintenance processes and reduce operation and support cost. Included in the project are elements such as: advanced maintenance aids, diagnostic and prognostic monitoring systems, trending analysis, support infrastructure analysis, rapid battle repair procedures and tools development to speed the return of aircraft to combat ready status, and develops new equipment for aerial recovery of damaged aircraft. This project develops equipment and procedures for improvement of loading, transport, and off-loading of helicopter cargo. FY 04 completes prototyping, design refinement and testing of critical ground support systems in preparation for a milestone decision. Funds for the remote external cargo monitoring and other efforts to include New Aviation Power System, Battle Damage Assessment and Repair, and Advanced Aircraft Towing System. Other efforts in FY 05 include Aviation Vibration Analzyer II, Hybrid Electric Vehicles and Maintenance Free Tires. The most promising concepts and evaluations will be pursued. These efforts will significantly enhance aviation asset availability and flight safety, and allow the PM to initiate the acquisition process and development of the prototype systems. This system supports the Legacy to Objective transition path of the Transformation Campaign Plan.

Beginning in FY 04, funds from Project B33 have been moved to this budget line.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603801A - Aviation - Adv Dev** | **B32** |

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Aviation Turbine Engine Diagnostics System (ATEDS) - Software development | 0 | 0 | 900 | 750 |
| New Aviation Ground Power System (NAPS) - Develop performance specification and analyze prototype | 0 | 0 | 200 | 150 |
| Battle Damage Assessment and Repair (BDAR) Kit - Demonstration & validation | 0 | 0 | 100 | 125 |
| Digital Aircraft Weight & Balance Automation (P3I) | 0 | 0 | 200 | 0 |
| Aircraft Towing Vehicles - Advanced Fuel Electric Drive - Perform market research | 0 | 0 | 125 | 150 |
| Swaging Tool Kit (A&B) | 0 | 0 | 50 | 100 |
| Advanced Ground Support Equipment - Will apply state-of-the-art technology to reduce the AGSE footprint and increase reliability in meeting AGSE operational requirements in support of modernized aircraft. | 0 | 0 | 0 | 475 |
| Advanced AGSE Working Group - Concept and technology development/IPT | 75 | 75 | 100 | 100 |
| Aviation Parts Marking Automation | 0 | 0 | 250 | 300 |
| Maintenance Platform & Tow Bar Modernization | 0 | 150 | 200 | 150 |
| Automated Configuration Management (DMAD) | 93 | 1175 | 700 | 615 |
| Advanced Maintenance Aid for Army helicopters - Will improve fault isolation of parts (DMAD) | 825 | 600 | 580 | 465 |
| AGSE Support of Modernized Aircraft - Fuel Cell Corrosion Inspection Tool | 0 | 0 | 0 | 0 |
| AGSE Support of Modernized Aircraft - Advanced Multiplex Test System | 0 | 0 | 0 | 0 |
| Hybrid Electric Vehicle - Prototype, systems integration, early operational testing | 650 | 349 | 570 | 500 |
| Future Aviation Repair & Maintenance Systems | 0 | 150 | 550 | 535 |
| Maintenance Free Tires - Evaluation of application to AGSE | 75 | 43 | 0 | 0 |
| Aviation Maintenance Shelter (Deployable) | 0 | 0 | 250 | 300 |
| Aviation Vibration Analyzer II - software | 950 | 0 | 0 | 0 |
| Turbine Engine Borescope Evaluation System | 0 | 0 | 75 | 50 |
| Management Support Services | 661 | 876 | 2245 | 1693 |
| Totals | 3329 | 3418 | 7095 | 6458 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| Aircraft Procurement, Army(APA) SSN AZ3100 | 18882 | 19257 | 16597 | 16993 | 30436 | 42308 | 47839 | 45365 | Continuing | Continuing |

**C. Acquisition Strategy:** This project is an aggregate of advanced maintenance concepts-related projects. While the detailed acquisition strategy varies from project to project, the general strategy for each individual project is to complete the development effort through Government test (developmental and operational). Program documentation for milestone decision is prepared, as appropriate, concurrently with the development effort.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603801A - Aviation - Adv Dev**

PROJECT
**B32**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . ATEDS | C/CPFF | Allied Signal, Phoeniz, AZ, Allied Signal, Indianapolis, IN;Sikorsky, Stratford, CT;Boeing/GE | 0 | 0 | | 900 | 2Q | 750 | 2Q | 0 | 1650 | 1650 |
| b . NAPS | MIPR | PIF, Redstone Arsenal, AL | 0 | 0 | | 200 | 2Q | 150 | 2Q | 0 | 350 | 350 |
| c . BDAR | C/CPFF | AATD | 0 | 0 | | 100 | 2Q | 125 | 2Q | 0 | 225 | 225 |
| d . Digitial Aircraft Weight & Balance Automation (P3I) | MIPR | AATD/SED | 0 | 0 | | 200 | 2Q | 0 | | 0 | 200 | 200 |
| e . Aircraft Towing Vehicle (Fuel/Electric) | MIPR | AATD | 0 | 0 | | 125 | 2Q | 150 | 2Q | 0 | 275 | 375 |
| f . Swaging Tool Kit A&B | MIPR | AATD | 0 | 0 | | 50 | 2Q | 100 | 2Q | 0 | 150 | 150 |
| g . AGSE Ground Support of Modernized Aircraft | MIPR | AATD | 0 | 0 | | 0 | | 475 | 2Q | 0 | 475 | 475 |
| h . Adv AGSE Working Group | CA/CR | Rita, Easton, MD | 2462 | 75 | 2Q | 100 | 2Q | 100 | 2Q | 300 | 3037 | 3062 |
| i . APMA | SS/CPFF | Boeing, Philadelphia, PA | 895 | 0 | | 250 | 2Q | 300 | 2Q | 0 | 1445 | 1445 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603801A - Aviation - Adv Dev**

PROJECT
**B32**

| I. Product Development (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| j . Maintenance Platform & Towing Bar Modernization | MIPR | AATD | 0 | 150 | 3Q | 200 | 2Q | 150 | 2Q | 0 | 500 | 500 |
| k . Automated Configuration Management (DMAD) | C/CPFF | Boeing, Philadelphia, PA | 265 | 1175 | 2Q | 700 | 2Q | 615 | 2Q | 1635 | 4390 | 4390 |
| l . Advanced Maintenance Aid Concepts (DMAD) | C/CPFF | Boeing, Philadelphia, PA | 825 | 600 | 2Q | 580 | 3Q | 465 | 2Q | 1520 | 3990 | 3990 |
| m . Hybrid Electric Vehicle | MIPR | TACOM | 650 | 349 | 2Q | 570 | 2Q | 500 | 2Q | 0 | 2069 | 2069 |
| n . Future Aviation Repair & Maintenance System | C/CPFF | AATD | 0 | 150 | 4Q | 550 | 2Q | 535 | 2Q | 1391 | 2626 | 2626 |
| o . Maintenance Free Tires | MIPR | AATD | 75 | 43 | 3Q | 0 | | 0 | | 0 | 118 | 175 |
| p . Aviation Maintenance Shelter (Deployable) | FFP | AATD | 0 | 0 | | 250 | 2Q | 300 | 2Q | 0 | 550 | 550 |
| q . AVA II Software | C/CPFF | DRC/IAC | 950 | 0 | | 0 | | 0 | | 0 | 950 | 950 |
| r . Turbine Engine Borescope Evaluation | MIPR | AATD | 0 | 0 | | 75 | 2Q | 50 | 2Q | 0 | 125 | 125 |
| | | | | | | | | | | | | |
| Subtotal: | | | 6122 | 2542 | | 4850 | | 4765 | | 4846 | 23125 | 23307 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603801A - Aviation - Adv Dev**

PROJECT
**B32**

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Technical Engineering Services | MIPR | AATD | 1332 | 583 | 1Q | 1483 | 1Q | 916 | 1Q | Continue | 4314 | Continue |
| b . Technical Engineering Services | MIPR | DCD | 0 | 0 | | 160 | 2Q | 175 | 2Q | 0 | 335 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1332 | 583 | | 1643 | | 1091 | | Continue | 4649 | Continue |

Remarks: None

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

Remarks: None

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603801A - Aviation - Adv Dev**

PROJECT
**B32**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Program Management Support | NA | | 219 | 110 | 2Q | 272 | 1Q | 272 | 2Q | Continue | 873 | Continue |
| b . Program Management In-House | NA | | 437 | 183 | 1-4Q | 330 | 1-4Q | 330 | 1-4Q | Continue | 1280 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 656 | 293 | | 602 | | 602 | | Continue | 2153 | Continue |
| Remarks: None | | | | | | | | | | | | |
| Project Total Cost: | | | 8110 | 3418 | | 7095 | | 6458 | | Continue | 29927 | Continue |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603801A - Aviation - Adv Dev**

PROJECT
**B32**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| AVIATION TURBINE ENGINE DIAGNOSTIC SYSTEM (ATEDS) - Develop software | 4Q | 1-3Q | | | | | | |
| AVIATION TURBINE ENGINE DIAGNOSTIC SYSTEM (ATEDS) - Advanced Aircraft Software | | 4Q | 1-4Q | 1-4Q | 1-4Q | | | |
| AVIATION CLEANING AND DEICING SYSTEM (ACDS) - Complete evaluation & Specs | 1-4Q | | | | | | | |
| NEW AVIATION GROUND POWER SYSTEM (NAPS) - Prototype evaluation | 1-4Q | 1-2Q | | | | | | |
| NEW AVIATION GROUND POWER SYSTEM (NAPS) - Complete evaluation & specifications | | 3-4Q | 1-4Q | 1-4Q | | | | |
| BATTLE DAMAGE ASSESSMENT & REPAIR (BDAR) KITS - Complete Electrical Repair Kit | 3-4Q | 1-2Q | | | | | | |
| BATTLE DAMAGE ASSESSMENT & REPAIR (BDAR) KITS - Develop & prototype fuel cell & fluid line kits | | 3-4Q | 1-2Q | | | | | |
| BATTLE DAMAGE ASSESSMENT & REPAIR (BDAR) KITS - Develop & prototype composite & fiber optic repair | | | 3-4Q | 1-4Q | | | | |
| AVIATION VIBRATION ANALYZER (AVA II) - Concept exploration | 3-4Q | 1-2Q | | | | | | |
| AVIATION VIBRATION ANALYZER (AVA II) - Demonstration/validation | | 3-4Q | | | | | | |
| SWAGING TOOL KIT (A&B) - Procure prototype | | | 1-2Q | | | | | |
| SWAGING TOOL KIT (A&B) - Demonstration/validation | | | 3-4Q | 1-2Q | | | | |
| ADVANCED GROUND SUPPORT EQUIPMENT - Concept studies & evaluation | | | | 3-4Q | 1-4Q | | | |
| ADVANCED GROUND SUPPORT EQUIPMENT - Select, evaluate & demonstrate prototypes | | | | | | 1-4Q | 1-4Q | 1-4Q |
| ADVANCED AVIATION TOWING EQUIPMENT (FUEL/ELECTRIC) - Concept studies & evaluation | | 2-4Q | | | | | | |
| ADVANCED AVIATION TOWING EQUIPMENT (FUEL/ELEC) - Select, eval, & demo prototype | | | 1-4Q | 1-4Q | | | | |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603801A - Aviation - Adv Dev**

PROJECT
**B32**

| **Schedule Detail (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| TURBINE ENGINE BORESCOPE EVALUATION SYSTEM - Demonstration/Validation | | | 1-4Q | 1-4Q | | | | |
| AGSE SUPPORT TO MODERNIZED AIRCRAFT - Concept studies & evaluation | | | 2-4Q | | 2-4Q | | 2-4Q | |
| AGSE SUPPORT TO MODERNIZED AIRCRAFT - Systems evaluation & demonstration | | | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| ADVANCED AGSE WORKING GROUP - Digital Aviation Logistics Working Group (DAL) | 3-4Q | 1-4Q | | | | | | |
| ADVANCED AGSE WORKING GROUP - Concept & technology development/IPT | | 2-4Q | 1-4Q | 1-4Q | | | | |
| AVIATION PARTS MARKING AUTOMATION - Concept development & validation of platform | | | 3-4Q | 1-4Q | 1-4Q | | | |
| MAINTENANCE PLATFORM & TOWING BAR MODERNIZATION - Evalution of COTS alternatives | | 2-4Q | | | | | | |
| MAINTENANCE PLATFORM & TOWING BAR MODERNIZATION - Select, eval and demo prototypes | | | 1-4Q | 1-3Q | | | | |
| AUTOMATED CONFIGURATION MANAGEMENT - Evaluate & select a standard parts coding system | 4Q | 1-4Q | | | | | | |
| AUTOMATED CONFIGURATION MANAGEMENT - Eval & demo selected coding systems on platforms | | 1-4Q | | | | | | |
| ADVANCED MAINTENANCE AID CONCEPTS (AMAC) - Develop maint aid to isolate faulty components | 4Q | 1-4Q | | | | | | |
| ADVANCED MAINTENANCE AID CONCEPTS (AMAC) - Evaluate & demonstrate maint aid to platforms | | | 1-4Q | 1-4Q | 1-4Q | | | |
| HYBRID ELECTRIC VEHICLE - Concept evaluation & purchase of prototype vehicle | 3-4Q | 1-3Q | | | | | | |
| HYBRID ELECTRIC VEHICLE - Evaluate & demonstrate hybrid vehicle | | 4Q | 1-4Q | 1-4Q | | | | |
| FUTURE AVIATION REPAIR & MAINTENANCE SYSTEM - Concept studies & evaluation | | 2-4Q | 1-3Q | | | | | |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603801A - Aviation - Adv Dev**

PROJECT
**B32**

| **Schedule Detail (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| FUTURE AVIATION REPAIR & MAINTENANCE SYSTEM - Select, eval, and demo selected prototypes | | | 4Q | 1-4Q | 1-4Q | 1-4Q | | |
| MAINTENANCE FREE TIRES - Research tires on current AGSE ramp equipment | 1-2Q | | | | | | | |
| MAINTENANCE FREE TIRES - Select, evaluate & demonstrate selected COTS alternatives | 3-4Q | 1-4Q | | | | | | |
| AVIATION VIBRATION ANALYZER (AVA II) - Concept development & demonstration | 1-4Q | 1-3Q | | | | | | |
| AVIATION MAINTENANCE SHELTER (AMS) - DEPLOYABLE - Evaluate current portable building concepts | | | 3-4Q | 1Q | | | | |
| AVIATION MAINTENANCE SHELTER (AMS) - DEPLOYABLE - Select, evaluate & demo shelters | | | | 2-4Q | 1-4Q | 1-4Q | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603801A - Aviation - Adv Dev** | **B33** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| B33 CARGO HANDLING & MISSION SPT | 2881 | 3073 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8679 |

**A. Mission Description and Budget Item Justification:** This project explores, develops and integrates affordable ground support equipment and diagnostic technologies to replace obsolete and unsupportable ground support equipment and diagnostics with new and standardized equipment and diagnostics that are compatible with all Army aircraft models; develops rapid battle repair procedures and tools to speed the return of aircraft to combat ready status; develops new equipment for aerial recovery of damaged aircraft, and develops equipment and procedures for improvement of loading, transport, and off-loading of helicopter cargo. Funds for the high-capacity external cargo winches, remote external cargo monitoring and other efforts to include Aviation Turbine Engine Diagnostics System, Aircraft Cleaning and Deicing System, New Aviation Power System, Corrosion Environment Monitor Sensors, Battle Damage Assessment and Repair, Shop Equipment Contact Maintenance, Digital Aircraft Weight & Balance (P3I) and Advanced Fuel Cell Towing Vehicles. Addressing priority Aviation Ground Support Equipment (AGSE) will allow the PM to initiate the acquisition process and development of the prototype systems. This system supports the Legacy to Objective transition path of the Transformation Campaign Plan. Funds from this Project have been moved to B32 starting in FY 04.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Aviation Turbine Diagnostic System (ATEDS) - software development. | 1140 | 1500 | 0 | 0 |
| Aircraft Cleaning and De-icing System (ACDS)- operational testing and specification development. | 125 | 0 | 0 | 0 |
| New Aviation Ground Power System (NAPS)- develop performance specification and analyze prototype. | 146 | 252 | 0 | 0 |
| Strategic Plan for Aviation Ground Support Equipment - development of investment strategy. | 0 | 275 | 0 | 0 |
| Battle Damage Assessment and Repair (BDAR) Kit - demonstration & validation. | 100 | 100 | 0 | 0 |
| Aviation Vibration Analyzer (AVA II) - prototype hardware. | 450 | 0 | 0 | 0 |
| Digital Aircraft Weight & Balance Automation (P3I) | 0 | 50 | 0 | 0 |
| Aircraft Towing Vehicles - Advanced Fuel Electric Drive - perform market research. | 0 | 0 | 0 | 0 |
| Management Support Services | 920 | 896 | 0 | 0 |
| Totals | 2881 | 3073 | 0 | 0 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| Aircraft Procurement, Army (APA) SSN AZ3100 | 18882 | 19257 | 16597 | 16993 | 30436 | 42308 | 47839 | 45365 | Continuing | Continuing |

**C. Acquisition Strategy:** This project is an aggregate of advanced mission support and cargo handling concepts-related projects. While the detailed acquisition strategy varies from project to project, the general strategy for each individual project is to complete the development effort through Government test (developmental and operational). Program documentation for milestone decisions is prepared, as appropriate, concurrently with the development effort.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603801A - Aviation - Adv Dev**

PROJECT
**B33**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . ATEDS | C/CPFF | AlliedSignal, Phoenix, AZ; Allison, Indian-apolis, IN; Sikorsky, Stratford, CT; Boeing/GE | 5823 | 1500 | 2Q | 0 | | 0 | | 0 | 7323 | 0 |
| b . ACDS | C/CPFF | Riveer, South Haven, MI | 1063 | 0 | | 0 | | 0 | | 0 | 1063 | 920 |
| c . NAPS I | MIPR | Rome Labs, Rome, NY | 1310 | 0 | | 0 | | 0 | | 0 | 1310 | 1000 |
| d . NAPS II | MIPR | PIF, Redstone Arsenal, AL | 0 | 252 | 2Q | 0 | | 0 | | 0 | 252 | 0 |
| e . Strategic Plan (AGSE) | C/CPFF | CAS | 0 | 275 | 2Q | 0 | | 0 | | 0 | 275 | 0 |
| f . ACHS (I & II) | C/CPFF | AATD | 1385 | 0 | | 0 | | 0 | | 0 | 1385 | 2134 |
| g . BDAR | C/CPFF | AATD | 100 | 100 | 3Q | 0 | | 0 | | 0 | 200 | 600 |
| h . AVA II | C/CPFF | DRC/IAC | 450 | 0 | | 0 | | 0 | | 0 | 450 | 600 |
| i . Digital Aircraft Weight & Balance Automation (P31) | MIPR | AATD | 0 | 50 | 2Q | 0 | | 0 | | 0 | 50 | 250 |
| j . Aircraft Towing Vehicle | MIPR | AATD | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603801A - Aviation - Adv Dev**

PROJECT
**B33**

| I. Product Development (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 10131 | 2177 | | 0 | | 0 | | 0 | 12308 | 5504 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Technical Engineering Services | MIPR | AATD | 1049 | 431 | 1Q | 0 | | 0 | | 0 | 1480 | 0 |
| b . Technical Engineering Services | MIPR | DCD | 156 | 156 | 1Q | 0 | | 0 | | 0 | 312 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1205 | 587 | | 0 | | 0 | | 0 | 1792 | 0 |

Remarks: None

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603801A - Aviation - Adv Dev**

PROJECT
**B33**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

Remarks: None

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Program Management Support | NA | | 262 | 162 | 1Q | 0 | | 0 | | 0 | 424 | 0 |
| b . Program Management In-House | NA | | 141 | 147 | 1-4Q | 0 | | 0 | | 0 | 288 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 403 | 309 | | 0 | | 0 | | 0 | 712 | 0 |

Remarks: None

| Project Total Cost: | | | 11739 | 3073 | | 0 | | 0 | | 0 | 14812 | 5504 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603801A - Aviation - Adv Dev**

PROJECT
**B33**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| AVIATION TURBINE ENGINE DIAGNOSTIC SYSTEM (ATEDS) - Develop Software | 4Q | 1-3Q | | | | | | |
| AVIATION TURBINE ENGINE DIAGNOSTIC SYSTEM (ATEDS) - Advanced Aircraft Software | | 4Q | 1-4Q | 1-4Q | 1-2Q | | | |
| AIRCRAFT CLEANING AND DE-ICING SYSTEM (ACDS) - Complete Eval & Specs | 1-4Q | | | | | | | |
| NEW AVIATION GROUND POWER SYSTEM (NAPS I) - Prototype Evaluation | 1-4Q | 1-2Q | | | | | | |
| NEW AVIATION GROUND POWER SYSTEM (NAPS II) - AGPU Eval & Specs | | 3-4Q | 1-4Q | 1-4Q | | | | |
| ADVANCED CARGO HANDLING SYSTEM (ACHS I & II) - Concept Exploration | | 2-4Q | | | | | | |
| ADVANCED CARGO HANDLING SYSTEM (ACHS I & II) - System Development & Demonstration | | | 1-4Q | | | | | |
| BATTLE DAMAGE ASSESSMENT & REPAIR KIT - Complete Electrical Repair Kits | 3-4Q | 1-2Q | | | | | | |
| BATTLE DAMAGE ASSESSMENT & REPAIR KIT - Develop & Prototype Fuel Cell & Fluid Line Kits | | 3-4Q | 1-2Q | | | | | |
| BATTLE DAMAGE ASSESSMENT & REPAIR KIT - Composite & Fiber Optic Repair | | | 3-4Q | 1-4Q | | | | |
| AVIATION VIBRATION ANALYZER (AVA II) - Concept Exploration | 3-4Q | 1-2Q | | | | | | |
| AVA II- Dem/Val | | 3-4Q | 1-2Q | | | | | |
| SWAGING TOOL KIT A/B - Procure Prototype | | | 1-2Q | | | | | |
| SWAGING TOOL KIT A/B - Demonstration/Validation | | | 3-4Q | 1-2Q | | | | |
| ADVANCED AVIATION TOWING EQUIPMENT (FUEL/ELECTRIC) - Concept Studies & Evaluation | | | 2-4Q | | | | | |
| ADVANCED AVIATION TOWING EQUIPMENT (FUEL/ELECTRIC) - Select, Evaluate & Demo Prototype | | | 1-4Q | 1-4Q | | | | |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603801A - Aviation - Adv Dev** | **B33** |

| **Schedule Detail (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603801A - Aviation - Adv Dev** | **B45** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B45 | AIRCREW INTEGRATED SYS-AD | 6597 | 4276 | 2873 | 2862 | 3437 | 3436 | 3516 | 3612 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** Project DB45 - Air Warrior Systems (AW) Advanced Development: This project provides advanced development programs for improved aviator safety, survivability, and human performance that amplify the warfighting effectiveness of the Army Transformation aircraft including the RAH-66 Comanche, AH-64 Apache/Longbow, CH-47 Improved Cargo Helicopter, and UH-60 Black Hawk. These programs include those systems and items of equipment that are unique and necessary to the sustainment, survivability, and performance of Army aircrews and troops on the future integrated battlefield and related training missions. Advanced development programs will focus on the development and evaluation of emerging technologies and the adaptation of commercial and nondevelopmental items (NDI) to military requirements. The Air Warrior (AW) program will provide the aircrew with a systems approach to chemical and biological (CB) protection, noise protection, microclimate conditioning, crash and post-crash survivability, concealment and environmental protection, ballistic protection, night vision capability, heads-up displays, directed energy eye protection, and flame/heat protection. Specifically, Air Warrior will enable the Army Aviation Warfighter to exceed the approved Operational Requirements Document mission length of 5.3 hours of flight operations, as opposed to the 1.6 hours of mission capability that exists today with aviators in full chemical/biological protective gear. The AW design will improve overall aircrew mission performance, aircrew comfort, aircrew and aircrew station interface, safety, and survivability. Advanced development will demonstrate and evaluate emerging technologies for integration into the Air Warrior ensemble through a series of block improvements. The Virtual Cockpit Optimization Program (VCOP) demonstrates an integrated system providing pilots with improved intuitiveness, sense of awareness, overall aircrew mission performance, aircrew and aircrew station interface, safety, and survivability by providing the pilot with augmented visionics, three-dimensional audio improvements, and visual data regarding aircraft systems status and operation, threat warnings, and improved transition and training of pilots who must operate a number of different aircraft platforms during different missions. This project in this Program Element does not duplicate any aircraft platform program efforts. Both joint and service independent efforts continue to be pursued under the scope of this project. This system supports the Objective transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Began advanced component development of Air Warrior preplanned Block 2 improvements. | 2677 | 0 | 0 | 0 |
| Continue advanced component development of Air Warrior preplanned Block 2 improvements. | 0 | 1688 | 2873 | 2862 |
| Continued Virtual Cockpit Optimization Program Advanced Component Development and Integration of technologies for simulation and demonstration. | 3920 | 2588 | 0 | 0 |
| Totals | 6597 | 4276 | 2873 | 2862 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| RDTE, A PE 0604801A PROJ DC45 - ACIS EMD | 5365 | 3481 | 2379 | 2390 | 2305 | 2302 | 2534 | 2631 | Continuing | Continuing |
| Aircraft Procurement, Army SSN AZ3110 - ACIS | 15092 | 14956 | 28894 | 28719 | 29573 | 34177 | 41354 | 38105 | Continuing | Continuing |

**C. Acquisition Strategy:** DB45 - An Air Warrior Program Definition and Risk Reduction development contract was awarded in FY1997 to perform a functional requirements analysis and consider user requirements and available technologies to optimize recommended alternatives within the constraints of cost as an independent variable. The Air Warrior basic ensemble program was approved to proceed into an engineering manufacturing development system life cycle phase in 1st Quarter, FY 1999. Currently, a combined government and contractor team is developing Air Warrior improvements and integrating those components into a Block 1 Air Warrior ensemble that will be integrated with the force modernization aircraft. Prototypes have been developed that represent the Block 1 Air Warrior ensemble for test and evaluation. The Air Warrior nonrecurring engineering began in FY2002 for unique installation for aircraft with Environmental Control Systems. Component advanced development of the Block 2 Air Warrior integrating joint and new technologies as block improvements to the Air Warrior ensemble began in FY 2002 and continues in FY 2003. Through a combined government and contractor team, the Virtual Cockpit Optimization Component Advanced Development and System Integration effort will investigate and demonstrate how a future rotary wing crewstation could be crafted to deal effectively with information overload on the digital battlefield. This effort also investigates the use of this technology in other crew stations, such as the Future Combat System.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603801A - Aviation - Adv Dev**

PROJECT
**B45**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Air Warrior Block Improvements Concept Development | C- C/FP | Various | 2059 | 572 | 1Q | 1775 | 2Q | 1762 | 2Q | Continue | Continue | Continue |
| b . Virtual Cockpit Optimization Program Concept Development | SS-CPFF | Microvision, Seattle, WA | 10731 | 2122 | 2Q | 0 | | 0 | | 10957 | 10957 | 10957 |
| | | | | | | | | | | | | |
| Subtotal: | | | 12790 | 2694 | | 1775 | | 1762 | | Continue | Continue | Continue |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Matrix Support | MIPR | Various Government | 2088 | 675 | 1-4Q | 508 | 1-4Q | 477 | 1-4Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 2088 | 675 | | 508 | | 477 | | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603801A - Aviation - Adv Dev**

PROJECT
**B45**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Air Warrior Block improvements System Development and Validation | MIPR | Various Government Agencies | 353 | 100 | 3Q | 0 | | 0 | | Continue | Continue | Continue |
| b . Virtual Retinal Display System Development and Validation | MIPR | Various Government Agencies | 512 | 0 | | 0 | | 0 | | 512 | 512 | 512 |
| c . VCOP | SS-CPFF | Microvision, Seattle WA | 90 | 0 | | 0 | | 0 | | 0 | 90 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 955 | 100 | | 0 | | 0 | | Continue | Continue | Continue |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . PM Administration | Allotment | Various Government | 345 | 807 | 1-4Q | 590 | 1-4Q | 623 | 1-4Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 345 | 807 | | 590 | | 623 | | Continue | Continue | Continue |
| Project Total Cost: | | | 16178 | 4276 | | 2873 | | 2862 | | Continue | Continue | Continue |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603801A - Aviation - Adv Dev** | **B45** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Completed Block 1 Air Warrior System Developmental and Operational Tests. | | 1Q | | | | | | |
| Began Air Warrior nonrecurring production engineering integration into aircraft platforms. | 2Q | | | | | | | |
| Air Warrior basic ensemble Full Rate Production Decision. | | 2Q | | | | | | |
| Advanced Component Development of Air Warrior Block improvements. | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| System Development and Demonstration of Air Warrior Block improvements. | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| VCOP components demonstration in Advanced Prototyping Engineering Experimentation (APEX) simulator | 2Q | 2Q | | | | | | |
| Air Warrior FUE | | | 2Q | | | | | |

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

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603802A - Weapons and Munitions - Adv Dev**

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Program Element (PE) Cost | | 33567 | 34257 | 31856 | 4868 | 0 | 0 | 4872 | 1460 | 0 | 138400 |
| AS2 | SMALL ARMS IMPROVEMENT | 1020 | 996 | 0 | 0 | 0 | 0 | 4872 | 1460 | 0 | 10595 |
| AS3 | OBJECTIVE INDIVIDUAL COMBAT WEAPON (OICW) PD/RR | 29860 | 25523 | 31856 | 4868 | 0 | 0 | 0 | 0 | 0 | 117380 |
| AS4 | MORTAR SYSTEMS | 2687 | 7738 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10425 |

**A. Mission Description and Budget Item Justification:** This program element addresses the modernization of existing Small Arms Weapons. This program develops existing and emerging technology to enhance lethality, target acquisition, fire control, training effectiveness and reliability for small arms weapons, munitions and mortar systems. It also supports development of XM29, Integrated Air Burst Weapon which represents the next generation individual soldier's weapon and provides the soldier with significant increases in individual weapon performance. It also provides for the Precision Guided Mortar Munition (PGMM). This is a precision strike round, using advanced sensors and guidance systems. It will be fired from the 120mm mortar weapon currently in the Army inventory. These systems support the legacy to Objective transition path of the Transformation Campaign Plan (TCP).

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 34197 | 27761 | 19952 | 4955 |
| Current Budget (FY 2004/2005 PB) | 33567 | 34257 | 31856 | 4868 |
| Total Adjustments | -630 | 6496 | 11904 | -87 |
| Congressional program reductions | | | | |
| Congressional rescissions | | -394 | | |
| Congressional increases | | 8100 | | |
| Reprogrammings | 320 | -222 | | |
| SBIR/STTR Transfer | -950 | -988 | | |
| Adjustments to Budget Years | | | 11904 | -87 |

Change Summary Explanation:
FY 03 - Mortar Systems (AS4) plus up for continuation of PGMM component advanced development and risk reduction. This program was increased as a result of Crusader termination and was reflected in the Amended FY03 Budget Submit.
FY 04 - Adjustment to comp lete Program Definition & Risk Reduction (PDRR)for XM29.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603802A - Weapons and Munitions - Adv Dev** | **AS3** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AS3 | OBJECTIVE INDIVIDUAL COMBAT WEAPON (OICW) PD/RR | 29860 | 25523 | 31856 | 4868 | 0 | 0 | 0 | 0 | 0 | 117380 |

**A. Mission Description and Budget Item Justification:** The XM29, Integrated Air Burst Weapon represents the next generation of the individual weapon system for U.S. Armed Services and specifically Objective Force Soldier. This modular dual barrel weapon system includes revolutionary high explosive air bursting munitions, standard NATO 5.56mm kinetic energy projectiles and an integrated, multifunctional, all environment, full-solution target acquisition/fire control system. The XM29 will provide decisively violent and suppressive target effects to ~500 meters. The XM29 provides the soldier with a 300-500% increase in hit probability to defeat point, area and defilade targets out to ~500 meters. It will dramatically increase soldier survivability, standoff and versatility. The XM29 will replace selected M16 Rifles and M4 Carbines. The lightweight XM8 Carbine derivative of the XM29 kinetic energy weapon is being evaluated to replace M4 Carbines. A report to the congressional defense committees on ?Army Assault Rifle Early Transformation? is due by 1 April 2003. This system supports the Legacy-to-Objective transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Program Development | 4337 | 3553 | 3006 | 1368 |
| PDRR Contract - Design and Analysis | 25023 | 13670 | 0 | 0 |
| PDRR Contract - Development and Fabrication | 0 | 7200 | 22000 | 0 |
| PDRR Contract - System Testing and Evaluation | 400 | 850 | 6850 | 3500 |
| PDRR Contract - Army Assault Rifle Early Transformation | 100 | 250 | 0 | 0 |
| Totals | 29860 | 25523 | 31856 | 4868 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| RDT&E: BA 5, PE 0604802A, Project 134 - Obj Ind Cbt Wpn Eng De | 0 | 0 | 0 | 35201 | 23373 | 0 | 0 | 0 | 0 | 58574 |
| WTCV: SSN G16100 - Objective Individual Combat Weapon | 0 | 0 | 0 | 0 | 26881 | 27141 | 25748 | 29430 | Continuing | Continuing |
| PAA: SSN E92500 - Integrated Air Burst Weapon System | 0 | 0 | 0 | 0 | 9800 | 12500 | 19628 | 15280 | Continuing | Continuing |

The XM29 program is scheduled to transition to BA 5 System Development and Demonstration (SDD) phase in FY 2005.

**C. Acquisition Strategy:** The Program Definition & Risk Reduction (PDRR) phase (Project DAS3) is utilizing modeling and simulation to support the development, building and testing of the weapon systems. The acquisition strategy utilizes an evolutionary approach to accelerate fielding of new capabilities.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603802A - Weapons and Munitions - Adv Dev**

PROJECT
**AS3**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Hardware Development XM29 System | Cost Plus Award Fee | Alliant Technology Systems, Plymouth,MN | 53612 | 21554 | 2Q | 28354 | 2Q | 3413 | 2Q | 0 | 106933 | 0 |
| b . Hardware Development XM8 Carbine | Cost Plus Fixed Fee | Alliant Technology Systems, Plymouth, MN | 100 | 250 | 2Q | 0 | | 0 | | 0 | 350 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 53712 | 21804 | | 28354 | | 3413 | | 0 | 107283 | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Development Support | MIPR | Multiple | 5861 | 1714 | 1-3Q | 1042 | 1-3Q | 120 | 2Q | 0 | 8737 | 0 |
| b . ILS Support | MIPR | Multiple | 440 | 185 | 1-3Q | 150 | 1-3Q | 75 | 2Q | 0 | 850 | 0 |
| c . Training and Sims | MIPR | Multiple | 1064 | 60 | 2Q | 50 | 2Q | 50 | 2Q | 0 | 1224 | 0 |
| d . AMSAA | MIPR | Aberdeen Proving Ground, MD | 320 | 0 | | 0 | | 0 | | 0 | 320 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 7685 | 1959 | | 1242 | | 245 | | 0 | 11131 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603802A - Weapons and Munitions - Adv Dev**

PROJECT
**AS3**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Developmental Technical Testing | MIPR | Army Test & Evaluation Command, VA and TACOM-ARDEC, Picatinny Arsenal, NJ | 1252 | 750 | 1-4Q | 1000 | 1-4Q | 700 | 1-2Q | 0 | 3702 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1252 | 750 | | 1000 | | 700 | | 0 | 3702 | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Program Management | In House | PM Soldier Weapons | 1296 | 500 | 1-4Q | 600 | 1-4Q | 360 | 1-2Q | 0 | 2756 | 0 |
| b . Travel | In House | PM Soldier Weapons | 242 | 110 | 1-4Q | 110 | 1-4Q | 50 | 1-2Q | 0 | 512 | 0 |
| c . Program Management Support | Firm Fixed Price and Cost Plus Fixed Fee | Multiple | 1265 | 0 | | 0 | | 0 | | 0 | 1265 | 0 |
| d . Program Management Support | Time & Material | Contractor TBD | 0 | 400 | 2Q | 550 | 2Q | 100 | 2Q | 0 | 1050 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603802A - Weapons and Munitions - Adv Dev**

PROJECT
**AS3**

| IV. Management Services (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 2803 | 1010 | | 1260 | | 510 | | 0 | 5583 | 0 |
| Project Total Cost: | | | 65452 | 25523 | | 31856 | | 4868 | | 0 | 127699 | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603802A - Weapons and Munitions - Adv Dev** | **AS3** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Critical Design Review (CDR) | | 3Q | | | | | | |
| Pre-Production Test (PPT) | | | 4Q | | | | | |
| Interim Progress Review (IPR) | | | | 3Q | | | | |

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

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603804A - Logistics and Engineer Equipment - Adv Dev**

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Program Element (PE) Cost | | 7412 | 9243 | 12008 | 10713 | 17676 | 21495 | 22372 | 21881 | Continuing | Continuing |
| 526 | MARINE ORIEN LOG EQ AD | 3232 | 3242 | 3759 | 3824 | 3996 | 3213 | 4521 | 4426 | 0 | 32426 |
| G10 | ADV TAC PWR SOURCES AD | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3280 |
| G11 | ADV ELEC ENERGY CON AD | 871 | 1480 | 1501 | 1477 | 2831 | 3426 | 4003 | 3204 | Continuing | Continuing |
| G14 | MATERIALS HANDLING EQUIPMENT - AD | 193 | 187 | 197 | 197 | 196 | 196 | 196 | 196 | 0 | 1380 |
| K39 | FIELD SUSTAINMENT SUPPORT AD | 879 | 0 | 6074 | 4737 | 10178 | 10265 | 10196 | 10680 | Continuing | Continuing |
| K41 | WATER AND PETROLEUM DISTRIBUTION - AD | 2234 | 4334 | 477 | 478 | 475 | 4395 | 3456 | 3375 | 0 | 25260 |

**A. Mission Description and Budget Item Justification:** This program supports advanced component development and prototypes of new and improved technologies for combat support and combat service support equipment essential to sustaining combat operations. Advancements in watercraft, bridging, electric power generators and batteries, potable water, material-handling, environmental control and petroleum equipment are necessary to improve safety and increase the tactical mobility, operational capability, lethality and survivability on the digital battlefield and to provide for greater sustainment while reducing the logistics support burden.

These systems support the Legacy-to-Objective transition path of the Transformation Campaign Plan (TCP).

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 6399 | 11419 | 9443 | 9166 |
| Current Budget (FY 2004/2005 PB) | 7412 | 9243 | 12008 | 10713 |
| Total Adjustments | 1013 | -2176 | 2565 | 1547 |
| Congressional program reductions | | -1760 | 2565 | 1547 |
| Congressional rescissions | | -156 | | |
| Congressional increases | | | | |
| Reprogrammings | 1176 | | | |
| SBIR/STTR Transfer | -163 | -260 | | |
| Adjustments to Budget Years | | | | |

Explanation of changes:K39 Renamed to Field Sustainment Support from Environmental Systems and adds funding.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603804A - Logistics and Engineer Equipment - Adv Dev** | **526** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 526 | MARINE ORIEN LOG EQ AD | 3232 | 3242 | 3759 | 3824 | 3996 | 3213 | 4521 | 4426 | 0 | 32426 |

**A. Mission Description and Budget Item Justification:** Supports advanced component development and prototype equipment for the Army's Logistics-Over-The-Shore (LOTS) missions. Chief among this equipment is the Theater Support Vessel (TSV). The Objective TSV will operate at speeds up to four times as great as the current Logistics Support Vessel (LSV)fleet. This will provide the Army with capability to support operational maneuver from standoff distance; by-pass land-based chokepoints, and reduce the logistics footprint in the Area of Responsibility. This ability to transport both troops and their equipment, and to provide an Enroute Mission Planning and Rehearsal System, does not exist today.

The evolutionary acquisition features the current lease of a commercial fast ferry (in cooperation with the U.S. Navy (HSV X-1)), and a lease for another (more capable) fast ferry (TSV-1X), for technology demonstration purposes,currently funded in PE 0604804A.

These systems support the Legacy-to-objective transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Continue support for TSV advanced development to include programmatic documentation. | 0 | 3242 | 3759 | 3824 |
| Obtain Theater Support Vessel (TSV) Decision Review (pre Milestone B), develop TEMP, and verify TSV performance requirements. | 2972 | 0 | 0 | 0 |
| Complete program documentation, i.e. purchase description (PD), Modified Intregated Program Summary (MIPS) for the Harbormaster Command and Control Center (HCCC). | 260 | 0 | 0 | 0 |
| Totals | 3232 | 3242 | 3759 | 3824 |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603804A - Logistics and Engineer Equipment - Adv Dev** | **526** |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| RDTE, 0604804A, 461, Marine Oriented Logistics, Engineering | 10925 | 37046 | 61923 | 65935 | 3326 | 5175 | 5174 | 2989 | Continuing | Continuing |
| OPA 3, M11200, Logistic Support Vessel (LSV) | 25817 | 10800 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 36617 |
| OPA 3, M11203, Theatre Support Vessel(TSV) | 0 | 0 | 0 | 0 | 33218 | 33197 | 356511 | 373005 | Continuing | Continuing |

**C. Acquisition Strategy:** TSV technical efforts will be conducted primarily with the Naval Surface Warfare Center (NSWC). NSWC can call on both in-house and contract resources (based on workload and expertise) to cover Army requirements. The Acquisition Strategy calls for evolutionary/spiral development of commercial based technology with military adaptations.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603804A - Logistics and Engineer Equipment - Adv Dev**

PROJECT
**526**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . TSV Studies/Development | PWD | TBD | 1942 | 0 | | 1439 | 1-4Q | 1004 | | Continue | 4385 | 0 |
| b . TSV - composite prototype hull design | MIPR | Naval Underwater Warfare Center, Newport, R.I. | 0 | 1600 | 2-4Q | 0 | | 0 | | 0 | 1600 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1942 | 1600 | | 1439 | | 1004 | | Continue | 5985 | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . TSV/Matrix Support | MIPR | TACOM CBU, Warren, MI | 139 | 420 | 2-3Q | 420 | 1-4Q | 420 | 1-4Q | Continue | Continue | Continue |
| b . TSV - composite prototype hull design | MIPR | CASCOM, Ft. Lee, VA | 229 | 400 | 2-3Q | 400 | 2Q | 400 | 2Q | Continue | Continue | Continue |
| c . TSV/Matrix Support | MIPR | TARDEC, Warren, MI/ICI | 170 | 0 | | 0 | | 0 | | 0 | 170 | Continue |
| d . TSV/In-house | MIPR | PM Force Projection, Warren, MI | 832 | 672 | 2Q | 1000 | 2Q | 1500 | 2Q | Continue | 4004 | Continue |
| e . TSV - composite prototype hull design | MIPR | USAEC, Ft. Eustis, VA | 100 | 0 | | 0 | | 0 | | 0 | 100 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603804A - Logistics and Engineer Equipment - Adv Dev**

PROJECT
**526**

| II. Support Cost (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| f . Harbormaster Command and Control Center (HCCC)/Matrix Support | MIPR | TARDEC, Warren, MI | 107 | 0 | | 0 | | 0 | | 0 | 107 | 0 |
| g . HCCC/In-house | MIPR | PM Force Projection, Warren, MI | 53 | 0 | | 0 | | 0 | | 0 | 53 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1630 | 1492 | | 1820 | | 2320 | | Continue | Continue | Continue |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . TSV | MIPR | DTC/ATEC, MD | 421 | 150 | 2-3Q | 500 | 2Q | 500 | 2Q | Continue | Continue | Continue |
| b . Harbormaster Command and Control Center (HCCC | MIPR | USATCFE, Ft. Eustis, VA | 100 | 0 | | 0 | | 0 | | 0 | 100 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 521 | 150 | | 500 | | 500 | | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603804A - Logistics and Engineer Equipment - Adv Dev**

PROJECT
**526**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . TSV/In-house | MIPR | PM Force Projection, TACOM, Warren, MI | 510 | 0 | | 0 | | 0 | | 0 | 510 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 510 | 0 | | 0 | | 0 | | 0 | 510 | Continue |
| Project Total Cost: | | | 4603 | 3242 | | 3759 | | 3824 | | Continue | Continue | Continue |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603804A - Logistics and Engineer Equipment - Adv Dev**

PROJECT
**526**

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Theatre Support Vessel Concept Development | 2-3Q | 2-4Q | 1-4Q | 1-4Q | | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603804A - Logistics and Engineer Equipment - Adv Dev** | **G11** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| G11 ADV ELEC ENERGY CON AD | 871 | 1480 | 1501 | 1477 | 2831 | 3426 | 4003 | 3204 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** The Mobile Electric Power (MEP) program was established by the Department of Defense to develop a Modernized, Standard Family of Mobile Electric Power Sources for all Services throughout the Department of Defense. This project provides concept and technology development that will improve the performance, mobility, readiness and survivability of the next generation power sources in support of the Army. It support initiatives that are essential to the development and fielding to modernized mobile electric power (MEP) sources from 0.5 KW to 920 KW that comply with environmental statutes and provide lower noise, improved fuel and electrical efficiency, significantly reduced weight, enhanced portability, improved reliability, and maintainability.

This system supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Completed testing of Advanced Medium Mobile Power Sources (AMMPS) prototype components. | 871 | 0 | 0 | 0 |
| Initiate Man Portable Power (MPP) Program. | 0 | 1380 | 0 | 0 |
| Investigate availability of commercial technology and components to be used for development of a new intelligent Power Management Distribution System (PMDS) | 0 | 100 | 100 | 0 |
| Test and assess commercially available components for MPP. | 0 | 0 | 1401 | 0 |
| Develop MPP proof of principle prototype. | 0 | 0 | 0 | 1477 |
| Totals | 871 | 1480 | 1501 | 1477 |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603804A - Logistics and Engineer Equipment - Adv Dev** | **G11** |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| RDT&E:PE0604804A, 194 Engine Driven Generators | 4817 | 7296 | 5248 | 6644 | 7412 | 9292 | 5491 | 5127 | Continuing | Continuing |
| OPA 3, MA9800 Generators and Associated Equipment | 60475 | 77038 | 62853 | 66485 | 71966 | 69901 | 89802 | 87365 | Continuing | Continuing |

**C. Acquisition Strategy:** Complete advanced development and transition to system development and demostration phase and transition to production.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603804A - Logistics and Engineer Equipment - Adv Dev**

PROJECT
**G11**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . AMMPS Prototypes | TBD | TBD | 141 | 0 | | 0 | | 0 | | Continue | Continue | 0 |
| b . MPP Components | MIPR | CECOM - Belvoir | 0 | 720 | 1Q | 250 | 1Q | 0 | | Continue | Continue | 0 |
| c . PMDS Components | TBD | | 0 | 60 | 1Q | 0 | | 0 | | Continue | Continue | 0 |
| d . MPP Prototypes | MIPR | CECOM - Belvoir | 0 | 0 | | 0 | | 860 | 1Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 141 | 780 | | 250 | | 860 | | Continue | Continue | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . AMMPS Prototypes | TBD | TBD | 730 | 0 | | 0 | | 0 | | Continue | Continue | 0 |
| b . MPP Components | MIPR | CECOM-Belvoir | 0 | 360 | 1Q | 310 | 1Q | 0 | | Continue | Continue | 0 |
| c . PMDS Components | MIPR | CECOM-Belvoir | 0 | 40 | 1Q | 40 | 1Q | 0 | | Continue | Continue | 0 |
| d . MPP Prototypes | MIPR | CECOM-Belvoir | 0 | 0 | | 0 | | 425 | 1Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 730 | 400 | | 350 | | 425 | | Continue | Continue | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603804A - Logistics and Engineer Equipment - Adv Dev**

PROJECT
**G11**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . AMMPS Prototypes | TBD | TBD | 441 | 0 | | 0 | | 0 | | Continue | Continue | 0 |
| b . MPP Components | MIPR | CECOM-Belvoir | 0 | 150 | 1Q | 691 | 1Q | 42 | 1Q | Continue | Continue | 0 |
| c . PMDS Components | MIPR | CECOM-Belvoir | 0 | 0 | | 60 | 1Q | 0 | | Continue | Continue | 0 |
| d . MPP Prototypes | MIPR | CECOM-Belvoir | 0 | 0 | | 0 | | 0 | | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 441 | 150 | | 751 | | 42 | | Continue | Continue | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . AMMPS Prototypes | TBD | TBD | 250 | 0 | | 0 | | 0 | | Continue | Continue | 0 |
| b . MPP Components | In-house | PEO In-house | 0 | 150 | 1Q | 150 | 1Q | 0 | | Continue | Continue | 0 |
| c . MPP Prototypes | In-House | PEO In-house | 0 | 0 | | 0 | | 150 | 1Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603804A - Logistics and Engineer Equipment - Adv Dev**

PROJECT
**G11**

| IV. Management Services (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Subtotal: | | | 250 | 150 | | 150 | | 150 | | Continue | Continue | 0 |
| Project Total Cost: | | | 1562 | 1480 | | 1501 | | 1477 | | Continue | Continue | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603804A - Logistics and Engineer Equipment - Adv Dev**

PROJECT
**G11**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Complete testing of AMMPS prototype components | 4Q | | | | | | | |
| Initiate MPP Program | | 1Q | | | | | | |
| Initiate PMDS Program | | 1Q | | | | | | |
| Initiate testing of the PMDS components | | | 1Q | | | | | |
| Test and assess commercially available MPP components | | | 1Q | | | | | |
| Develop MPP proof of principle prototype using best available commercial components | | | | 1Q | | | | |
| Complete MPP proof of principle prototype | | | | | 2Q | | | |
| Initiate test and evaluation of MPP proof of principle prototype | | | | | 3Q | | | |
| Complete test and evaluation of MPP proof of principle prototype | | | | | | 2Q | | |
| Transfer MPP program to System Development and Demostration | | | | | | 2Q | | |
| Initiate Large Advanced Mobile Power Sources (LAMPS) Program | | | | | | 2Q | | |
| Complete engineering assessment and component market surveys for LAMPS | | | | | | | 2Q | |
| Test and assess commercially available components for LAMPS | | | | | | | | 1Q |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603804A - Logistics and Engineer Equipment - Adv Dev** | **K39** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| K39 FIELD SUSTAINMENT SUPPORT AD | 879 | 0 | 6074 | 4737 | 10178 | 10265 | 10196 | 10680 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This project supports development of critical soldier support and sustainment systems such as shelter systems (rigid and soft wall), showers, latrines, heaters, environmental control units and other combat service support equipment that will improve unit sustainability and combat effectiveness. This project also supports Advanced Component Development and Prototyping of Critical Distribution Capabilities to include: cargo aerial delivery systems, improved safety and accuracy, increased survivability of aircraft, personnel, and equipment. Supports the development of tactical rigid-wall shelters which provide highly mobile, joint service platforms for the digitization of the battlefield, housing of critical vehicle-mounted battlefield systems, medical care capabilities and high tech maintenance. This project develops critical enablers that support the Quarter Master(QM) Force Transformation Strategy.

This project supports the Legacy-to-Objective transition path of the Army's Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Conduct Milestone B, prepare and award developmental contract, and initiate prototype design of the Clothing Repair System (CRS). | 0 | 0 | 500 | 408 |
| Acquire test prototypes, conduct Test and Evaluation on Cargo Bed Covers (CBCs) type 5 & 6. Initiate program documentation and complete Milestone C for Type 5 & 6. | 0 | 0 | 626 | 0 |
| Fabricated 9k, 18k, and 36k British Thermal Unit (BTU) Improved Environmental Control Unit (IECU) prototypes for initial evaluation of operational suitability and contract down-select. | 879 | 0 | 0 | 0 |
| Conduct testing of Extraction Parachute Jettison Device (Heavy) (EPJS(H))to evaluate the integration of subsystems and components coupled with aircraft compatibility. Conduct Milestone C. | 0 | 0 | 700 | 0 |
| Complete Market Investigation and consolidate existing data to support a Milestone B Decision on the Precision Airdrop System. Conduct initial testing to evaluate integrated technologies and assess integration risks. | 0 | 0 | 0 | 1486 |
| Fabricate Ballistic Protection System prototypes for initial evaluation, operational suitability, and contract down-select. | 0 | 0 | 898 | 0 |
| Conduct testing of Low Cost Aerial Delivery System (LCADS) to evaluate subsystems and components and aircraft compatibility. | 0 | 0 | 1350 | 854 |
| Fabricate Space Heater Convective prototypes for initial evaluation of operational suitability. | 0 | 0 | 600 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Fabricate 9k British Thermal Unit (BTU) horizontal and 18k BTU vertical 3-phase IECU prototypes for initial evaluation of operational suitability and contract down-select. | 0 | 0 | 1400 | 1000 |
| Complete Market Investigation and consolidate existing data to support a Milestone B Decision on the Advanced Low-Velocity Airdrop (Heavy) Capability. Initiate evaluation of integrated technologies and assess integration risks. | 0 | 0 | 0 | 989 |
| Totals | 879 | 0 | 6074 | 4737 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| OPA3, MF9000 Control Unit, Environmental | 7163 | 14423 | 13544 | 17377 | 10416 | 21353 | 28421 | 28206 | Continuing | Continuing |

**C. Acquisition Strategy:** Accelerate product development and testing to transition to System Development & Demonstration and/or Production.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603804A - Logistics and Engineer Equipment - Adv Dev**

PROJECT
**K39**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Soldier Support Equipment | In-House | PM Forces Sustainment Sys (FSS), Natick | 0 | 0 | | 1400 | 1-4Q | 950 | 1-4Q | Continue | Continue | 0 |
| b . Soldier Support Equipment | Contracts | Various | 879 | 0 | | 2150 | 1-2Q | 1079 | 1-2Q | Continue | 4108 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 879 | 0 | | 3550 | | 2029 | | Continue | Continue | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603804A - Logistics and Engineer Equipment - Adv Dev**

PROJECT
**K39**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Soldier Support Equipment | MIPR | DTC, MD and ATC, MD | 0 | 0 | | 200 | 1-4Q | 150 | 1-4Q | Continue | Continue | 0 |
| b . Soldier Support Equipment | MIPR | Yuma Proving Ground, AZ | 0 | 0 | | 1500 | 1-4Q | 1808 | 1-4Q | Continue | 3308 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 1700 | | 1958 | | Continue | Continue | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Project Management Support | In-House | PM Forces Sustainment Sys (FSS), Natick | 0 | 0 | | 824 | 1-4Q | 750 | 1-4Q | Continue | 1574 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 824 | | 750 | | Continue | 1574 | 0 |
| Project Total Cost: | | | 879 | 0 | | 6074 | | 4737 | | Continue | Continue | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603804A - Logistics and Engineer Equipment - Adv Dev**

PROJECT
**K39**

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| 9k, 18k, and 36k BTU IECU contract down-select. | | 4Q | | | | | | |
| Conduct Milestone B Decision on the Clothing Repair System. | | | 1Q | | | | | |
| Conduct Milestone C Decision on Cargo Bed Cover variants 5 and 6. | | | 4Q | | | | | |
| Conduct Milestone B Decision on the Advanced Low-Velocity Airdrop (Heavy) Capability. | | | | 3Q | | | | |
| Conduct Milestone C Decision of The Extraction Parachute Jettison System - Heavy | | | 4Q | | | | | |
| Transition the Clothing Repair System to System Development and Demonstration (SDD). | | | | 4Q | | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603805A - Combat Service Support Control System Evaluation a** | **091** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 091 | CBT SVC SPT CONTRL SYS | 8395 | 8415 | 8682 | 8658 | 3947 | 3945 | 2239 | 2351 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** The Combat Service Support Control System (CSSCS) is the Combat Service Support component of the Army Battle Command System (ABCS). CSSCS is a network of workstations that provides a suite of combat service support capabilities and exchange messages in near real time. It provides the critical combat power assessment capability across the range of combat forces (e.g., light, medium, heavy)for the Legacy to Objective Force. CSSCS is the fulcrum between transformation logistics enablers and combat power. It automates current manual processes for force-level planning and supports decision-making by the war fighting commanders, the combat service support commanders and their staffs. This system supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Completed Version 4.6.2 development. | 1014 | 0 | 0 | 0 |
| Add Version 4.6.3 (Initial Combat power). | 1578 | 653 | 0 | 0 |
| CSSCS Version 5.0 (ABCS 7.0/SWB 1) Development | 3144 | 5617 | 5985 | 6368 |
| Support to Stryker Brigade Combat Team (SBCT)/Warfighting Experiments/Counter Attack Corps) | 2659 | 2145 | 1865 | 1864 |
| Support to Training Development (Performance Support System/Distributed Training Vehicle (PSS/DTV) | 0 | 0 | 832 | 426 |
| Totals | 8395 | 8415 | 8682 | 8658 |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603805A - Combat Service Support Control System Evaluation a** | **091** |

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 8621 | 8971 | 9138 | 9122 |
| Current Budget (FY 2004/2005 PB) | 8395 | 8415 | 8682 | 8658 |
| Total Adjustments | -226 | -556 | -456 | -464 |
| Congressional program reductions | | -348 | | |
| Congressional rescissions | | | | |
| Congressional increases | | | | |
| Reprogrammings | 14 | | | |
| SBIR/STTR Transfer | -240 | -208 | | |
| Adjustments to Budget Years | | | -456 | -464 |

| **C. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| Procurement, OPA 2 (W34600) | 24507 | 24314 | 22197 | 25570 | 13129 | 7141 | 4840 | 2984 | Continue | Continue |
| Standardized Integrated Command Post Systems (SICPS) (BZ9962) | 2067 | 1672 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3739 |

**C. Other Program Funding Summary:** Note: Beginning in FY04, SICPS funding is rolled into CSSCS (W34600).

**D. Acquisition Strategy:** The Acquisition strategy uses a spiral development process. Program development is structured for capabilities to mature and evolve over successive software versions. Versions 1 and 2 served as proof of principle. They provided initial division-level CSS functional capability on common hardware. Version 3 was built on the capabilities of the two previous versions and provided an Initial Operational Capability at Division and Corps level. This included initial horizontal interoperability with other Battlefield Functional Area (BFA) systems. Version 4 extends CSSCS to Echelons Above Corps (EAC), provides added capabilities at Echelons Corps and Below (ECB) and extends integration with ABCS systems. Version 5 provides echelon support planning and enhanced combat power capabilities. The objective CSSCS software will provide remaining ECB functionality and extend CSSCS capabilities to joint, allied and coalition forces. TRW is the software development contractor. Lockheed Martin Corporation (LMC) provides training development. Hardware is procured from the Common Hardware Systems-2 (CHS-2) contract with General Dynamics (GD). Currently the CHS hardware with CSSCS software is being mounted on Standardized Integrated Command Post Systems (SICPS).

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603805A - Combat Service Support Control System Evaluation a**

PROJECT
**091**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Software Development | SS/TM | TRW, Carson, CA | 113581 | 5316 | 1-2Q | 6190 | 1-2Q | 6510 | 1-2Q | Continue | Continue | Continue |
| b . Training Development | C/TM | Lockheed Martin, Tinton Falls, NJ | 9503 | 1593 | 1-2Q | 832 | 1-2Q | 426 | 1-2Q | Continue | Continue | Continue |
| c . ABCS SE&I Effort | MIPR | PEO C3S, Ft Monmouth, NJ | 7485 | 201 | 1-2Q | 0 | | 0 | | 0 | 7686 | 7686 |
| d . GFE | MIPR | Various | 3601 | 0 | | 0 | | 0 | | 0 | 3601 | 3601 |
| | | | | | | | | | | | | |
| Subtotal: | | | 134170 | 7110 | | 7022 | | 6936 | | Continue | Continue | Continue |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . CECOM, Matrix | MIPR | FT. Monmouth , NJ & Ft. Belvoir, VA | 5154 | 0 | | 0 | | 0 | | 0 | 5154 | 5154 |
| b . Technical Support | MIPR | EER, Fort Lee, VA | 8321 | 0 | | 0 | | 0 | | 0 | 8321 | 8321 |
| c . Acquisition Support | MIPR | LMI, McLean, VA | 1075 | 0 | | 0 | | 0 | | 0 | 1075 | 1075 |
| | | | | | | | | | | | | |
| Subtotal: | | | 14550 | 0 | | 0 | | 0 | | 0 | 14550 | 14550 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603805A - Combat Service Support Control System Evaluation a**

PROJECT
**091**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . GOVT | MIPR | VARIOUS | 5575 | 0 | | 0 | | 0 | | 0 | 5575 | 5575 |
| b . Dev. Testing & Eval. | MIPR | EPG, VARIOUS | 1028 | 0 | | 0 | | 0 | | 0 | 1028 | 1028 |
| c . Oper. Testing | MIPR | ATEC, VARIOUS | 1628 | 120 | 1-4Q | 120 | 1-4Q | 120 | 1-4Q | 0 | 1988 | 2468 |
| | | | | | | | | | | | | |
| Subtotal: | | | 8231 | 120 | | 120 | | 120 | | 0 | 8591 | 9071 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Program Office Management | In House | FT. BELVOIR, VA | 18319 | 1185 | 1-4Q | 1540 | 1-4Q | 1602 | 1-4Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 18319 | 1185 | | 1540 | | 1602 | | Continue | Continue | Continue |
| Project Total Cost: | | | 175270 | 8415 | | 8682 | | 8658 | | Continue | Continue | Continue |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603805A - Combat Service Support Control System Evaluation a** | **091** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Complete Version 4.6.2 | 4Q | | | | | | | |
| Added Version 4.6.3 (Initial Combat power) | 3-4Q | 1-2Q | | | | | | |
| CSSCS Version 5.0 (ABCS 7.0/SWB 1) Design | 1-4Q | 1-4Q | 1-2Q | | | | | |
| CSSCS Version 5.0 (ABCS 7.0/SWB 1) Development | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-3Q | | |
| CSSCS Version 5.0 (ABCS 7.0/SWB 1) Operational Evaluation | | | | | | 4Q | 1-3Q | |
| CSSCS Version 5.0 Support | | 4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | |
| Support to SBCT/Warfighting Experiments/Counter Corps | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Support Training Development including Performance Support System/Distributed Training Vehicle | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |

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

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603807A - Medical Systems - Adv Dev**

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Program Element (PE) Cost | | 19270 | 13340 | 11042 | 10012 | 10223 | 11694 | 13043 | 12545 | Continuing | Continuing |
| 808 | DOD DRUG & VACC AD | 3945 | 4882 | 5546 | 5281 | 5433 | 5367 | 6307 | 6074 | Continuing | Continuing |
| 811 | MIL HIV VAC&DRUG DEV | 6083 | 0 | 136 | 0 | 147 | 148 | 148 | 148 | 0 | 12339 |
| 836 | COMBAT MEDICAL MATL AD | 4070 | 3885 | 4227 | 3980 | 3691 | 3661 | 4726 | 4536 | Continuing | Continuing |
| 837 | SOLDIER SYS PROT-AD | 856 | 848 | 1133 | 751 | 952 | 2518 | 1862 | 1787 | Continuing | Continuing |
| A01 | COMBAT SUPPORT HOSPITAL - MOBILE SURGICAL UNIT | 0 | 2387 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2387 |
| MD4 | FUTURE MEDICAL SHELTER | 3358 | 1338 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4696 |
| MD5 | IMED TOOLS RURAL MOBILE COMMS | 958 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 958 |

**A. Mission Description and Budget Item Justification:** This program element (PE) funds advanced development of medical materiel within the early-on system integration within the System Development and Demonstration portion of the acquisition life cycle. The PE supports the transition of Science and Technology initiatives, prototypes, or candidate technologies into the first scale-up, integrated models for initial test and evaluation both technically and operationally when applicable. These programs have been aligned to meet Objective Force (OF) requirements stressed within the concept documents and organizational structures. The PE provides funding for early Phase 1 and 2 Food and Drug Administration regulated human clinical trials. The major enablers that will be supported by this PE are:

Infectious disease vaccines and preventive drugs that will reduce the risk of service members contracting these debilitating or fatal diseases, especially within a battlefield of growing potentials as urban warfare risks increase. Disease and non-battle injury (DNBI) rates are the largest contributor to medical footprint, and reduction in ill patients could have a significant reduction in echelon 3 facilities. Equally important, the reduction of patient evacuation within OF units will act as a force multiplier because timely replacement of these uniquely skilled soldiers will be nearly impossible.

Combat Casualty Care devices and biologics that have two major focuses: enhance forward care at the first responder level and reduce footprint of medical organizations for greater mobility and easier sustainment. The OF concept will place soldiers into a more austere environment with lengthened evacuation times (both arrival and transit). This requires greater capability in the hands of medics and first responders to save lives and extend stabilization. Reduction in weight, cube, and sustainment will allow medical units to increase mobility and maintain contact with their supported maneuver units.

Soldier Performance Enhancers in the form of drugs or diagnostics that will allow commanders to increase soldiers' cognitive awareness and stamina. This has direct relationship to increased soldier capabilities and a potential to reduce casualties.

Military HIV Vaccine and Drug Development – Funds militarily relevant HIV medical countermeasures including advanced component development of sufficient candidate vaccines and drugs to permit large-scale field testing and education/training materials.

This program is managed by the U.S. Army Medical Research and Materiel Command.

This program supports the OF transition path of the Transformation Campaign Plan (TCP).

There are no Defense Emergency Response Funds provided to this program or project.

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 19872 | 10398 | 10245 | 11309 |
| Current Budget (FY 2004/2005 PB) | 19270 | 13340 | 11042 | 10012 |
| Total Adjustments | -602 | 2942 | 797 | -1297 |
| Congressional program reductions | | | | |
| Congressional rescissions | | -584 | | |
| Congressional increases | | 3900 | | |
| Reprogrammings | -139 | -88 | | |
| SBIR/STTR Transfer | -463 | -286 | | |
| Adjustments to Budget Years | | | 797 | -1297 |

Change Summary Explanation: Funding – FY 2004 increase to support accelerated product development in combat casualty care and infectious diseases to meet OF timelines, and the Army TCP. FY 2005 funds realigned in support of higher priority programs.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603807A - Medical Systems - Adv Dev** | **808** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 808 | DOD DRUG & VACC AD | 3945 | 4882 | 5546 | 5281 | 5433 | 5367 | 6307 | 6074 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This project funds technical development of candidate medical countermeasures to infectious diseases that occur within military relevant areas of the world. These products fall within three major areas: vaccines, drugs, and diagnostic kits. The funds support Phase 1 and 2 human clinical trials for safety, immunogenicity, and small-scale efficacy testing. This work, which is performed in military laboratories or civilian pharmaceutical firms, is directed toward the prevention of disease, early diagnosis if contracted, and speed recovery once diagnosed. These trials are required to meet Food and Drug Administration (FDA) regulatory approval guidance, a mandatory obligation for all military products placed into the hands of medical providers or service memb ers. Priority is based upon four major factors: the extent of the disease within the Combatant Commands theater of operations, the clinical severity of the disease, the technical maturity of the proposed solution, and the affordability of the solution (development and production). The reduction in risk to contract infectious diseases within the force supports the Army Transformation Campaign Plan (TCP) and directly enables the Objective Force (OF) concept through reduction of evacuations of uniquely qualified soldiers and decrease in medical footprint to sustain these evacuees.

Major contractors include: Southern Research Institute, Birmingham AL; Iguana L.L.C., Thomasville, GA; and Kenya Medical Research Institute, Nairobi, Kenya.

There are no Defense Emergency Response Funds provided to this program or project.

| Accomplishments/Planned Program | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Reviews, evaluations, and trials of malarial/anti-malarial vaccines, drugs, and diagnostics: In FY02, conducted Phase 1 clinical trial of new dose regimen of RTS,S malaria vaccine with a new adjuvant (immune enhancer); conducted first year of a multiyear Phase 2 safety and efficacy trial with RTS,S in Kenya; successfully completed developmental testing of prototype kits that will be used by preventive medicine teams for rapid detection of Plasmodium-infected mosquitoes; conducted Milestone (MS) B/C for the rapid detection of Plasmodium-infected mosquitoes. In FY03, conduct true negative trials with the Malaria Rapid Diagnostic Device (MRDD); continue a Phase 2 safety and efficacy trial with RTS,S P. falciparum vaccine in U.S. volunteers; conduct a MS B In Process Review (IPR) for MRDD. In FY04, transition the MRDD to full-rate production and deployment. | 791 | 732 | 388 | 0 |
| Clinical trials, safety evaluations, and reviews of diarrheal vaccines: In FY02, completed Phase 2 safety and efficacy field trial for Shigella flexneri vaccine in Bangladesh. In FY03, plan to conduct a program initiation IPR for the Shigella sonnei vaccine; complete Phase 2 clinical efficacy evaluation of Shigella sonnei vaccine for the prevention of traveler's diarrhea. In FY04, conduct a program initiation/MS B IPR and a Phase 1 clinical safety evaluation of the Shigella dysenteriae vaccine; conduct a Phase 2 efficacy trial in U.S. volunteers of the Shigella flexneri vaccine, conduct a MS B IPR for Shigella flexneri vaccine. In FY05, conduct a Phase 2 safety and efficacy study with Shigella dysenteriae vaccine; complete a Phase 2 efficacy trial of the Shigella flexneri vaccine in Americans. | 150 | 1123 | 1719 | 2376 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Trials, evaluations, and reviews for grouped infectious disease vaccines and drugs (Hepatitis E and Leishmania): In FY02, continued a multiyear Phase 2 field trial in Nepal to evaluate the effectiveness of the Hepatitis E vaccine; produced Phase 1 and Phase 2 Good Manufacturing Practices (GMP) test kits; conducted a Phase 1 safety trial for the Leishmania mexicana skin test kits; continued to conduct Phase 2 clinical trial of paromomycin/gentamicin topical antileishmanial cream to treat Old World leishmaniasis. In FY03, continue a multiyear Phase 2 field trial in Nepal to evaluate the effectiveness of Hepatitis E vaccine; conduct a MS B IPR for the Leishmania skin test kits; submit a new Investigational New Drug (IND) for GMP L. tropica skin test kits and prepare for Phase 1 safety trial with industry partner's Leishmania skin test kits; continue the Phase 2 clinical trial of paromomycin/gentamicin topical antileishmanial cream to treat Old World leishmaniasis. In FY04, complete the multiyear Phase 2 trial in Nepal to evaluate the Hepatitis E vaccine; conduct a MS B on the Hepatitis E vaccine; complete the Phase 2 field trial of the topical antileishmanial cream; transition the topical antileishmanial cream to a co-development partner; complete phase 1 safety trial with Leishmania skin test kits. In FY05, conduct a MS B/C for the topical antileishmanial cream; begin a Phase 2 field trial in Turkey to evaluate safety and efficacy of the L. tropica skin test. | 1458 | 2002 | 2274 | 634 |
| In FY02, challenged previously dengue tetravalent vaccinated volunteers with dengue 1 and 2 challenge virus strains; identified a dengue 4 challenge strain for future challenge studies; conducted Phase 1 safety trial with the leading dengue tetravalent live-attenuated vaccine formulation and began production and testing of master vaccine seeds (source of all subsequent tetravalent vaccine components). In FY03, conduct a Phase 1b dengue vaccine pediatric trial and begin a 5-year follow-up; continue production and testing of master dengue vaccine seeds; conduct a Phase 2 study in a dengue endemic area (Costa Rica); conduct second dengue challenge study in additional tetravalent vaccinated volunteers. In FY04, conduct a Phase 2 study in second dengue endemic area (Peru); complete production and testing of master vaccine seeds. In FY05, conduct program initiation IPR and transition an alternative vaccine technology (DNA-based dengue vaccine) to advanced development. | 1072 | 830 | 1165 | 2271 |
| Developmental test and evaluation, and reviews of insect vector control products: In FY02, completed developmental testing of camouflage face paint with insect repellent and visual infrared signature and conducted MS B/C IPR. In FY03, complete developmental testing of a prototype lethal trap for dengue vectors; conduct MS B/C IPR for the lethal trap for dengue vectors program; conduct preplanned product improvement to develop new dispensers for camouflage face paint with insect repellent and reduced infrared signature. | 474 | 195 | 0 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Totals | 3945 | 4882 | 5546 | 5281 |

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

**C. Acquisition Strategy:** Test and evaluate in-house and commercially developed products in extensive government-managed clinical trials to gather data required for FDA licensure and Environmental Protection Agency registration.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603807A - Medical Systems - Adv Dev**

PROJECT
**808**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . No product/contract costs greater than $1M individually | | | 2943 | 889 | | 997 | | 947 | | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 2943 | 889 | | 997 | | 947 | | Continue | Continue | Continue |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . No product/contract costs greater than $1M individually | | | 394 | 53 | | 59 | | 56 | | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 394 | 53 | | 59 | | 56 | | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603807A - Medical Systems - Adv Dev**

PROJECT
**808**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . No product/contract costs greater than $1M individually | | | 9855 | 3100 | | 3551 | | 3387 | | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 9855 | 3100 | | 3551 | | 3387 | | Continue | Continue | Continue |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . No product/contract costs greater than $1M individually | | | 2095 | 840 | | 939 | | 891 | | Continue | 4765 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 2095 | 840 | | 939 | | 891 | | Continue | 4765 | 0 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 15287 | 4882 | | 5546 | | 5281 | | Continue | Continue | Continue |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603807A - Medical Systems - Adv Dev**

PROJECT
**808**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Leishmania Skin Test (MS B) | | | | | 4Q | | | |
| Shigella flexneri (MS B) | | | 3Q | | | | | |
| Paromomycin/Gentamicin (MS B/C) | | | | 1Q | | | | |
| Hepatitis E vaccine (MS B) | | 3Q | | | | | | |
| RTS,S malaria vaccine (MS B) | | 2Q | | | | | | |
| Malaria Rapid Diagnostic Device (MS B) | | 2Q | | | | | | |
| Camouflage face paint (MS B) (Repellent: Thermal) | | 2Q | | | | | | |
| Dengue tetravalent vaccine (MS B) | | | 1Q | | | | | |
| Detection of Plasmodium-infected mosquitoes (MS B/C) | 3Q | | | | | | | |
| Shigella sonnei vaccine (Program Initiation IPR) | | 4Q | | | | | | |
| Shigella dysenteriae vaccine (Program Initiation IPR/MS B) | | | 3Q | | | | | |
| DNA based dengue tetravalent vaccine (Program Initiation IPR) | | | | 1Q | | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603807A - Medical Systems - Adv Dev** | **836** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 836 COMBAT MEDICAL MATL AD | 4070 | 3885 | 4227 | 3980 | 3691 | 3661 | 4726 | 4536 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This project funds technical development of candidate medical products for the advancement of combat casualty care; especially far forward on the battlefield with first responders, combat life savers, and field medics. This funds Phase 1 and 2 human clinical trials for safety and efficacy of devices or biologics unique to military operational requirements. These products will decrease mortality rates thereby increasing soldier morale and willingness to place themselves in danger. Additionally, several products will reduce medical organizational sustainment footprint through smaller weight and cube or equipment independence from supporting materiels. Priority is given to those products that provide the greatest clinical benefit balanced with the technical and financial risks. These products positively support both the Army Transformation Campaign Plan (TCP) and Objective Force (OF) doctrine/organizational structure.

Major contractors/intragovernmental agencies include: Army Medical Department Test Board, American National Red Cross, Cambridge Consultants Corporation, IGR Enterprises, Madigan Army Medical Center, and Sequal.

There are no Defense Emergency Response Funds provided to this program or project.

| Accomplishments/Planned Program | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Hemostatic Dressing (HD): In FY02, conducted animal trials required by the U.S. Food and Drug Administration (FDA) and prepared Investigational New Drug application for FDA. In FY03, continue testing of the HD and prepare for a Milestone (MS) B In Process Review (IPR). In FY04, conduct elective surgery trials (human clinical trials) using informed consent, and conduct a MS B IPR. In FY05, continue elective surgery trials (human clinical trials) using informed consent, and prepare Biologics License Application. | 2020 | 1565 | 2828 | 2870 |
| Demonstrate, evaluate, and continue to develop medical evacuation systems. Special Medical Emergency Evacuation Device (SMEED): In FY02, developed and fabricated 15 prototypes and began user evaluations. In FY03, continue user evaluations, complete manuals and Air Worthiness Release (including crash testing), conduct a MS C IPR, and field basic systems. | 302 | 525 | 0 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Conduct/Perform development, testing and Milestone IPRs for field medical treatment and treatment aid devices. (1) Ceramic Oxygen Generator System (COGS): In FY02, scaled up oxygen generator cells from test sizes to full size, approximately a 10-fold increase in area. (2) Ventilatory Assist Device (VAD): In FY02, demonstrated compatibility of anesthesia machines with oxygen concentrators, and validated minimum safe oxygen flow rates for circle breathing systems using oxygen concentrators. In FY03, develop an FDA-approved anesthetic agent scrubber that will not require exterior venting, and conduct clinical use and evaluation of the completed anesthesia system at 10 Army Medical Treatment Facilities. In FY04, conduct a MS B/C IPR. (3) Pressure Swing Adsorption Oxygen Generator (PSAOC): In FY02, designed, built, and incorporated the prototype high-speed turbo compressor and electric motor into an oxygen generator with molecular sieve beds. (4) Dental Field Treatment and Operating System (DEFTOS): In FY02, conducted a MS A/Program Initiation IPR and worldwide user evaluation. In FY03, redesign to reflect test results and conduct limited testing. (5) One-Handed Tourniquet (OHT): In FY02, fabricated protocols and initiated technical evaluations of prototype. In FY03, procure additional samples for a large-scale user evaluation and conduct a MS B IPR. (6) Rotary Valve Pressure Swing Adsorption Oxygen Generator (RVPSAOG): In FY02, contracted for development of a lightweight portable RVPSAOG. In FY03, complete prototype of the system and conduct a MS A IPR. In FY04, conduct user evaluation and prepare a MS B/C package. In FY05 conduct the MS B/C IPR. | 1748 | 1795 | 1399 | 1110 |
| Totals | 4070 | 3885 | 4227 | 3980 |

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

**C. Acquisition Strategy:** Evaluate commercially developed materiel in government-managed tests for hardening or other modification.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603807A - Medical Systems - Adv Dev**

PROJECT
**836**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Hemostatic Dressing | | American National Red Cross, Charlotte, N.C. | 3768 | 1940 | | 2828 | | 2870 | | Continue | Continue | 0 |
| b . No other contract exceeds $1M | | | 11824 | 0 | | 0 | | 0 | | 0 | 11824 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 15592 | 1940 | | 2828 | | 2870 | | Continue | Continue | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

Remarks: No product/contract costs greater than $1M individually.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603807A - Medical Systems - Adv Dev**

PROJECT
**836**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

Remarks: No product/contract costs greater than $1M individually.

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . No product/contract costs greater than $M individually. | | | 4436 | 1945 | | 1399 | | 1110 | | 0 | 8890 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 4436 | 1945 | | 1399 | | 1110 | | 0 | 8890 | 0 |
| Project Total Cost: | | | 20028 | 3885 | | 4227 | | 3980 | | Continue | Continue | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603807A - Medical Systems - Adv Dev**

PROJECT
**836**

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Hemostatic Dressing (MS B) | | | 2Q | | | | | |
| SMEED ( MS C) | | 4Q | | | | | | |
| Oxygen Generator Systems (MS B ) | | | 2Q | | | | | |
| One-Handed Tourniquet (MS C) | | 4Q | | | | | | |
| Dental Field Treatment and Operating System (MS B) | 4Q | | | | | | | |
| Ventilatory Assist Device (MS B/C) | | | 2Q | | | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603807A - Medical Systems - Adv Dev** | **837** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 837 SOLDIER SYS PROT-AD | 856 | 848 | 1133 | 751 | 952 | 2518 | 1862 | 1787 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This project supports concept and technical development of preventive medicine materiel including devices, pharmacologicals, and other tools to provide protection, sustainment, and enhancement of the physiological and psychological capabilities of soldiers in the face of combat operations under all environmental conditions. Focus is on reduction in the incidence of personnel losses due to preventable disease and non-battle injuries through development of environmental and physiological performance monitors and other preventive medicine countermeasures. Major advanced development contractors include Allermed Laboratories, San Diego, CA. This program supports the Objective Force transition path of the Transformation Campaign Plan (TCP).

There are no Defense Emergency Response Funds provided to this program or project.

| Accomplishments/Planned Program | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| In FY02, resolved the technical issues raised by the U.S. Food and Drug Administration (FDA) on the manufacture of the skin test for Leishmania mexicana, which causes leishmaniasis in the Americas and conducted a Phase 1 safety trial; established the good manufacturing practices (GMP) manufacturing line for the skin test for L. tropica skin test, which causes leishmaniasis in Southwest Asia. In FY03, produce the FDA-required three-lot consistency lots of the L. tropica skin test and conduct a Phase 1 safety trial. In FY04, conduct stability studies on the three lots of L. tropica skin tests, and manufacture the skin tests for the Phase 3 pivotal studies to be conducted in Turkey. In FY05, continue the stability testing of the original three lots, start the stability testing on the skin tests made for the Phase 3 study, and begin a Phase 2 field trial with the L. tropica skin test. | 856 | 848 | 1133 | 751 |
| Totals | 856 | 848 | 1133 | 751 |

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

**C. Acquisition Strategy:** Test and evaluate materiel in government-managed trials to meet fielding requirements.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603807A - Medical Systems - Adv Dev**

PROJECT
**837**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . No product/contract costs greater than $1M individually | | | 359 | 384 | | 498 | | 331 | | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 359 | 384 | | 498 | | 331 | | Continue | Continue | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . No product/contract costs greater than $1M individually | | | 20 | 21 | | 26 | | 18 | | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 20 | 21 | | 26 | | 18 | | Continue | Continue | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603807A - Medical Systems - Adv Dev**

PROJECT
**837**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . No product/contract costs greater than $1M individually | | Research and development; stability and potency testing | 88 | 89 | | 115 | | 77 | | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 88 | 89 | | 115 | | 77 | | Continue | Continue | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . No product/contract costs greater than $1M individually | | | 389 | 354 | | 494 | | 325 | | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 389 | 354 | | 494 | | 325 | | Continue | Continue | 0 |
| Project Total Cost: | | | 856 | 848 | | 1133 | | 751 | | Continue | Continue | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603807A - Medical Systems - Adv Dev** | **837** |

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Leishmania Skin Test (MS B); (MS C) | | | | | 4Q | | | 2Q |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603850A - Integrated Broadcast Service (JMIP/DISTP)** | **472** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 472 | INTEGRATED BROADCAST SERVICE (JMIP/DISTP) | 1960 | 1927 | 2097 | 1901 | 0 | 0 | 0 | 0 | 0 | 7885 |

**A. Mission Description and Budget Item Justification:** The Integrated Broadcast Service (IBS) is the worldwide DoD standard network for transmitting tactical and strategic intelligence and targeting data within a common format and migrating to a single family of Joint Tactical Terminals (JTT) for improved operational jointness. The Common Integrated Broadcast Service - Modules (CIBS-M) is a totally integrated Joint Program (all services and Special Operations Command (SOCOM)) which was created to consolidate and replace existing IBS receiver functionality/capability, with a "common family" of IBS modules (both hardware and software). This is required to implement the IBS Plan and consolidate/eliminate duplicative efforts. The Joint Tactical Terminal (JTT) program leverages, early tech-based efforts initiated by organizations such as the National Reconnaissance Office (NRO). For efforts that contribute to increased value in performance or sustainment, management control will transition to the JTT Joint Program Office (JPO) and capabilities will be integrated into the CIBS-M family of hardware and software modules. The CIBS-M family of modules will be the "sole" provider, ensuring continued IBS interoperability to a variety of tactical receivers across DoD and the services. CIBS-M will be provided to Joint Tactical Radio System (JTRS) JPO for inclusion into the JTRS Library to meet intelligence broadcast requirements. This program funds the design, development, test and evaluation of initial CIBS-M hardware and software modules, as well as implementing performance expanding modifications to the family of Joint Tactical Terminal (JTT) equipment, and to training, equipping and supporting the warfighter with improved Joint Readiness and Interoperability. This family of modules disseminates encrypted intelligence broadcasts to commanders in a network centric environment.

This capability supports the legacy to objective path of the Transformation Campaign Plan (TCP).

FY04/05 completes the development/certification of the JTRS modules.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Conduct Intial Operational Test & Evaluation (IOT&Es) on JTT variants to include Briefcase and Seniors for Receive/Transmit functionality. | 426 | 0 | 0 | 0 |
| Develop and test modules for JTRS Software Common Architecture (SCA) compliance. | 0 | 1607 | 2097 | 1901 |
| Conduct Live interoperability test for SIDS/TRIXS in support of JTT-B IOT&E | 795 | 0 | 0 | 0 |
| Joint Interoperability Test Command (JITC) Certification of Block 3.0 development for Interoperability and DAMA compliance. | 0 | 320 | 0 | 0 |
| Conduct Training in support of JTT IOT&E | 289 | 0 | 0 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Continue Integrated Broadcast Service (IBS) Format Development/Common Message Format to support migration to the IBS Worldwide standard DOD Network | 450 | 0 | 0 | 0 |
| Totals | 1960 | 1927 | 2097 | 1901 |

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 1968 | 1962 | 1948 | 1935 |
| Current Budget (FY 2004/2005 PB) | 1960 | 1927 | 2097 | 1901 |
| Total Adjustments | -8 | -35 | 149 | -34 |
| Congressional program reductions | | | | |
| Congressional rescissions | | -22 | | |
| Congressional increases | | | | |
| Reprogrammings | -8 | -13 | | |
| SBIR/STTR Transfer | | | | |
| Adjustments to Budget Years | | | 149 | -34 |

| **C. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| V29600 Other Procurement, Army - JTT/CIBS-M (Tiara), | 17685 | 4693 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22378 |

**D. Acquisition Strategy:** The CIBS-M family of modules will be the sole provider of IBS Modules to a variety of IBS receivers across all DOD component agencies. The Joint Program developed hardware and software modules and procured the required modules for integration into host receiver systems such as JTRS to be compliant with the Army objective force. Modifications to IBS modules for the design and development of JTRS SCA compliant software modules will be awarded Sole Source to Raytheon, the Prime Contractor for JTT. As the broadcast networks continue to evolve and modify their formats and protocols, the JTT program will support IBS and various existing and future radios and host systems.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603850A - Integrated Broadcast Service (JMIP/DISTP)**

PROJECT
**472**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . JTRS SCA/IBS Modules | CPFF | Raytheon, St. Petersburg, FL | 291 | 977 | 1Q | 1247 | 2Q | 1086 | 2Q | 0 | 3601 | 3712 |
| | | | | | | | | | | | | |
| Subtotal: | | | 291 | 977 | | 1247 | | 1086 | | 0 | 3601 | 3712 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Matrix Support | MIPR | HQ CECOM, NJ | 145 | 290 | 1Q | 185 | 1Q | 140 | 1Q | 0 | 760 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 145 | 290 | | 185 | | 140 | | 0 | 760 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603850A - Integrated Broadcast Service (JMIP/DISTP)**

PROJECT
**472**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . IOT&E support | MIPR | Various | 1402 | 0 | | 0 | | 0 | | 0 | 1402 | 0 |
| b . JITC Certification of JTRS | MIPR | JITC | 0 | 200 | 1Q | 200 | 1Q | 200 | 1Q | 0 | 600 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1402 | 200 | | 200 | | 200 | | 0 | 2002 | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Program Management | In House | PM JTT, Ft. Monmouth, NJ | 122 | 460 | 1Q | 465 | 1Q | 475 | 1Q | 0 | 1522 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 122 | 460 | | 465 | | 475 | | 0 | 1522 | 0 |
| Project Total Cost: | | | 1960 | 1927 | | 2097 | | 1901 | | 0 | 7885 | 3712 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603850A - Integrated Broadcast Service (JMIP/DISTP)**

PROJECT
**472**

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| IBS Waveform Development | 1-4Q | 1-2Q | | | | | | |
| IBS Waveform Demonstration | | 3-4Q | | | | | | |
| JITC Certification E8 Interop | | 1Q | | | | | | |
| JITC Certification of IBS | | 3Q | | | | | | |
| Completion of JTRS SCA Modules | | | 2Q | 3Q | | | | |
| JITC Certification of JTRS SCA Modules | | | 1Q | 3Q | | | | |

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

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603854A - Artillery Systems - Dem/Val**

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Program Element (PE) Cost | | 427273 | 356651 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1125689 |
| 505 | ARTILLERY SYSTEMS DEM/VAL | 395273 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 737038 |
| F47 | OBJECTIVE FORCE INDIRECT FIRES | 32000 | 356651 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 388651 |

**A. Mission Description and Budget Item Justification:** This program element supported the Crusader Advanced Development Program in FY 2002 and in FY 2003, supported the Objective Force Indirect Fires efforts for Non Line of Sight-Cannon (NLOS-C).

In FY04, Project F47 transitioned to the System Development and Demonstration (SDD) Program Element 0604645A, Project F50, Objective Force Indirect Fires.

Future combat systems are comprised of a family of advanced, networked air and ground based maneuver, maneuver support, and sustainment systems that will include manned and unmanned platforms...networked via a C4ISR architecture, including networked communications, network operations, sensors, battle command systems, and manned and unmanned reconnaissance and surveillance capabilities that will enable improved situational understanding and operations at a level of synchronization heretofore unachievable.

Future combat systems will operate as a system of systems that will network existing systems, systems already under development, and new systems to be developed to meet the needs of the Unit of Action. The network will enable improved intelligence, surveillance, and reconnaisance, battle command, real time sensor-shooter linkages, and increased synergy between echelons and within small units. It will also enable the Unit of Action to connect to the Unit of Employment, joint capabilities, and national assets making these capabilities available to the small units of the Unit of Action.

This system supports the Objective Force Transition path of the Transformation Campaign Plan (TCP).

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

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603854A - Artillery Systems - Dem/Val**

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 444091 | 246465 | 0 | 0 |
| Current Budget (FY 2004/2005 PB) | 427273 | 356651 | 0 | 0 |
| Total Adjustments | -16818 | 110186 | 0 | 0 |
| Congressional program reductions | | | | |
| Congressional rescissions | -2172 | -4543 | | |
| Congressional increases | | 368500 | | |
| Reprogrammings | -2473 | -2326 | | |
| SBIR/STTR Transfer | -12173 | -10180 | | |
| Adjustments to Budget Years | | -241265 | | |

FY02: Adjustments due to SBIR/STTR Transfers and below threshold reprogrammings (Apr 02) from D505 Artillery Systems Dem/Val to D503 Crusader ED for Long Lead Components.

FY03: Adjustment to budget years due to FY03 Amended President's Budget termination of the Crusader Artillery System. Congressional increase of $368.5M reflects transfer of funding in the Amended PB ($195.5M) and plus-up ($173M).

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603856A - SCAMP Block II** | **389** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 389 SCAMP BLK II | 6657 | 14352 | 28028 | 15107 | 26985 | 37316 | 12755 | 0 | 0 | 160693 |

**A. Mission Description and Budget Item Justification:** The Single Channel Anti-Jam Manpackable (SCAMP) Block II Program has been restructured to support the Advanced Extremely High Frequency (AEHF) Satellite Program. The restructured SCAMP Block II program consists of two terminals, the SCAMP Manportable System Enhancement Program (SEP) terminal and the SCAMP Manpackable terminal. Each terminal supports the requirements in the Joint AEHF Operational Requirements Document (ORD) and provides worldwide anti-jam, low probability of intercept and detection and assured voice and data communications for the joint warfighter. Both terminals will transmit in the Extremely High Frequency (EHF) band and receive in the Super High Frequency (SHF) band and will operate over MILSTAR, other MIL-STD-1582 compatible payloads, and the future AEHF payload, providing secure voice and data services. The terminals will transmit and receive intelligence, situational awareness, as well as command and control traffic.

Under the restructured program, the SCAMP Manportable SEP terminal upgrades existing SCAMP Block I terminals to support the AEHF Satellite Program. In support of the Joint AEHF ORD dated 2 Oct 00, the Manportable SEP will provide up to 64 Kbps Uplink (narrowband) and up to 128 Kbps Downlink AEHF capability to units, Division Headquarters and Above, and Special Operations Forces, that require increased data rates for range extended command and control communications. This system supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

The SCAMP Manpackable terminal supports the Joint ORD requirements for a Manpackable AEHF terminal which is lightweight (12 - 15 lbs) and provides for increased data rates and extended battery life. The Manpackable terminal will support lower echelon battalions and below, and priority ground tactical users, including Special Operations Forces. This program is designated as a DoD Space Program. This system supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| AEHF SCAMP SEP modification kit development | 5316 | 12708 | 18552 | 10014 |
| Develop and integrate SCAMP SEP additional test resources and conduct Development Test/Limited User Test | 0 | 0 | 4242 | 2847 |
| Developed and tested prototype components for the AEHF SCAMP Manpackable Terminal | 1117 | 0 | 0 | 0 |
| Development and test of 2 AEHF SCAMP Manpackable prototypes, conduct MS B decision, prepare technology transfer data | 0 | 600 | 3803 | 1129 |
| Support to AEHF Satellite Program, Baseband Working Groups and Technical Interchange Meetings | 224 | 1044 | 1431 | 1117 |
| Totals | 6657 | 14352 | 28028 | 15107 |

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 6895 | 21006 | 28028 | 15366 |
| Current Budget (FY 2004/2005 PB) | 6657 | 14352 | 28028 | 15107 |
| Total Adjustments | -238 | -6654 | 0 | -259 |
| Congressional program reductions | | -6000 | | |
| Congressional rescissions | | -165 | | |
| Congressional increases | | | | |
| Reprogrammings | -48 | -82 | | |
| SBIR/STTR Transfer | -190 | -407 | | |
| Adjustments to Budget Years | | | | -259 |

FY03 reflects Congressional reduction of $6.0M

| **C. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| BC4110 - SCAMP BLK II | 0 | 0 | 0 | 12775 | 17037 | 6704 | 30325 | 16148 | 0 | 82989 |

**D. Acquisition Strategy:** The SCAMP Block II acquisition strategy is based upon an evolutionary development approach which allows for the incremental design, development and test of system requirements.

Manportable SEP Terminal: The SCAMP Manportable SEP acquisition strategy will upgrade the legacy Block I SCAMP to meet the Manportable AEHF requirement in the Joint AEHF ORD. A development modification to the existing Rockwell Collins contract was awarded on 28 Feb 01 to implement AEHF capability.

Manpackable Terminal: Throughout Engineering Feasibility, Lincoln Labs is designing, developing and testing prototype components for the Manpackable SCAMP. Lincoln Labs design data is also provided to industry through the distribution of technical information. This design information is provided to encourage industry participation in the bidding process for System Development Demonstration (SDD). Following Milestone B, one contractor will be selected to develop and test SDD terminals. Lincoln Labs will continue to work with industry during SDD. Following Operational Testing, Full Rate Production of Manpackable SCAMPs will begin.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603856A - SCAMP Block II**

PROJECT
**389**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . System Development | MIPR | Lincoln Labs - Lexington, MA | 20144 | 1114 | 2Q | 2460 | 2Q | 1949 | 2Q | Continue | Continue | Continue |
| b . Other Contracts | Various | Various | 3048 | 0 | | 150 | 2Q | 0 | | 0 | 3198 | 0 |
| c . Govt Eng Support | MIPR | Various | 2789 | 828 | 2Q | 1738 | 2Q | 1078 | 2Q | Continue | Continue | Continue |
| d . Major Contract | SS/CPIF | Rockwell Collins - Cedar Rapids, IA | 14118 | 10263 | 2Q | 17452 | 2Q | 7188 | 2Q | Continue | Continue | Continue |
| e . GFE | MIPR | Various | 458 | 0 | | 0 | | 0 | | 0 | 458 | 0 |
| f . ABCS SE&I | PWD | TRW - Carson, CA | 100 | 0 | | 0 | | 0 | | 0 | 100 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 40657 | 12205 | | 21800 | | 10215 | | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603856A - SCAMP Block II**

PROJECT
**389**

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Labs/OGAs | MIPR | Various | 413 | 0 | | 0 | | 0 | | 0 | 413 | 0 |
| b . Support Contracts | Various | Various | 2244 | 394 | 2Q | 457 | 2Q | 440 | 2Q | Continue | Continue | Continue |
| c . Government Support | Various | Various | 0 | 0 | | 230 | 2Q | 275 | 2Q | 0 | 505 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 2657 | 394 | | 687 | | 715 | | Continue | Continue | Continue |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Test Demonstration | MIPR | Lincoln Labs Lexington, MA | 1525 | 0 | | 0 | | 0 | | 0 | 1525 | 0 |
| b . DT&E | Various | Various | 397 | 74 | 2Q | 532 | 2Q | 1905 | 2Q | Continue | Continue | Continue |
| c . Major Contracts | SS/CPIF | Rockwell Collins Cedar Rapids, IA | 0 | 490 | 2Q | 2095 | 2Q | 159 | 2Q | Continue | Continue | Continue |
| d . LL DT&E | MIPR | Lincoln Labs Lexington, MA | 2056 | 0 | 2Q | 643 | 2Q | 412 | | 0 | 3111 | 0 |
| | | | | | | | | | | | | |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603856A - SCAMP Block II**

PROJECT
**389**

| III. Test and Evaluation (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Subtotal: | | | 3978 | 564 | | 3270 | | 2476 | | Continue | Continue | Continue |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Govt Program Support | MIPR | Various | 3892 | 830 | 2Q | 1592 | 2Q | 1221 | 2Q | Continue | Continue | Continue |
| b . Support Contracts | Various | Various | 1021 | 359 | 2Q | 679 | 2Q | 480 | 2Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 4913 | 1189 | | 2271 | | 1701 | | Continue | Continue | Continue |

| Project Total Cost: | | | 52205 | 14352 | | 28028 | | 15107 | | Continue | Continue | Continue |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603856A - SCAMP Block II** | **389** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| MANPORTABLE (SEP) TERMINAL: | | | | | | | | |
| Continue System Development/Test/Integration | 1-4Q | 1-4Q | 1-4Q | 1Q | | | | |
| Complete System Development/Test/Integration | | | | 2Q | | | | |
| Build Prototype Kits - AEHF | | | | 2-4Q | | | | |
| Limited User Test - AEHF - LDR Mode | | | | 3Q | | | | |
| Complete Retrofit Prototype Kits - AEHF | | | | | 2Q | | | |
| Award Production Contract | | | | 3Q | | | | |
| Build/Install Retrofit Kits from Production Contract | | | | | 3-4Q | 1-4Q | 1Q | |
| Conduct MOT&E | | | | | | | 3Q | |
| MANPACKABLE TERMINAL: | | | | | | | | |
| Complete AEHF Prototype Development | | | | 3Q | | | | |
| Milestone B Decision | | | | | 1Q | | | |
| Award Development Contract | | | | | 2Q | | | |
| Continue Manpackable Development | | | | | 2-4Q | 1-4Q | 1-4Q | |
| Conduct IOT&E | | | | | | | 4Q | |
| Milestone C Decision | | | | | | | | 2Q |
| Award Production Contract | | | | | | | | 2Q |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603869A - Meads Concepts - Dem/Val** | **01B** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 01B | MEDIUM EXTENDED AIR DEFENSE SYSTEM (MEADS) | 0 | 0 | 276259 | 267270 | 271689 | 276194 | 289483 | 295187 | 0 | 1676082 |

**A. Mission Description and Budget Item Justification:** The Medium Extended Air Defense System (MEADS) is an Objective Force system. It is an international co-development program essential to fulfill the requirements of the U.S. Army and the U.S. Marine Corps for a low-medium air and missile defense system in the 21st century. MEADS will offer a significant improvement in tactical mobility and strategic deployability over comparable missile systems. It will defend the maneuver force and other critical forward-deployed assets against short and medium range Theater Ballistic Missiles (TBMs), cruise missiles and other air-breathing threats throughout all phases of tactical operations. MEADS will operate with upper-tier systems in areas of debarkation and assembly and provide continuous coverage alone, or with Short-Range Air Defense Systems (SHORAD) systems in the division area of the battlefield during movement to contact and decisive operations. MEADS will be interoperable with other airborne and ground-based sensors and utilize a netted and distributed architecture and modularly-configurable battle elements to provide a robust, 360-degree defense against short and medium range TBMs, cruise missiles, unmanned-aerial-vehicles, tactical air-to-surface missiles, rotary-wing and fixed-wing threats.

The MEADS program is currently executing a thirty two and half month Risk Reduction Effort (RRE) phase. The primary objectives of RRE are to develop a program cost and schedule consensus, mature critical technologies, and program planning for entry into the Design and Development (D&D) Phase at Milestone B in 2004. The D&D Phase is currently planned to be a six year ten month effort producing six MEADS Fire Units with the first unit equipped in FY12. The D&D Phase will be executed under an International Memorandum of Understanding (MOU) between the participating nations.

There remains a critical void in maneuver force defense against the current and future AMD threat of short and medium range TBMs, cruise missiles, and low-to-medium altitude advanced air-breathing threats. This program will meet this challenge by integrating the PAC-3 missile and developing the critical technologies required for maneuver force protection, including development and testing of a light weight launcher, reloader, 360-degree multifunction fire control and surveillance radars and a netted and distributed Battle Management/Command, Control, Communications, Computers, and Intelligence (BM/C4I) Tactical Operations Center (TOC). The PAC-3 missile is the baseline interceptor for MEADS. Sensor and battle management software technology from both U.S. and international programs will be examined to enhance and augment organic-equipment functions, reducing development cost and risk. Improvements will be balanced against costs and the projected threat to develop a U.S. and Allied capability to counter the current and future AMD threats. The approach emphasizes prototyping of system-specific and surrogate hardware in key areas of BM/C4I, fire control radar, and light weight launcher to satisfy mobility, strategic deployability and interoperability requirements. The Army requirement for MEADS supports the Objective transition path of the Army Transformation Campaign Plan (TCP).

In FY03, Congress transferred the MEADS program from the Army to the Missile Defense Agency (MDA).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Continue the U.S. contribution to the North Atlantic Treaty Organization (NATO) MEADS Management Agency (NAMEADSMA) International Program Office operational and administrative budgets for the MEADS Risk Reduction Effort (RRE) contract which includes development of digital end-to-end simulation, continue development of a prototype launcher, fire control radar and prototype BM/C4I hardware/ software, test planning, technology transfer and anti-tamper. Award the Design and Development (D&D) Phase contract to design, develop, build, test and evaluate the MEADS System. | 0 | 0 | 215280 | 189770 |
| Conduct program integration efforts that will examine Department of Defense (DOD) Joint Vision and Army Transformation Objective Force mix and integration issues; support MEADS in the test and evaluation of Air and Missile Defense (AMD) task force interoperability and Army Family-of-Systems; support development and maintenance of Joint Data Network interface requirements and planning and appropriate planning of MEADS manpower, training, human factors, safety issues, cost reduction initiatives, composite tracker and protect U.S. background technology. | 0 | 0 | 44079 | 59900 |
| Continue funding for government agencies and support contracts to provide technical analysis and tools in specialty areas of lethality, BM/C4I and system simulations, as well as support of conducting independent evaluations of contractor trades and analysis. | 0 | 0 | 10100 | 10500 |
| Continue MEADS program management, support and salaries for both the national and international program offices. Includes efforts to support U.S. unique requirements for MEADS. | 0 | 0 | 6800 | 7100 |
| Totals | 0 | 0 | 276259 | 267270 |

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 527 | 117745 | 280580 | 272070 |
| Current Budget (FY 2004/2005 PB) | 0 | 0 | 276259 | 267270 |
| Total Adjustments | -527 | -117745 | -4321 | -4800 |
| Congressional program reductions | | -117745 | | |
| Congressional rescissions | | | | |
| Congressional increases | | | | |
| Reprogrammings | | | | |
| SBIR/STTR Transfer | | | | |
| Adjustments to Budget Years | -527 | | -4321 | -4800 |

FY02 program was transferred from the Army to the Missile Defense Agency.
$527K of FY 2002 Army funding was realigned to the correct PE for execution.

In FY03, Congress transferred the MEADS program from the Army to the Missile Defense Agency (MDA).

**C. Other Program Funding Summary:** Not applicable for this item.

**D. Acquisition Strategy:** The MEADS program gained approval from the Defense Acquisition Executive (DAE) in an August 2000 Aquisition Decision Memorandum (ADM) to begin a Risk Reduction Effort (RRE) phase extending the Project Definition/Validation (PD/V) phase by three years in order to focus on integrating the PAC-3 missile into the MEADS system concept, identifying and reducting technical risk, developing a cost and schedule consensus among the partner nations (Germany, Italy and United States), and to refine the MEADS concept. In July 2001, MEADS International (MI) was awarded a thirty-two and half month RRE contract. Additional key elements of the RRE scope include full harmonization of the threat and requirements, a detailed plan and cost consensus for Design and Development (D&D), and developing a negotiated Memorandum of Understanding (MOU) for the D&D phase. A Milestone B (MS B) Defense Acquisition Board (DAB) is planned for FY04, at which time the D&D phase will begin a six year ten month effort. Per the 2 January 2002 SEC DEF missile defense directive memo, the U.S. national unique requirements of the MEADS program will be developed in consultation with the Army. The MEADS program will continue to be directed per the International MOU and the three nation Steering Committee for international program participation.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603869A - Meads Concepts - Dem/Val**

PROJECT
**01B**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Risk Reduction | CPFF | NAMEADSMA, Huntsville, AL | 0 | 0 | | 0 | | 0 | | Continue | 0 | 0 |
| b . MultiBand Spectral Radar Frequency Data Link | Contract/MIPR | LMMS, Orlando, FL. | 0 | 0 | | 0 | | 0 | | Continue | 0 | 0 |
| c . Design and Development | TBD | NAMEADSMA, Huntsville, AL | 0 | 0 | | 213580 | 3Q | 187870 | 2Q | Continue | 401450 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 213580 | | 187870 | | Continue | 401450 | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Int'l Program Office | LOE | NAMEADSMA, Huntsville, AL. | 0 | 0 | | 1700 | 2Q | 1900 | 2Q | Continue | 3600 | 0 |
| b . Program Integration | LOE | Various, Huntsville, AL. | 0 | 0 | | 34879 | 2Q | 49330 | 2Q | Continue | 84209 | 0 |
| c . U.S. Contracts | Various | Various, Huntsville, AL | 0 | 0 | | 3200 | 2Q | 3300 | 2Q | Continue | 6500 | 0 |
| d . U.S. OGAs | MIPR | Various, Huntsville, AL. | 0 | 0 | | 6900 | 2Q | 7200 | 2Q | Continue | 14100 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603869A - Meads Concepts - Dem/Val**

PROJECT
**01B**

| II. Support Cost (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| e . Composite Tracker | LOE | MRDEC, Huntsville, AL. | 0 | 0 | | 1200 | 2Q | 1200 | 2Q | Continue | 2400 | 0 |
| f . US Only Security | LOE | Lockheed Martin, Syracuse, NY., Dallas, TX. & Orlando, FL. | 0 | 0 | | 5000 | 3Q | 5500 | 3Q | Continue | 10500 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 52879 | | 68430 | | Continue | 121309 | 0 |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Range Support | TBD | WSMR, White Sands, NM | 0 | 0 | | 3000 | 2Q | 3870 | 2Q | Continue | 6870 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 3000 | | 3870 | | Continue | 6870 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603869A - Meads Concepts - Dem/Val**

PROJECT
**01B**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Internal Operating | In-House | MEADS Prod Ofc/NAMEADSMA, Huntsville, AL. | 0 | 0 | | 6800 | 2Q | 7100 | 2Q | 0 | 13900 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 6800 | | 7100 | | 0 | 13900 | 0 |
| Project Total Cost: | | | 0 | 0 | | 276259 | | 267270 | | Continue | 543529 | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**4 - Advanced Component Development and Prototypes**

PE NUMBER AND TITLE
**0603869A - Meads Concepts - Dem/Val**

PROJECT
**01B**

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Demonstrate MEADS Functionality | | | 2Q | | | | | |
| Program Review | | | 2Q | | | | | |
| Milestone B | | | 2Q | | | | | |
| Full System Demo | | | 2Q | | | | | |
| Design and Development Phase Contract Award | | | 3Q | | | | | |
| Systems Requirements Review | | | 4Q | | | | | |
| System Preliminary Design Review (PDR) | | | | 2Q | | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604201A - AIRCRAFT AVIONICS** | **C97** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| C97 ACFT AVIONICS | 48999 | 39559 | 64650 | 44685 | 32052 | 46642 | 33348 | 26374 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This Program Element (PE) funds the development of avionics systems required to horizontally and vertically integrate the battlefield. Tasks in this PE support research efforts in the engineering and manufacturing development phases of these systems. All of these systems support the Legacy-to-Objective transition path of the Transformation Campaign Plan.

The Army Airborne Command and Control System (A2C2S) is the Army's only airborne Command & Control (C2) system supporting corps, division and brigade commanders. This system is critical to enhance the Battle Command Group's ability to effectively perform combat unit operations and serve as a force multiplier in Army XXI. It provides the capability to access the tactical internet to manipulate, store, manage, and analyze situational awareness information, intelligence data, mission plans, and mission progress data to support the command and control decision making process. The A2C2S will provide situational awareness and command & control hosting Army Battle Command System (ABCS) such as Maneuver Control Systems (MCS), All Source Analysis System (ASAS), Advanced Field Artillery Tactical Data System (AFATDS), and Force XXI Battle Command Brigade and Below (FBCB2). The A2C2S provides communication capability that supports deep operations with non-line-of-sight communications such as High Frequency (HF) and Demand Assigned Multiple Access (DAMA), and Satellite Communications System Satellite Command (SATCOM). In addition, the system has the potential to improve the ability of state, local, and federal agencies to communicate and coordinate in a crisis environment such as hurricanes, forest fires, or terrorist incidents using weapons of mass destruction.

The Improved Data Modem (IDM) is the key link to joining Army Aviation with the digital battlefield and provides digital communication interoperability and flexibility on a fluid battlefield. Developed as an open system architecture, the IDM takes advantage of commercially available software and hardware solutions to enforce common communications protocols and the Joint Variable Message Format (JVMF). The IDM provides a flexible, software-driven digital messaging system interoperable with existing Battlefield Operating Systems and the Joint Forces. IDM improves Army Aviation's lethality and operational tempo through the exchange of fast and accurate data-burst communications through the Army's Fire Support and Tactical Internet (TI), providing seamless communications across the digital battlefield. These RDT&E funds are required to develop and integrate IDM hardware and software interfaces for the UH/HH-60M as well as fund the software and hardware engineering development that will transform the IDM from a Line Replaceable Unit (LRU) to a Standard Electronic Module-Format E (SEM-E).

The Joint Tactical Radio System (JTRS) aircraft installation lays the foundation for achieving network connectivity across the radio frequency (RF) spectrum and provides the means for digital information exchanges, both vertically and horizontally, between joint warfighting elements, while enabling connectivity to civil and national authorities. The JTRS will provide affordable, high-capacity, tactical radios to meet the interoperability requirements with all DOD services. The JTRS will provide an internal capability through an open systems architecture approach in compliance with the joint technical architecture which improves system performance at minimal cost and effort.

These RDT&E funds are required to design, develop, integrate, and qualify the aircraft installation kits (A Kits) to accommodate the JTRS in Army rotary wing aircraft. Installed A Kits and JTRS will provide the AH-64D, CH-47F, and UH/HH-60M the capability to transmit, receive, bridge and gateway between similar and diverse waveforms over multiple communications media & networks.

The Joint Mission Planning System (JMPS) is a congressionally directed Multi-Service system that is on the OSD C4I Special Interest List and supports the top two SECDEF priorities (17 Sep 02 memo). It is scheduled for delivery in FY03 and will be the core around which the services build their mission planning systems. The Army variant, JMPS-A, will leverage the common components being developed in collaboration with the Air Force and Navy, and provide the capabilities required to support Army Aviation fleet modernization programs. JMPS-A is currently in the requirements analysis and design phase. The Army plans to start software fielding for JMPS-A for all rotary-wing aircraft in 2005. The architecture inherent in JMPS will accommodate modifications required to support the Future Combat System and the associated family of Unmanned Aerial Vehicles that are to be deployed within Aviation Brigades in the Objective Force.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Continue software development for RAH-66 (IDM) | 1000 | 0 | 0 | 0 |
| Initiate software development for ATC (IDM) | 319 | 0 | 0 | 0 |
| Continue integration of IDM/EBC software into the CH-47F (IDM) | 2111 | 0 | 0 | 0 |
| Continue effort to integrate IDM/EBC software into the UH/HH-60M (IDM) | 900 | 2875 | 0 | 0 |
| Continue Program Management Support (IDM) | 132 | 151 | 0 | 0 |
| Continue System Development and Evaluation BLK I (A2C2S) | 9408 | 0 | 0 | 0 |
| Initiate Integration of Prototype Systems 3 to 7 and upgrades to Systems 1 and 2(A2C2S) | 4955 | 0 | 0 | 0 |
| Continue Systems Engineering, Logistics, and Software Integration (A2C2S) | 9628 | 0 | 0 | 0 |
| Initiate System Software Development (A2C2S) | 1867 | 0 | 0 | 0 |
| ABCS System Engineering and Integration Efforts (A2C2S) | 280 | 0 | 0 | 0 |
| Continue Developmental Testing, participate in DCX II, and prepare for LUT (A2C2S) | 6169 | 0 | 0 | 0 |
| Continue Support for System 1 and Deploy System 2 (A2C2S) | 1026 | 0 | 0 | 0 |
| Complete design analysis and initiate development of JTRS A-Kit for the AH-64D, CH-47F,and UH-60M (JTRS) | 4011 | 0 | 0 | 0 |
| Continue development of JTRS A-Kit and begin system testing for AH-64D, CH-47F, and UH-60M/Q (JTRS) | 0 | 23941 | 52592 | 30006 |
| Continue Systems Engineering and Logistics efforts (JTRS) | 811 | 4262 | 3559 | 1896 |
| Continue Program Management support for the JTRS A-Kit development (JTRS) | 452 | 1774 | 3233 | 2231 |
| Continue ICNIA compliance to JTRS requirements (JTRS) | 1866 | 5000 | 4000 | 3000 |
| Continue CECOM antenna effort (JTRS). | 0 | 250 | 0 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Continue contractual effort to support AH-64D, CH-47F, and UH-60M/Q (JTRS) | 1964 | 220 | 0 | 0 |
| Continue Test and Evaluation Support(JTRS) | 0 | 36 | 1266 | 7482 |
| Initiate transition of AMPS to JMPS | 1000 | 0 | 0 | 70 |
| Continue development of Airborne Separation Video System (ASVS) | 1100 | 1050 | 0 | 0 |
| Totals | 48999 | 39559 | 64650 | 44685 |

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 50838 | 40308 | 59535 | 31645 |
| Current Budget (FY 2004/2005 PB) | 48999 | 39559 | 64650 | 44685 |
| Total Adjustments | -1839 | -749 | 5115 | 13040 |
| Congressional program reductions | | | | |
| Congressional rescissions | -313 | -454 | | |
| Congressional increases | | 1050 | | |
| Reprogrammings | -112 | -227 | | |
| SBIR/STTR Transfer | -1414 | -1118 | | |
| Adjustments to Budget Years | | | 5115 | 13040 |

Beginning in FY 2003, funding in PE 64201 for A2C2S was transferred to PE 64818.

FY 2004 and FY 2005 increases were to align funding for JTRS with CAIG and Joint Cost Position (JCP) estimates, respectively.

| **C. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| Airborne Command and Control SSN AA0710 (A2C2S) | 0 | 2184 | 26594 | 30676 | 24114 | 3906 | 4281 | 3950 | 0 | 95705 |
| Airborne Command and Control PE 64818, Project C3A (A2C2S) | 0 | 32255 | 23151 | 6025 | 4453 | 4633 | 0 | 0 | 0 | 70517 |
| Aircraft Avionics SSN AA0700 (IDM) | 45072 | 58361 | 31641 | 23391 | 20133 | 36761 | 57381 | 32499 | Continue | Continue |
| Joint Tactical Radio System SSN AA0702 (JTRS) | 0 | 0 | 1906 | 22674 | 46498 | 62121 | 60544 | 66014 | Continue | Continue |
| JTRS Ground Domain Integration PE 64805/D615 (JTRS) | 90673 | 60688 | 206137 | 149510 | 93403 | 58143 | 25038 | 6501 | 0 | 690093 |
| Army Data Distribution System (Data Radio) SSN BU1400 (JTRS) | 63885 | 72811 | 52384 | 178163 | 153071 | 133978 | 126248 | 125488 | Continue | Continue |
| Airborne Avionics SSNAA0700 (AMPS/JMPS) | 12357 | 22701 | 24784 | 12698 | 9926 | 11814 | 12453 | 12729 | Continue | Continue |

**D. Acquisition Strategy:** This project is comprised of multiple systems:
1)IDM - The IDM/FBCB2-Air nonrecurring engineering and software development will be performed by Rockwell/Boeing for CH-47F and by Sikorsky for UH/HH-60M. The B-kits will be procured and installed during CH-47F and UH/HH-60M production.
2)JTRS - Initial JTRS A-Kit hardware development, installation and integration will be procured via host platform vendor. It is planned that full production contracts will be competitively awarded.
3)AMPS/JMPS - Migration to the Joint Mission Planning System (JMPS) is being accomplished in two phases: support of near term Army Aviation Fleet requirements and risk reduction by developing platform-specific modules for the Army variant of Portable Flight Planning Software (PFPS), and modification of those modules and development of additional capabilities under the JMPS architecture. Those additional capabilities include support for the Future Combat System and the associated family of Unmanned Aerial Vehicles that are to be deployed within Aviation Brigades.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604201A - AIRCRAFT AVIONICS**

PROJECT
**C97**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . System Dev and Eval (BLK I )) (A2C2S) | Various | Various | 55160 | 0 | | 0 | | 0 | | 0 | 55160 | 0 |
| b . Prototype and TDS Integration (Sys 1-7)) (A2C2S) | MIPR/CPIF | Army Aviation TD Ft. Eustis, VA/Raytheon, AL | 18714 | 0 | | 0 | | 0 | | 0 | 18714 | 0 |
| c . Systems Engineering (A2C2S) | Various | Various | 27735 | 0 | | 0 | | 0 | | 0 | 27735 | 0 |
| d . GFE (A2C2S) | MIPR | Naval Research Lab, Wash, D.C. | 578 | 0 | | 0 | | 0 | | 0 | 578 | 0 |
| e . Integrated Development of IDM into CH47-F SIL (IDM) | MIPR | AMCOM, AL | 644 | 0 | | 0 | | 0 | | 0 | 644 | 0 |
| f . Initiated development of CH-47F wiring design (IDM) | MIPR | AMCOM, AL | 1126 | 0 | | 0 | | 0 | | 0 | 1126 | 0 |
| g . UH/HH-60M Integration of B-Kit (IDM) | MIPR | AMCOM,AL | 5500 | 2875 | 1-3Q | 0 | | 0 | | 0 | 8375 | 0 |
| h . CH-47F Test Plans, software development and B-Kit Integration in support of the IDM | MIPR | Various | 12732 | 0 | | 0 | | 0 | | 0 | 12732 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604201A - AIRCRAFT AVIONICS**

PROJECT
**C97**

| I. Product Development (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| i . RAH-66 Software Development (IDM) | MIPR | Naval Research Lab, Wash, D.C. | 2000 | 0 | | 0 | | 0 | | Continue | Continue | 0 |
| j . A-Kit AH-64D , CH-47F, and UH/HH-60M/Q R&D Contracts (JTRS) (Design Analysis & SDD) | CPFF | Boeing, Mesa, AZ, Boeing, Philadelphia, PA and Sikorsky, Stratford, CT | 6056 | 23941 | 1-4Q | 52592 | 1-4Q | 30006 | 1-4Q | Continue | 112595 | 0 |
| k . Systems Engineering, Logistics Efforts (JTRS) | MIPR | Various | 2850 | 4262 | 1-4Q | 3559 | 1-4Q | 1896 | 1-4Q | Continue | 12567 | 0 |
| l . Contractual efforts to support platforms (JTRS) | MIPR | Various | 3327 | 220 | 1-4Q | 0 | | 0 | | 0 | 3547 | 0 |
| m . ATC Software Development (IDM) | MIPR | AMCOM, AL | 319 | 0 | | 0 | | 0 | | 0 | 319 | 0 |
| n . Initiate Transition Software Development (AMPS) | MIPR | AMCOM, AL | 1000 | 0 | | 0 | | 70 | 1Q | 0 | 1070 | 0 |
| o . Development of Airborne Separation Video System (ASVS) | MIPR | Various | 1100 | 1050 | 1-4Q | 0 | | 0 | | 0 | 2150 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 138841 | 32348 | | 56151 | | 31972 | | Continue | Continue | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604201A - AIRCRAFT AVIONICS**

PROJECT
**C97**

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Software Integration (A2C2S) | CPFF | TBD | 1761 | 0 | | 0 | | 0 | | 0 | 1761 | 1030 |
| b . Systems Logistics Support (ILS,NET,Tech) (A2C2S) | Various | Various | 3271 | 0 | | 0 | | 0 | | 0 | 3271 | 0 |
| c . System 1 & 2 Deployment to 4ID & 101st (A2C2S) | Various | Various | 1460 | 0 | | 0 | | 0 | | 0 | 1460 | 0 |
| d . ABCS System Eng & Int Efforts (A2C2S) | MIPR | Various | 492 | 0 | | 0 | | 0 | | 0 | 492 | 0 |
| e . Software Development (A2C2S) | MIPR/CPIF | Naval Research Labs, Wash, D.C., Raytheon, AL | 20076 | 0 | | 0 | | 0 | | 0 | 20076 | 0 |
| f . Training Development (A2C2S) | CPFF, CPIF | CAS, AL, Raytheon, AL | 120 | 0 | | 0 | | 0 | | 0 | 120 | 0 |
| g . Configuration Management/Technical Data (A2C2S) | MIPR/CPIF | Naval Research Lab Wash, D.C.,Raytheon, AL | 1557 | 0 | | 0 | | 0 | | 0 | 1557 | 0 |
| h . Technical Data (A2C2S) | CPFF/SS, CPIF | Dynamics Research Corp, Andover, MA, NRL, Wash D.C., Raytheon, AL | 772 | 0 | | 0 | | 0 | | 0 | 772 | 0 |

| II. Support Cost (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| i . ICNIA compliance to JTRS requirements (JTRS) | MIPR | TRW, CA | 2866 | 5000 | 1-4Q | 4000 | 1-4Q | 3000 | 1-4Q | Continue | 14866 | 0 |
| j . Integrated Digital Environment for JTRS | CPFF | ARINC, NJ | 175 | 0 | | 0 | | 0 | | 0 | 175 | 0 |
| k . CECOM Antenna Effort (JTRS) | MIPR | Booz Allen and Hamilton, McLean, VA | 0 | 250 | 1-3Q | 0 | | 0 | | 0 | 250 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 32550 | 5250 | | 4000 | | 3000 | | Continue | 44800 | 1030 |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Developmental Test & Evaluation (A2C2S) | MIPR/CPIF | ATEC/RTTC/AATD/ AED/Raytheon, AL | 7256 | 0 | | 0 | | 0 | | 0 | 7256 | 0 |
| b . Operational Test & Evaluation (A2C2S) | MIPR | TEXCOM FT. Hood, TX | 250 | 0 | | 0 | | 0 | | 0 | 250 | 0 |
| c . IA Certification (IDM) | MIPR | AMCOM,CECOM | 701 | 0 | | 0 | | 0 | | 0 | 701 | 0 |
| d . Test and Evaluation (JTRS) | MIPR | Various | 0 | 36 | 1-4Q | 1266 | 1-4Q | 7482 | 1-4Q | Continue | 8784 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604201A - AIRCRAFT AVIONICS**

PROJECT
**C97**

| III. Test and Evaluation (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 8207 | 36 | | 1266 | | 7482 | | Continue | 16991 | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Program Management Operations (A2C2S) | Various | Various | 9182 | 0 | | 0 | | 0 | | 0 | 9182 | 0 |
| b . Government Engineering Support (A2C2S) | MIPR | AMCOM, AL | 742 | 0 | | 0 | | 0 | | 0 | 742 | 0 |
| c . PM Spt (Digitization) | CPFF/C MIPR | AMCOM PATS, AL | 215 | 0 | | 0 | | 0 | | 0 | 215 | 0 |
| d . PM Spt (IDM) | MIPR | AMCOM, AL | 1119 | 151 | 1-4Q | 0 | | 0 | | Continue | 1270 | 0 |
| e . PM Spt (JTRS) | MIPR | AMCOM, AL | 815 | 1774 | 1-4Q | 3233 | 1-4Q | 2231 | 1-4Q | Continue | 8053 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 12073 | 1925 | | 3233 | | 2231 | | Continue | 19462 | 0 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 191671 | 39559 | | 64650 | | 44685 | | Continue | Continue | 1030 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604201A - AIRCRAFT AVIONICS**

PROJECT
**C97**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Continue RAH-66 Software Development (IDM) | 1-3Q | | | | | 1-4Q | | |
| Initiated ATC Support | 4Q | | | | | | | |
| Continue CH-47F test plans, software development, and B-Kit Integration in support of IDM (IDM) | 1-4Q | | | | | 1-4Q | | |
| Initiate/Continue effort to Integrate IDM/EBC software into the UH/HH-60M (IDM) | 1-4Q | 1-3Q | | | | 1-4Q | | |
| Initiate/Continue Program Management support for IDM (IDM) | 1-4Q | 1-4Q | | | | 1-4Q | | |
| Deploy System 2 to 101st ABN (A2C2S) | 1Q | | | | | | | |
| Continued Developmental Testing (A2C2S) | 1-4Q | | | | | | | |
| DCX II (A2C2S) | 1Q | | | | | | | |
| Received JTRS MDAP decision (JTRS) | 3Q | | | | | | | |
| Initiate/Continue system level testing for AH-64D, CH-47F, UH/HH060M (JTRS) | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Initiate/Continue development of JTRS A-Kit for AH-64D, CH-47F, and UH/HH-60M (JTRS) | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Initiated/Continue Systems Eng/Log Efforts for JTRS (JTRS) | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Initiated/Continue Prog Mgmt Support for JTRS A-Kit (JTRS) | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Initiate/Continue ICNIA Efforts for JTRS (JTRS) | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | | |
| Initiate/Continue CECOM Antenna Development (JTRS) | | 1-3Q | | | | | | |
| Initiated/Continue contractual effort to support AH-64D, CH-47F & UH/HH-60M (JTRS) | 1-4Q | 1-4Q | | | | | | |
| Continue Test and Evaluation Support (JTRS) | | 1-4Q | 1-4Q | 1-4Q | | | | |
| Continue development of Airborne Separation Video System (ASVS) | | 1-4Q | | | | | | |
| Initiate Transition Software Development (AMPS) | 4Q | | | 1-4Q | | 1-4Q | 1-4Q | 1-4Q |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604220A - Armed, Deployable OH-58D** | **538** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 538 KIOWA WARRIOR LFTE | 1764 | 1790 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4061 |

**A. Mission Description and Budget Item Justification:** Program funding provides static and dynamic Live Fire Test and Evaluation (LFT&E) for the Kiowa Warrior Mast Mounted Sight (MMS) and Main Rotor Blades (MRB). There will be additional quasi-static testing performed on the MRBs. The ballistic testing, required by Title X, US Code 2366, was documented in the Kiowa Warrior Live Fire Independent Evaluation Plan/Test Design Plan (IEP/TDP) dated February 1999, and approved by the Deputy Under Secretary of the Army, Operations Research (DUSA (OR)) and the Director, Operational Test and Evaluation (DOTE). LFT&E has not been conducted on the Kiowa Warrior to date because it had predated the statutory requirements. To complete the dynamic portion of the LFT&E, a ground test vehicle (GTV) will be assembled. The GTV will consist of fully functional but non-flightworthy airframe and engine parts. No radios, or working mission equipment will be installed. Only essential flight instruments will be installed for safe ground operations. Plywood mock-ups or empty black boxes will be used in place of mission equipment. The MMS static testing will be conducted with the MMS attached to a maintenance stand. The dynamic testing will be conducted with the MMS fastened on the GTV operating at 100% rotor speed. The quasi-static MRB testing will be conducted while various loads are applied to the blade specimens. Each test shot defined in the IEP/TDP will vary from caliber 7.62mm to 30 mm. All testing will occur on a controlled range at Aberdeen Proving Grounds, MD.

This system supports the Legacy transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Development/Operational Test & Analysis 2 Main rotor blades, 1 GTV Assembly | 26 | 619 | 0 | 0 |
| Developmental/Operational Test & Analysis | 0 | 107 | 0 | 0 |
| Battle Damage Assessment | 11 | 12 | 0 | 0 |
| Mock-up Cost | 1727 | 846 | 0 | 0 |
| Mock-up Cost (1 GTV) | 0 | 206 | 0 | 0 |
| Totals | 1764 | 1790 | 0 | 0 |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604220A - Armed, Deployable OH-58D** | **538** |

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 2326 | 1873 | 0 | 0 |
| Current Budget (FY 2004/2005 PB) | 1764 | 1790 | 0 | 0 |
| Total Adjustments | -562 | -83 | 0 | 0 |
| Congressional program reductions | | | | |
| Congressional rescissions | | -21 | | |
| Congressional increases | | | | |
| Reprogrammings | -497 | -10 | | |
| SBIR/STTR Transfer | -65 | -52 | | |
| Adjustments to Budget Years | | | | |

| **C. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| APA AZ2200 - Kiowa Warrior | 42103 | 41684 | 45051 | 33868 | 22450 | 42135 | 20688 | 15241 | 24900 | 288120 |

**D. Acquisition Strategy:** Test planning and actual testing will be conducted by Army Research Laboratories (ARL). Test results will be analyzed by ARL, the Army Test and Evaluation Center (ATEC), and the Evaluation Analysis Center (EAC). The US Army Aviation Logistics School (USAALS) will perform battle damage assessment and the Boeing Company will provide support for the planning, testing and analysis efforts.

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604220A - Armed, Deployable OH-58D** | **538** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Test - Phase I (Static shots) | 1-4Q | | | | | | | |
| Test - Phase II (Dynamic shots) | 4Q | 1-4Q | 1Q | | | | | |

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

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604223A - COMANCHE**

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Program Element (PE) Cost | | 754381 | 874018 | 1079257 | 1181563 | 1089860 | 879726 | 588278 | 431492 | Continuing | Continuing |
| 2LT | COMANCHE OPER TEST | 161 | 138 | 1244 | 9145 | 9118 | 10777 | 13739 | 45111 | Continuing | Continuing |
| 327 | COMANCHE | 718436 | 826067 | 1035661 | 1128915 | 951063 | 732929 | 499215 | 342904 | Continuing | Continuing |
| C72 | T-800 ENGINE ED (LH) | 35784 | 47813 | 42352 | 43503 | 31637 | 22364 | 16446 | 14056 | Continuing | Continuing |
| C79 | COMANCHE COMPANION UAV | 0 | 0 | 0 | 0 | 98042 | 113656 | 58878 | 29421 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** The RAH-66 Comanche will be the Army's next generation Armed Reconnaissance aircraft system. Comanche will be the first fielded capability of the Future Combat System in the Objective Force. It will provide the Army with Network Centric capability both from a Joint and Combined Arms perspective. Comanche's technology will provide the Army with a system capable of operating in adverse weather conditions across a wide spectrum of threat environments. Comanche's innovative design will provide the Army with much lower operating costs through the use of integrated diagnostics and component functional partitioning, eliminating the requirement for Aviation Intermediate Maintenance (AVIM). Comanche advanced airframe design incorporates composite airframe structures, bearingless main rotor system, and reduced signatures. The Comanche Mission Equipment Package (MEP) will feature an open systems architecture integrating 2nd generation target acquisition and night vision sensors. Pilot workload from targeting to navigation is significantly reduced due to introduction of cognitive decision aiding and fully integrated weapon systems. Project C72 provides for continued development and qualification of the T802 engine and air vehicle support for integration into the Comanche aircraft. Project 2LT includes funding for the operational testing of Comanche to include modeling and simulation accreditation for Early User Test, Limited User Test and Initial Operational Test and Evaluation. Project 327 provides for development of the airframe, mission equipment package, integration and qualification of the complete system to include logistic support, training, and training devices. Project C79 provides for the integration and surrogate testing for Comanche Companion Unmanned Aerial Vehicles (UAVs). Includes purchasing UAVs for Force Development Test and Experimentation (FDTE) and Initial Operational Test and Evaluation (IOT&E) for the Comanche helicopter. The Comanche system supports the Objective Force transition path of the Transformation Campaign Plan (TCP).

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 781307 | 910160 | 1003591 | 943682 |
| Current Budget (FY 2004/2005 PB) | 754381 | 874018 | 1079257 | 1181563 |
| Total Adjustments | -26926 | -36142 | 75666 | 237881 |
| Congressional program reductions | | | | |
| Congressional rescissions | -4691 | -10917 | | |
| Congressional increases | | | | |
| Reprogrammings | -690 | -5019 | | |
| SBIR/STTR Transfer | -21545 | -24978 | | |
| Adjustments to Budget Years | | 4772 | 75666 | 237881 |

FY 04/05 increases provided to fund Cost Analysis Improvement Group (CAIG) revised cost estimate.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604223A - COMANCHE** | **2LT** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2LT | COMANCHE OPER TEST | 161 | 138 | 1244 | 9145 | 9118 | 10777 | 13739 | 45111 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This project provides for progressive test requirements in support of the test and fielding of the RAH-66 Comanche helicopter. Requisite activities include Force Development Test and Experimentation (FDTE) I, II, III and IV dedicated to tactics, techniques and procedures, and Limited User Test (LUT) that provide operational input early in the system's life cycle and support the LRIP decision; the Army Training Evaluation Program (ARTEP) and Initial Operational Test and Evaluation (IOT&E) in support of a Milestone III production decision.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Conduct independent evaluation at contractor test facility in support of LUT | 81 | 28 | 539 | 5231 |
| Instrumentation and targets to support FDTE III/LUT and FDTE IV/ARTEP | 80 | 41 | 92 | 1016 |
| Validate crew station simulators (Comanche Portable Cockpits) in support of FDTE I/II; conduct FDTE II. | 0 | 57 | 156 | 2898 |
| Prepare and Conduct Electro-optical Sensor System User Survey | 0 | 12 | 457 | 0 |
| Totals | 161 | 138 | 1244 | 9145 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| A08300 Comanche | 0 | 0 | 0 | 0 | 289750 | 965880 | 1528061 | 2025104 | Continuing | Continuing |
| B00306 Companion UAV | 0 | 0 | 0 | 0 | 48850 | 117167 | 116919 | 115932 | Continuing | Continuing |

**C. Acquisition Strategy:** This project is for test and evaluation effort to support Comanche acquisition.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604223A - COMANCHE**

PROJECT
**2LT**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Government Agency | MIPR | Army Evaluation Command, Alexandria, VA | 227 | 138 | 1-3Q | 1244 | 1-3Q | 9145 | 1-3Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 227 | 138 | | 1244 | | 9145 | | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604223A - COMANCHE**

PROJECT
**2LT**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Project Total Cost: | | | 227 | 138 | | 1244 | | 9145 | | Continue | Continue | Continue |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604223A - COMANCHE**

PROJECT
**2LT**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Conduct independent evaluation at contractor test facility supporting LUT | 1-4Q | 1-4Q | 1-4Q | 1Q | | | | |
| Prepare for LUT | | 4Q | 1-4Q | 1-4Q | 1-3Q | | | |
| Prepare for FDTE I | 1-2Q | | | | | | | |
| Conduct FDTE I | 2-3Q | | | | | | | |
| Prepare for FDTE II | | 4Q | 1-4Q | 1-2Q | | | | |
| Prepare for EOSS User Survey | | 4Q | 1-3Q | | | | | |
| Conduct EOSS User Survey | | | 4Q | | | | | |
| Conduct FDTE II | | | | 3Q | | | | |
| Prepare for FDTE III | | 4Q | 1-4Q | 1-4Q | 1-2Q | | | |
| Conduct FDTE III | | | | | 3-4Q | | | |
| Conduct LUT | | | | | 4Q | | | |
| Prepare for FDTE IV and ARTEP | | | | 4Q | 1-4Q | 1-4Q | 1-4Q | |
| Conduct FDTE IV and ARTEP | | | | | | | | 1Q |
| Prepare for IOTE Block I | | | | | 2-4Q | 1-4Q | 1-4Q | 1Q |
| Conduct IOTE Block I | | | | | | | | 2-3Q |
| Prepare For IOTE Block II | | | | | 2-4Q | 1-4Q | 1-4Q | 1-2Q |
| Conduct IOTE Block II | | | | | | | | 3Q |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604223A - COMANCHE** | **327** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 327 COMANCHE | 718436 | 826067 | 1035661 | 1128915 | 951063 | 732929 | 499215 | 342904 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** The Comanche helicopter is a highly sustainable and operationally flexible armed reconnaissance light helicopter, incorporating significant reductions in personnel and support equipment, capturing the latest combat technologies and capable of accepting upgrades to meet ever-changing threats. It will dominate the battlefield in the close, deep and rear operations and provide a decisive air cavalry capability in day, night, and adverse weather. It will be operationally tailorable to regional conflicts and provide the battle commander with timely, detailed reconnaissance information and an unprecedented level of lethality.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Continue Mission Equipment Package (MEP) development | 217017 | 278845 | 290149 | 372257 |
| Continue Engineering, Manufacturing, and Development (EMD) | 434248 | 370675 | 463978 | 451967 |
| Continue component development testing and prototype flight test program | 32393 | 112479 | 173734 | 196013 |
| Continue material procurement/manufacture of 9 EMD aircraft (test articles), 4 development test, 4 Initial Training Capability (ITC) aircraft, 1 Training/Live Fire Test & Evaluation (LFTE) aircraft | 34778 | 64068 | 107800 | 108678 |
| Totals | 718436 | 826067 | 1035661 | 1128915 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| A08300 Comanche | 0 | 0 | 0 | 0 | 289750 | 965880 | 1528061 | 2025104 | Continuing | Continuing |
| B00306 Companion UAV | 0 | 0 | 0 | 0 | 48850 | 117167 | 116919 | 115932 | Continuing | Continuing |

**C. Acquisition Strategy:** Continue work with current contractor leading to production.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604223A - COMANCHE**

PROJECT
**327**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . DAAJ23-00-C-A001 | C/PAF | Boeing Sikorsky, PA | 1346935 | 767402 | 1-2Q | 975028 | 1-2Q | 1064591 | 1-2Q | Continue | Continue | Continue |
| b . DAAJ09-91-C-A004 | C/CPIF | Boeing Sikorsky, PA | 2927066 | 0 | | 0 | | 0 | | 0 | 2927066 | 2930631 |
| c . DAAJ09-87-D-A022 | C/FFP | Veridian, VA | 75041 | 7693 | 1-2Q | 8308 | 1-2Q | 8973 | 1-2Q | Continue | Continue | Continue |
| d . Other Contracts | C/FFP | Multiple | 12683 | 6503 | 1-3Q | 5927 | 1-3Q | 5061 | 1-3Q | Continue | Continue | Continue |
| e . Completed Contracts | | | 370288 | 0 | | 0 | | 0 | | 0 | 370288 | 370288 |
| f . Gov't Agencies | MIPR | Multiple | 4491 | 445 | 1-4Q | 481 | 1-4Q | 519 | 1-4Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 4736504 | 782043 | | 989744 | | 1079144 | | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604223A - COMANCHE**

PROJECT
**327**

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Other Contracts | C/FFP | Multiple | 55771 | 7544 | 1-3Q | 8148 | 1-3Q | 8799 | 1-3Q | Continue | Continue | Continue |
| b . Completed Contracts | C/FFP | | 15556 | 0 | | 0 | | 0 | | 0 | 15556 | 15556 |
| c . Gov't Agencies | MIPR | Multiple | 143580 | 14499 | 1-4Q | 15659 | 1-4Q | 16912 | 1-4Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 214907 | 22043 | | 23807 | | 25711 | | Continue | Continue | Continue |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Government Agencies | MIPR | Multiple | 31504 | 7446 | 1-4Q | 5412 | 1-4Q | 5956 | 1-4Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 31504 | 7446 | | 5412 | | 5956 | | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604223A - COMANCHE**

PROJECT
**327**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Other Contracts | C/FFP | Multiple | 10358 | 1409 | 1-3Q | 1522 | 1-3Q | 1643 | 1-3Q | Continue | Continue | Continue |
| b . PMO/Gov't Agencies | MIPR | Multiple | 34305 | 13126 | 1-4Q | 15176 | 1-4Q | 16461 | 1-4Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 44663 | 14535 | | 16698 | | 18104 | | Continue | Continue | Continue |
| Project Total Cost: | | | 5027578 | 826067 | | 1035661 | | 1128915 | | Continue | Continue | Continue |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604223A - COMANCHE** | **327** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Continue MEP development | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Continue EMD Program engineering development | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Continue development testing and prototype flight test program | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Begin/Continue material procurement/manufacture of EMD aircraft | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | | | |
| Delivery of EMD aircraft | | | | 2-4Q | 1-4Q | | | |
| Conduct development testing and flight test of acft #3 thru 6 | | | | 3-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Conduct flight test/training of aircraft #7 thru 11 | | | | | 1-4Q | 1-4Q | 1-4Q | 1-4Q |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604223A - COMANCHE** | **C72** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| C72 T-800 ENGINE ED (LH) | 35784 | 47813 | 42352 | 43503 | 31637 | 22364 | 16446 | 14056 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This project includes tasks to develop, design, fabricate, test, and qualify a turbo shaft engine of the latest technology. The engine is to be furnished as Government Furnished Equipment by the US Army to the Comanche weapon's system integrator. This engine is the only propulsion source being considered for the Comanche program. The requested budget provides for the continued development, testing, qualification and support of the T800 engine variants being used or planned for in the Comanche program. The engine's shaft horsepower has been increased by first 70 and then to 100, over that which was provided by the T800-LHT-801 or "Growth" variant. T800-LHT-802 engine with engine block upgrades (T800-LHT-802A) is scheduled for Aircraft Block II EMD integration activities and all subsequent Comanche production aircraft.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Continue engine contractor development/qualification testing and air vehicle support. | 33953 | 35581 | 29047 | 35703 |
| Continue EMD program engine manufacturing. Up to thirty-five engines (test articles) to be delivered in FY 04 thru FY 06 for Comanche EMD aircraft. | 1831 | 12232 | 13305 | 7800 |
| Totals | 35784 | 47813 | 42352 | 43503 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| A08300 Comanche | 0 | 0 | 0 | 0 | 289750 | 965880 | 1528061 | 2025104 | Continuing | Continuing |
| B00306 Companion UAV | 0 | 0 | 0 | 0 | 48850 | 117167 | 116919 | 115932 | Continuing | Continuing |

**C. Acquisition Strategy:** Continue work with current contractor leading to FAA certification, military qualification and production.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604223A - COMANCHE**

PROJECT
**C72**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . DAAJ09-92-C-0453 | C/CPFF | LHTEC, Indiana | 349422 | 0 | | 0 | | 0 | | 0 | 349422 | 349353 |
| b . DAAH23-02-C-0122 | C/CPFF | LHTEC, Indiana | 35284 | 46788 | 1-2Q | 41489 | 1-2Q | 42949 | 1-2Q | Continue | Continue | Continue |
| c . DAAJ09-85-C-B017 | C/CPFF | LHTEC, Indiana | 276821 | 0 | | 0 | | 0 | | 0 | 276821 | 276821 |
| d . DAAJ09-93-C-0518 | C/CPFF | LHTEC, Indiana | 460 | 0 | | 0 | | 0 | | 0 | 460 | 460 |
| e . DAAJ09-85-C-B019 | C/FFP | AVCO/PW, Connecticut | 128526 | 0 | | 0 | | 0 | | 0 | 128526 | 128526 |
| f . Gov't Agencies | MIPR | Multiple | 14365 | 200 | | 216 | | 233 | | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 804878 | 46988 | | 41705 | | 43182 | | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604223A - COMANCHE**

PROJECT
**C72**

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . PATS contracts | C/FFP | | 96 | 0 | | 0 | | 0 | | 0 | 96 | 96 |
| b . Rail | C/FFP | | 2806 | 0 | | 0 | | 0 | | 0 | 2806 | 2806 |
| c . Other Contracts | C/FFP | Multiple | 608 | 150 | 1-2Q | 350 | 1-2Q | 0 | | 0 | 1108 | 400 |
| | | | | | | | | | | | | |
| Subtotal: | | | 3510 | 150 | | 350 | | 0 | | 0 | 4010 | 3302 |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Government Agencies | MIPR | Multiple | 26603 | 675 | 1-3Q | 297 | 1-3Q | 321 | 1-3Q | 0 | Continue | Continue |
| b . Contracts | C/CPFF | | 2 | 0 | | 0 | | 0 | | 0 | 2 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 26605 | 675 | | 297 | | 321 | | 0 | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604223A - COMANCHE**

PROJECT
**C72**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| Remarks: None | | | | | | | | | | | | |
| Project Total Cost: | | | 834993 | 47813 | | 42352 | | 43503 | | Continue | Continue | Continue |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604223A - COMANCHE** | **C72** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Continue development/qualification of the T800-LHT-802 engine | 1-4Q | 1-4Q | 1Q | | | | | |
| Begin development/qualification of the T800-LHT-802A engine | | 1-4Q | 1-4Q | 1-4Q | 1-3Q | | | |
| Continue air vehicle support | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| EMD/ITC engine deliveries | | | 2-4Q | 1-4Q | 1-4Q | | | |

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

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604270A - EW DEVELOPMENT**

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Program Element (PE) Cost | | 53411 | 38309 | 33214 | 19526 | 25144 | 31649 | 28333 | 25151 | Continuing | Continuing |
| 665 | A/C SURV EQUIP DEV | 7069 | 9306 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 40337 |
| L12 | SIGNALS WARFARE DEVELOPMENT (TIARA) | 3723 | 25562 | 22266 | 9479 | 11459 | 14311 | 10403 | 10807 | 0 | 110949 |
| L15 | ARAT-TSS | 1884 | 2106 | 2259 | 1372 | 1270 | 1267 | 1817 | 1883 | Continuing | Continuing |
| L16 | TROJAN DEVELOPMENT | 1394 | 1335 | 1475 | 1475 | 1569 | 1570 | 1590 | 1625 | Continuing | Continuing |
| L20 | ATIRCM/CMWS | 39341 | 0 | 7214 | 7200 | 10846 | 14501 | 14523 | 10836 | 0 | 142654 |

**A. Mission Description and Budget Item Justification:** This program element encompasses engineering and manufacturing development for tactical electronic warfare (EW), signals warfare (SW), aircraft survivability equipment (ASE), battlefield deception, rapid software reprogramming and protection of personnel and equipment from hostile artillery. EW encompasses the development of tactical EW equipment and systems mounted in both ground and air vehicles. The systems under this program provide the Army with the capability to degrade or deny hostile forces the effective use of their communications, countermortar/counterbattery radars, surveillance radars, infrared/optical battlefield surveillance systems and electronically fused munitions. Existing Army EW systems must be replaced or upgraded to maintain their capability in the face of threats. This program element satisfies requirements for brigade, division, corps and higher commanders to conduct electronic warfare to meet tactical and Special Electronic Mission Aircraft (SEMA), attack/scout, and assault/cargo mission requirements. The Prophet program provides for the development of multifunction ground based and airborne intelligence and electronic warfare systems. Trojan will complete Proof-of-Principle R&D for specific applications in advanced threat signals processing, prototype software upgrades, high frequency (HF) algorithms for compact antenna array technology (CAAT), search and acquisition capabilities for unattended signal collectors, and new digital intelligence collection, processing and dissemination technology. The ARAT Project will develop, test and equip an Army-wide infrastructure capable of rapidly reprogramming electronic combat software embedded in offensive and defensive weapon systems. This system supports the Legacy-to-Objective transition path of the Transformation Campaign Path (TCP).

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

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604270A - EW DEVELOPMENT**

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 53616 | 22819 | 39759 | 25891 |
| Current Budget (FY 2004/2005 PB) | 53411 | 38309 | 33214 | 19526 |
| Total Adjustments | -205 | 15490 | -6545 | -6365 |
| Congressional program reductions | | | | |
| Congressional rescissions | -205 | -1087 | | |
| Congressional increases | | 16900 | | |
| Reprogrammings | | | | |
| SBIR/STTR Transfer | | -323 | | |
| Adjustments to Budget Years | | | -6545 | -6365 |

FY2004/FY 2005 funds realigned to support higher Army priorities.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604270A - EW DEVELOPMENT** | **L12** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| L12 | SIGNALS WARFARE DEVELOPMENT (TIARA) | 3723 | 25562 | 22266 | 9479 | 11459 | 14311 | 10403 | 10807 | 0 | 110949 |

**A. Mission Description and Budget Item Justification:** Prophet's primary mission is providing 24-hour Situation Development and Information Superiority to the supported maneuver brigade to enable the most effective engagement of enemy forces. Prophet is an integral part of the Army Transformation, providing near real time (NRT) information to the Brigade Commander within his combat decision cycle. It is the tactical commander's sole organic ground based Multi-Sensor system for the Division, Stryker Brigade Combat Team (SBCT) and Armored Cavalry Regiments (ACR). Prophet provides the tactical commander with next generation Signals Intelligence/Electronic Warfare (SIGINT/EW) - radio detection finding capability, Measurement and Signature Intelligence (MASINT) and unattended ground sensors surveillance capabilities. Prophet operates in direct support (DS) as an embedded and integral part of the Future Combat System (FCS) Unit of Action (UA) maneuver element and FCS Unit of Employment (UE) 1. Prophet replaces the division level Trailblazer and Teammate legacy SIGINT systems in Block I, and TrafficJam in Block II. Prophet stationary and on-the-move direction finding information develops battlespace visualization, intelligence preparation of the battlefield (IPB) and target development for enemy and gray emitters within radio line-of-sight across the brigade area of responsibility. Block II/III will add Electronic Attack (EA) and an improved signal type detection capability during the System Development and Demonstration (SDD). This increased capability will provide the Brigade Commander with the ability to detect and suppress all types of communications anticipated in the future battlespace. Additionally, Prophet provides the ability to intercept voice communications data when on board linguists are available. This NRT information when processed provides a key component of the fused intelligence common operating picture (COP). Initially Prophet will interface with the maneuver brigade Analysis Control Team's (ACT) All Source Analysis System (ASAS)-Remote Work Stations (ASAS-RWS) via Prophet Control. Prophet Control is a surrogate for the Distributed Common Ground System-Army (DCGS-A) in Blocks I to III. Prophet Control's functionality is planned to be integrated onto the DCGS-A platform. The ACT will forward the gathered information to the division and armored cavalry Analysis Control Element's (ACE) ASAS. Prophet enables the Brigade Commander to detect signals while the vehicle is moving, a first for a Tactical SIGINT system. Prophet is being developed in a user prioritized five block approach: Block I - Electronic Support (ES) (COMINT), Block II - Electronic Attack (EA), Block III - Modern Signals (The Agile Signals, TAS), Block IV - SIGINT/MASINT Fusion and Block V - Micro-Sensors and Robotics sensor extension capabilities. The Leviathon system has been conceived to be a flexible, upgradeable, multi-faceted total system solution for SIGINT collection. System enhancements include survey and analysis tools, miniature special purpose exploitation tools, and processor intensive algorithm optimization to minimize computational times required for certain features and capabilities.
Prophet Block II/III is being developed to support integration into the Unit of Action (UA) reconnaissance and surveillance vehicles to provide SIGINT and EA sensors to support the Intelligence, Surveillance, and Reconnaissance (ISR) requirements. The Prophet System supports the Legacy to Objective transition path of the Army Transformation Campaign Plan (TCP).

This Project was provided $16.9M in FY 03 as a transfer from DERF during the FY Congressional Budget process.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604270A - EW DEVELOPMENT** | **L12** |

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Prepare for and Conduct Mileston B IPR for Prophet Block II/III Contract | 372 | 100 | 0 | 0 |
| Award Prophet Block II/III System Development and Demonstration (SDD) Contract | 0 | 21530 | 17519 | 1000 |
| Prepare for and conduct Prophet Block II/III DT/IOT&E | 250 | 1857 | 4422 | 0 |
| Complete Foreign Comparative Test (FCT) Report/Evaluation | 375 | 0 | 0 | 0 |
| Conduct SSEB(s) for Prophet Block II/III and Enhancements contracts | 409 | 450 | 100 | 400 |
| Conduct follow-on Foreign Comparative Test (FCT)/Risk Mitigation for Prophet Block III | 1742 | 0 | 0 | 0 |
| Develop Prophet Control | 575 | 650 | 0 | 0 |
| Prepare for Prophet Block II/III MS C | 0 | 0 | 225 | 0 |
| Award Prophet Block Enhancements Contract | 0 | 0 | 0 | 8079 |
| Conduct of Leviathon Studies and Prototype Development | 0 | 975 | 0 | 0 |
| Totals | 3723 | 25562 | 22266 | 9479 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| BZ7326 Prophet Ground | 15625 | 34273 | 3175 | 13316 | 13190 | 25081 | 30013 | 26422 | Continuing | Continuing |
| PE 603774 Tactical SIGINT Payload (TSP) (Project D131) | 6962 | 6670 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13632 |
| PE 030885G Defense Cryptological Program for PROPHET | 2057 | 1694 | 3826 | 4088 | 4339 | 3103 | 7068 | 7068 | Continuing | Continuing |
| PE Defense Crytoplogical Program for TSP | 1571 | 1657 | 1517 | 2129 | 4042 | 4438 | 7550 | 7550 | 0 | 30454 |
| PE 375204 Tactical SIGINT Payload (TSP) Development (Project 11B) | 0 | 0 | 5771 | 5898 | 19714 | 21409 | 10906 | 11302 | Continuing | Continuing |

**C. Acquisition Strategy:** The Prophet Acquisition Strategy is structured to optimize system capability while reducing risk and streamlining business and engineering processes. Block I ES (COMINT) Engineering and Manufacturing Development (EMD) was a sole source effort which leveraged off existing COTS equipment. Follow-on Block II (EA) and Block III (Modern Signals - The Alternate Signal (TAS)) efforts will be combined and will follow an evolutionary acquisition process and will be competitively awarded.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604270A - EW DEVELOPMENT**

PROJECT
**L12**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Prophet Block II/III SDD Contract | C-CPIF | TBS | 0 | 20143 | 2Q | 15369 | 1Q | 1000 | 1Q | 0 | 36512 | 0 |
| b . Prophet Block Tech Insertion Contract | CPXF | TBS | 0 | 0 | | 0 | | 6129 | 1Q | Continue | 6129 | Continue |
| c . Leviathon Development and Prototyping | CPFF | Sensytech, Newington, VA | 0 | 975 | 2Q | 0 | | 0 | | 0 | 975 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 21118 | | 15369 | | 7129 | | Continue | 43616 | Continue |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Matrix Support | MIPR | CECOM, Fort Monmouth NJ | 4015 | 1641 | 1-2Q | 1775 | 1Q | 1050 | 1Q | Continue | 8481 | 0 |
| b . Contractor Eng & Spt | FFP | Sytex Group, Eatontown, NJ | 403 | 200 | 1-2Q | 100 | 1Q | 100 | 1Q | Continue | 803 | 0 |
| c . Contractor Eng & Spt | FFP | CACI, Eatontown, NJ | 675 | 750 | 1-2Q | 600 | 1Q | 400 | 1Q | Continue | 2425 | 0 |
| d . TSM/NSTO | MIPR | TSM, Ft Huachuaca, AZ | 250 | 250 | | 0 | | 0 | | 0 | 500 | 250 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604270A - EW DEVELOPMENT**

PROJECT
**L12**

| II. Support Cost (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 5343 | 2841 | | 2475 | | 1550 | | Continue | 12209 | 250 |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Prepare for and Conduct Prophet Block II/III DT/IOTE | MIPR | EPG/AEC | 0 | 1078 | 2-4Q | 3922 | 1Q | 0 | | 0 | 5000 | 0 |
| b . Prophet BlockTech Insertion beyond II/III | MIPR | EPG/AEC | 0 | 0 | | 0 | | 300 | 2Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 1078 | | 3922 | | 300 | | Continue | Continue | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604270A - EW DEVELOPMENT**

PROJECT
**L12**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Program Management | In-House | PM, Signals Warfare, Fort Monmouth NJ | 4022 | 525 | 1-4Q | 500 | 1-4Q | 500 | 1-4Q | Continue | 5547 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 4022 | 525 | | 500 | | 500 | | Continue | 5547 | 0 |
| Project Total Cost: | | | 9365 | 25562 | | 22266 | | 9479 | | Continue | Continue | Continue |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604270A - EW DEVELOPMENT** | **L12** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Conduct Prophet Block III Risk Mitigation/Foreign Cooperative Test II | 1-3Q | | | | | | | |
| Conduct SSEB for Prophet Block II/III SDD Contract | 4Q | 1-2Q | | | | | | |
| Milestong B Decision for Prophet Block II/III SDD Contract | | 2Q | | | | | | |
| Award Prophet Block II/III SDD Contract | | 2Q | | | | | | |
| Conduct Block II/III DT/IOT&E | | | 3-4Q | | | | | |
| Milestone B for Prophet Tech Insertion | | | 4Q | | | | | |
| Conduct SSEB for Prophet Tech Insertion Contract | | | 4Q | 1Q | | | | |
| Milestone C Decision for Prophet Block II/III | | | | 1Q | | | | |
| Conduct DT/IOTE for Prophet Tech Insertion | | | | | 2-4Q | 1-4Q | | |
| Milestone C for Prophet Tech Insertion | | | | | | | 1Q | |
| Conduct Leviathon Studies and Develop Prototypes | | 2-4Q | 1Q | | | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604270A - EW DEVELOPMENT** | **L15** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| L15 ARAT-TSS | 1884 | 2106 | 2259 | 1372 | 1270 | 1267 | 1817 | 1883 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:**: The Army Reprogramming Analysis Team (ARAT) Target Sensing System (TSS) supports the tactical Commander by providing timely/rapid reprogramming of any Army supported, joint, allied service, Army Electronic Warfare (EW) Integrated Reprogramming (EWIR) or Measurement Intelligence (MASINT) based target acquisition, target engagement, or vehicle/aircraft survivability equipment (ASE). ARAT provides software changes not readily possible by operator input, to respond to rapid deployments or changes in the threat environment. The ARAT Software Engineering (SE) Project Office coordinates the development of ARAT infrastructure to support the needs of all TSS developers and users; develops the capability to conduct real-time hardware and software technical enhancements of validated threat changes; examines and identifies the best technical approaches for development of field reprogramming capabilities of ATSS with commonality at a desired end-state; supports the developments of flagging models; participates in the operational and developmental test design of ATSS; and supports Service and JCS Reprogramming Exercises.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Engineering Development (TSS Survey): Complete the Survey initiated in FY02 to identify TSS requiring support in Army Battlefield Functional Area (BFAs) with a focus on operational, technical, and intelligence aspects. This would include technical information about the actual TSS and their near and far term support requirements for intelligence collection, flagging, and threat analysis, Mission Data Set (MDS), communications, and filed support. | 0 | 475 | 250 | 150 |
| Engineering Development (TSS Survey): Initiate a Target Sensing System (TSS) Survey requiring support in Army Battlefield Functional Area (BFAs) with a focus on operational, technical, and intelligence aspects. This would include technical information about the actual TSS and their near and far term support requirements for intelligence collection, flagging, and threat analysis, Mission Data Set (MDS), communications, and filed support. | 350 | 0 | 0 | 0 |
| Intelligence Support (Platform Intelligence Integration): Analyze capability of using data from US Army Aviation Platform systems to increase tactical situational awareness as well as providing additional intelligence collection data. This would include evaluation of system modifications. | 450 | 0 | 350 | 300 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Intelligence Support (Platform Intelligence Integration): Building on the work completed in FY02 determine individual platform benefits vs. potential costs to upgrade systems on each Aviation platform. Initiate lab testing of potential system updates to verify the additional benefit and identify intelligence collection methodology to integrate the collected intelligence data onto an intelligence network. | 0 | 500 | 647 | 246 |
| Database Support (Flagging Model): Work jointly with the USAF at Kelly AFB, TX to complete the conversion of the current flagging database structure shared by the US Army and USAF flagging models to a more modern database structure. In addition, initiate converting the US Army flagging models over to the new database structure. | 0 | 275 | 0 | 200 |
| Database Support (Flagging Model): Work jointly with the USAF at Kelly AFB, TX to initiate the conversion of the current flagging database structure shared by the US Army and USAF flagging models to a more modern database structure. | 200 | 0 | 100 | 0 |
| Dissemination (EWOSS/MLV): Complete an upgrade of EWOSS 2000 communications tool for the field user by improving the classified connection capability and integrating all aspects of current MLV software as modules within the basic structure. In addition, develop training aids to facilitate the field user being able to successfully use this software without attending a formal training course. | 200 | 0 | 200 | 0 |
| Dissemination (EWOSS/MLV): Using the upgraded EWOSS 2000 software, define and internally alpha test a common MLV system with flexible data protocols to support the associated cables and protocols required for each US Army TSS being reprogrammed. After completing alpha testing, initiate beta testing with field users including the use of the training aids developed in FY02. | 0 | 300 | 100 | 0 |
| Engineering Development, Intelligence Support, Database Support, & Dissemination (Common Intel Database): Define requirements for a common intelligence database analysis and MDS tool for use by ARAT-TA (Kelly and Eglin AFBs) and ARAT-SE. The functionality must include common user interface, intelligence inputs, modular threat analysis and MDS generator tools, and output formats to support intelligence reporting, RF scenarios inputs and MDS inputs for EWOSS/MLV to leverage the use of existing tools such as the Major Radar Database (MRDB) as much as practical. | 684 | 0 | 250 | 200 |
| Engineering Development, Intelligence Support, Database Support, & Dissemination (Common Intel Database): Using the requirements definition completed in FY02, initiate the development of the common intelligence database analysis and MDS tool. Complete the user interface, database structure, output formats, and placeholders for the internal threat analysis and MDS generator tools. | 0 | 556 | 362 | 276 |
| Totals | 1884 | 2106 | 2259 | 1372 |

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

**C. Acquisition Strategy:** The efforts to be funded in this project will require a combination of systems specific and high-tech knowledge. The contractual services portion for the project will be obtained from both the CECOM SEC competitive omnibus and the RDEC High Tech contracts.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604270A - EW DEVELOPMENT**

PROJECT
**L15**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Labor (internal Gov't) | TBD | CECOM, Fort Monmouth, NJ | 550 | 650 | 1-4Q | 550 | 1-4Q | 550 | 1-4Q | Continue | Continue | Continue |
| b . Travel | TBD | TBD/Various sites | 49 | 45 | 1-4Q | 60 | | 60 | | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 599 | 695 | | 610 | | 610 | | Continue | Continue | Continue |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Development Support (INSCOM Full Spectrum) | TBD | TBD/Various sites | 300 | 400 | 1-3Q | 400 | | 265 | 1-4Q | Continue | Continue | Continue |
| b . Development Support (CECOM RDEC T&E CECOM SEC Omnibus) | TBD | TBD/Various sites | 576 | 599 | 1-4Q | 337 | | 186 | 1-4Q | Continue | 1698 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 876 | 999 | | 737 | | 451 | | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604270A - EW DEVELOPMENT**

PROJECT
**L15**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Labor and ranges | TBD | TBD | 0 | 0 | | 500 | 1-4Q | 0 | | 0 | 500 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 500 | | 0 | | 0 | 500 | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Labor (Int and Contact) | TBD | CECOM and INSCOM | 409 | 412 | 1-4Q | 412 | 1-4Q | 311 | 1-4Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 409 | 412 | | 412 | | 311 | | Continue | Continue | Continue |
| Project Total Cost: | | | 1884 | 2106 | | 2259 | | 1372 | | Continue | Continue | Continue |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604270A - EW DEVELOPMENT** | **L16** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| L16 TROJAN DEVELOPMENT | 1394 | 1335 | 1475 | 1475 | 1569 | 1570 | 1590 | 1625 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This project is a Tactical Intelligence and Related Activities (TIARA) program. TROJAN RDT&E supports TROJAN Classic XXI (TCXXI) future capabilities to fulfill the Army's need for a worldwide, deployable, remotable, intelligence, surveillance and reconnaissance (ISR) support that can dynamically execute operations from sanctuary-based to deployed assets in theater. In support of the Objective Force and Future Combat System (FCS), TCXXI will provide soldiers with a real-world, hands-on, live and near-real time SIGINT training environment sustaining, maintaining and enhancing their military occupational specialty (MOS) proficiencies and specific target expertise. This operational readiness training will fulfill the Army's larger intelligence training requirement via a secure collaborative architecture.

A key factor for success the Objective Force and FCS will be the ability to collect, process and use information about an adversary while preventing similar information from being disclosed. TROJAN is a combined operational and readiness mission system which uses advanced networking technology to provide seamless rapid radio relay, secure communications to include voice, data, facsimile, and electronic reconnaissance support to U.S. forces throughout the world. TROJAN operations may be easily tailored to fit military intelligence unit training schedules and surged during specific events to involve every aspect of the tactical intelligence collection, processing, analysis and reporting systems. This project engineers, tests and evaluates new digital intelligence collection, processing and dissemination technology using the fielded TROJAN systems, prior to the acquisition of those technologies. As part of the Objective C4ISR Architecture, these capabilities will enable processing and dissemination of real-time intelligence data from various sources to form the intelligence needed to issue orders inside the threat decision cycle. To that end, it is imperative that TROJAN keeps pace with digitization initiatives in order to respond aggressively to the emerging intelligence communication threats

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Conduct operational testing and evaluation of previously developed special processing devices and software with enhanced signal processing algorithms. | 0 | 429 | 0 | 0 |
| Integrate and test specialized hardware/software for classified pre-processing of new signals of interest utilizing enhanced signal processing algorithms. | 500 | 0 | 500 | 500 |
| Acquire and apply multi-bandwidth compression algorithm technology to maximize TROJAN intelligence network throughput. | 0 | 500 | 0 | 0 |
| Develop prototype QRC Receiver packages for fixed and transportable TROJAN systems to acquire non-standard modulations using DSP and FPGA technologies. | 256 | 0 | 575 | 725 |
| Integrate Direction Finding (DF) and geolocation technologies into TROJAN Remote Receiving Groups (RRGs). | 0 | 406 | 400 | 250 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Investigate compression/processing technologies to reduce communications bandwidth requirements for remoted TROJAN systems, including streaming audio technologies. | 638 | 0 | 0 | 0 |
| Totals | 1394 | 1335 | 1475 | 1475 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| OPA BA0331 Trojan | 4857 | 4873 | 5052 | 5186 | 5261 | 5365 | 0 | 0 | 0 | 30594 |

**C. Acquisition Strategy:** Not applicable for this item.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604270A - EW DEVELOPMENT**

PROJECT
**L16**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Develop Prototype QRC Receiver packages | MIPR | CECOM I2WD Ft Monmouth | 256 | 0 | | 575 | 2-3Q | 725 | 2-3Q | Continue | 1556 | Continue |
| b . Develop DF Capabilities for TROJAN RRG | MIPR | CECOM I2WD Ft Monmouth | 0 | 406 | 2Q | 400 | 2-3Q | 250 | 1-2Q | Continue | 1056 | Continue |
| c . Investigate Compression /processing technologies | MIPR | CECOM I2WD Ft Monmouth | 638 | 0 | | 0 | | 0 | | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 894 | 406 | | 975 | | 975 | | Continue | Continue | Continue |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Aquire & Apply muliti bandwidth compr Algorithm | MIPR | CECOM I2WD FT Monmouth | 0 | 500 | 3Q | 0 | | 0 | | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 500 | | 0 | | 0 | | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604270A - EW DEVELOPMENT**

PROJECT
**L16**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Integrate/test hardware/software | MIPR | CECOM I2WD FT Monmouth | 500 | 0 | | 500 | 2-3Q | 500 | 2-3Q | Continue | 1500 | Continue |
| b . Operational test/eval of enhanced SIG Processing | MIPR | CECOM I2WD Ft Monmouth | 0 | 429 | 3Q | 0 | | 0 | | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 500 | 429 | | 500 | | 500 | | Continue | Continue | Continue |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| Project Total Cost: | | | 1394 | 1335 | | 1475 | | 1475 | | Continue | Continue | Continue |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604270A - EW DEVELOPMENT** | **L20** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| L20 ATIRCM/CMWS | 39341 | 0 | 7214 | 7200 | 10846 | 14501 | 14523 | 10836 | 0 | 142654 |

**A. Mission Description and Budget Item Justification:** The ATIRCM/CMWS is a U.S. Army program to develop, test, and integrate defensive infrared (IR) countermeasures capabilities into existing, current generation host platforms, which includes the MH-60/MH-47, AH-64D, UH-60 and CH-47F, for more effective protection against a greater number of IR guided missile threats than afforded by currently fielded IR countermeasures. The US Army operational requirements concept for IR countermeasure systems is known as the Suite of Integrated Infrared Countermeasures (SIIRCM). It is an integrated warning and countermeasure system to enhance aircraft survivability against IR guided threat missile systems. The core element of the SIIRCM concept is the Advanced Threat Infrared Countermeasure (ATIRCM), Common Missile Warning System (CMWS) program. The ATIRCM/CMWS, a subsystem to a host aircraft, is an integrated ultra-violet (UV) missile warning system and an IR Lamp/Laser Jamming and Improved Countermeasure Dispenser (ICMD).

The CMWS also functions as a stand-alone system with the capability to detect missiles and provide audible and visual warnings to the pilot(s), and, when installed with the ICMD, activates expendables to provide a degree of protection. ATIRCM/CMWS is the key infrared survivability system for Army Objective Force aircraft. This system supports the Legacy-to-Objective transition path of the Transformation Campaign Plan (TCP).

FY04/05 funding completes operational test support as well as initial P3I efforts in support of laser miniaturization.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Continue EMD contract T&M efforts for testing and producibility in support of the ATIRCM/CMWS. | 16067 | 0 | 0 | 0 |
| Continue Modeling & Simulation efforts for ATIRCM/CMWS | 600 | 0 | 0 | 0 |
| Purchase 6 each ATIRCM systems for MH-47 and MH-60 IOT&E. | 16373 | 0 | 0 | 0 |
| Complete development and operational testing for the ATIRCM MH-47 configuration. | 3704 | 0 | 0 | 0 |
| Test facility | 2597 | 0 | 0 | 0 |
| Operational test support and Log Demo | 0 | 0 | 5500 | 0 |
| Laser Miniaturization | 0 | 0 | 1714 | 7200 |
| Totals | 39341 | 0 | 7214 | 7200 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| APA, BA 4 AZ3507 ASE Infrared CM | 3565 | 0 | 75713 | 86691 | 97929 | 101608 | 136714 | 129897 | 2551068 | 3183185 |
| OSD Procurement, PE 1160444BB | 39824 | 23800 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 63624 |

**C. Acquisition Strategy:** The EMD contract competitively awarded in FY 1995. The AAE approved the Limited Procurement Urgent (LPU) for acquisition of the CMWS capability for Special Operations Force (SOF) aircraft in Mar 02. Renewed funding supports a new acquisition strategy of buying CMWS separately from ATIRCM, while installing A-kits on all modernized aircraft. In addition to operational test support, FY 04 as well as FY05 RDTE funds support ATIRCM/CMWS P3I efforts. The P3I efforts incorporate growth to Tier 2 and 3 (missiles) threats, miniaturization, all band laser capabilities, incorporation of multi-band fiber optic, and provides enhanced flare capability for evaluation of integrated countermeasures capability.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604270A - EW DEVELOPMENT**

PROJECT
**L20**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Thiokol (AIRCMM) | C/CPIF | Brigham City, UT | 1563 | 0 | | 0 | | 0 | | 0 | 1563 | 1563 |
| b . BAE Systems (ATIRCM) EMD basic contract | C/CPAF | Nashua, NH | 23574 | 0 | | 0 | | 0 | | 0 | 23574 | 171784 |
| c . BAE Systems (ATIRCM) T&M efforts | C/CPFF | Nashua, NH | 40412 | 0 | | 0 | | 0 | | 0 | 40412 | 40412 |
| d . BAE Systems (ATIRCM) 6 ATIRCM | SS/CPFF | Nashua, NH | 14640 | 0 | | 0 | | 0 | | 0 | 14640 | 14640 |
| e . Cowley (ATIRCM) | C/CPFF | Chantilly, VA | 100 | 0 | | 0 | | 0 | | 0 | 100 | 100 |
| f . Test Facility - Amherst | C/CPFF | Huntsville, AL | 1300 | 0 | | 0 | | 0 | | 0 | 1300 | 1300 |
| g . Other | Various | Various | 1062 | 0 | | 0 | | 0 | | 0 | 1062 | 1062 |
| h . ATIRCM Miniaturization | TBS | TBS | 0 | 0 | | 1714 | 2Q | 5939 | 1Q | 0 | 7653 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 82651 | 0 | | 1714 | | 5939 | | 0 | 90304 | 230861 |

Remarks: FY99 & Prior funding in Project 665

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604270A - EW DEVELOPMENT**

PROJECT
**L20**

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Modeling & Simulation Contractor Support | C/FFP | Huntsville, AL | 600 | 0 | | 0 | | 0 | | 0 | 600 | 600 |
| b . Contractor Support | C/FFP | Huntsville, AL | 9554 | 0 | | 0 | | 0 | | 0 | 9554 | 9554 |
| c . Matrix Support | MIPR | CECOM, Fort Monmouth NJ; AMCOM, Huntsville, AL | 3055 | 0 | | 696 | 1Q | 696 | 1Q | 0 | 4447 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 13209 | 0 | | 696 | | 696 | | 0 | 14601 | 10154 |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . EPG support | MIPR | Ft. Huachuca, AZ | 5925 | 0 | | 0 | | 0 | | 0 | 5925 | 0 |
| b . Operational Test Center IOT&E support | MIPR | Various | 6732 | 0 | | 3159 | 1Q | 0 | | 0 | 9891 | 0 |
| c . ATTC test support | MIPR | Fort Rucker, AL | 2504 | 0 | | 0 | | 0 | | 0 | 2504 | 0 |
| d . Neer/Thomsen/O2K contractor test support | C/FFP | Huntsville, AL | 2663 | 0 | | 0 | | 0 | | 0 | 2663 | 2663 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604270A - EW DEVELOPMENT**

PROJECT
**L20**

| III. Test and Evaluation (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| e . Westar test support | C/FFP | Huntsville, AL | 559 | 0 | | 0 | | 0 | | 0 | 559 | 559 |
| f . PM ITTS/46TH Test Wing (Eglin AFB) | MIPR | Eglin AFB, FL | 2800 | 0 | | 0 | | 0 | | 0 | 2800 | 0 |
| g . RTTC | MIPR | Redstone Arsenal, AL | 400 | 0 | | 1080 | 1Q | 0 | | 0 | 1480 | 0 |
| h . Other | MIPR | | 105 | 0 | | 0 | | 0 | | 0 | 105 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 21688 | 0 | | 4239 | | 0 | | 0 | 25927 | 3222 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Project Management | In house support | PM AES, Huntsville, AL | 5336 | 0 | | 565 | 1-4Q | 565 | 1-4Q | 0 | 6466 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 5336 | 0 | | 565 | | 565 | | 0 | 6466 | 0 |
| Project Total Cost: | | | 122884 | 0 | | 7214 | | 7200 | | 0 | 137298 | 244237 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604270A - EW DEVELOPMENT** | **L20** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Start/complete ATIRCM/CMWS developmental testing for SOA. | 1-4Q | | | | | | | |
| Contract award of 6 ATIRCM in support of MH47 and MH-60 IOT&E | 2Q | | | | | | | |
| ATIRCM/Jam Head LRIP | | 3Q | | | | | | |
| IOT&E | | | 2-4Q | | | | | |
| ATIRCM Miniaturization development | | | 2-4Q | 1-4Q | 1-4Q | 1-4Q | | |
| Tier 2/3 | | | | | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Full Rate Production (CMWS) | | | | 1Q | | | | |
| Full Rate Production (ATIRCM) | | | | 2Q | | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604280A - Joint Tactical Radio System** | **162** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 162 | JOINT TACTICAL RADIO SYSTEM | 72742 | 62921 | 134693 | 91583 | 62826 | 55945 | 28849 | 27347 | 0 | 596720 |

**A. Mission Description and Budget Item Justification:** The mission of the Joint Tactical Radio System (JTRS) program is to provide software programmable, reconfigurable digital radio systems to meet Joint Vision 2010/2020 requirements for interoperability, flexibility, adaptability, and information exchange. The program will acquire a family of affordable, scaleable, high-capacity, interoperable Line of Sight (LOS) and Beyond Line of Sight (BLOS) radios to support simultaneous networked voice, data, and video transmissions with low probability of intercept within the frequency band of 2Mhz to 2GHz and above. The program will provide operational forces with an upgraded interoperable communications capability for improved battlespace management and increased warfighter effectiveness. Also, JTRS will contribute to Homeland Security and Defense, providing communications interoperability among civil and local agencies, particularly First Response units. Additionally, interoperability with allied and coalition partners is pursued through international cooperative efforts, including a signed US-Japan Memorandum Of Understanding (MOU) and the signed US-UK Project Arrangement. Approval has been received to develop a Project Agreement with Sweden. Discussions with Canada, Australia, France and NATO are ongoing.

The JTRS program is a distributed acquisition effort, with acquisition responsibilities divided among Service acquisition agencies. The Joint Program Office (JPO) is responsible for (1) the overall management and oversight of the JTRS program, (2) development, validation, and evolution of a common JTRS Software Communications Architecture (SCA), (3) development and maintenance of waveform software applications, (4) development of software cryptographic algorithms, and (5) testing and certification of JTRS hardware and software products. Service acquisition agencies are responsible for acquiring and fielding particular systems to meet specific warfighter needs, including hardware development, integration of software, and platform integration efforts. This approach promotes commonality, jointness and interoperability, providing cost savings through maximization of software code porting and reuse, technology insertion, and common solutions, while allowing flexibility to meet unique requirements. The Army is the Executive Service for the joint program.

Beginning in FY2004, the JTRS JPO will manage and execute transition of the Joint Task Force WARNET (JTFW) capability to the Services. JTFW is an integrated, secure, wide area networking communications and command and control (C2) applications architecture designed to promote joint interoperability among deployed US combatant forces, and including coalition partners. JTFW uses transformational technologies to enhance connectivity among users and provides interface and translation functionality between disparate Service tactical C2 systems.

This system supports the Legacy to Objective Transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Maintain, evolve and provide configuration management of the SCA. | 468 | 1051 | 2800 | 2000 |
| Continue acquisition of waveforms listed in the JTRS Operational Requirements Document (ORD), including development of complex waveforms, Cluster support and other waveform related activities. Continue development of crypto algorithm software and other security related activities. | 57240 | 34983 | 72393 | 44183 |
| Continue technology advancement and problem resolution, to include areas such as multiple independent levels of security (MILS), multilevel security (MLS), and network modeling and security. | 0 | 800 | 3000 | 3000 |
| Continue hardware and software waveform certification process (SCA compliance testing) to meet program requirements. | 3919 | 13198 | 16500 | 16300 |
| Manage and transition JTF WARNET. | 0 | 0 | 25000 | 12000 |
| Continue Joint Program Office (JPO) technical support, including waveform development, system engineering, spectrum allocation and approval for use, systems security engineering and problem resolution and support of Software Communications Architecture (SCA) activities. Provide technical guidance to Service Program Management Offices (PMOs). Provide oversight for all DoD radio acquisitions to ensure JTRS interoperability. | 6581 | 6996 | 8500 | 8000 |
| Continue JPO program support, including administration, program management, international cooperative efforts, legal, contracting, budget execution and cost estimating activities. | 4534 | 5893 | 6500 | 6100 |
| Totals | 72742 | 62921 | 134693 | 91583 |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604280A - Joint Tactical Radio System** | **162** |

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 74814 | 65818 | 50909 | 40053 |
| Current Budget (FY 2004/2005 PB) | 72742 | 62921 | 134693 | 91583 |
| Total Adjustments | -2072 | -2897 | 83784 | 51530 |
| Congressional program reductions | | -723 | | |
| Congressional rescissions | | | | |
| Congressional increases | | | | |
| Reprogrammings | | -361 | | |
| SBIR/STTR Transfer | -2072 | -1813 | | |
| Adjustments to Budget Years | | | 83784 | 51530 |

Program funding in FY2004/FY2005 has been adjusted to reflect the recently approved Joint Cost Position (FY2004, +58784; FY2005,+39530). In FY2004/FY2005, funding has been provided for management and transition of Joint Task Force WARNET (FY2004, +25000; FY2005,+12000).

| **C. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| RDTE, 0604805A C3 Systems - Eng Dev; project 615, JTRS Ground Domain Integration (Cluster 1) | 83667 | 60340 | 172936 | 96935 | 63897 | 42782 | 15200 | 2804 | Continue | Continue |
| OPA, Army Data Distribution System, BU1400 (JTRS) (Cluster 1) | 0 | 0 | 0 | 136552 | 119146 | 132272 | 124542 | 123782 | Continue | Continue |
| RDTE, 0604201A Aircraft Avionics (JTRS) (Cluster 1) | 7040 | 30483 | 60650 | 41615 | 29052 | 23491 | 31348 | 24374 | Continue | Continue |
| APA, JTRS A-Kit Procurement AA0702 (Cluster 1) | 0 | 0 | 1906 | 22674 | 46498 | 62121 | 60544 | 66014 | Continue | Continue |

| C. Other Program Funding Summary (continued) | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| RDTE, 0604805A C3 Systems - Eng Dev; project 615, JTRS Ground Domain Integration (Cluster X) | 0 | 0 | 33201 | 52575 | 29506 | 15361 | 9838 | 3697 | 0 | 144178 |

**D. Acquisition Strategy:** The JTRS acquisition strategy consists of a three-step process:

Step 1: Baseline definition of the software architecture. This step was completed in FY99.

Step 2: Development and validation of the SCA. Step 2 is further divided into three parts. In Step 2A, a four-company Consortium (Raytheon, ITT, Rockwell-Collins, and BAE) developed the architecture and validated it as the Software Communications Architecture (SCA). The SCA is currently at Version 2.2, which was published in November 2001. The SCA is in the final stages of Commercial/International acceptance by the Object Management Group (OMB). In Step 2B, other companies provided additional third-party validation. The validation process used hardware prototypes and an initial set of software-based waveforms. Step 2C, which is managed and partially funded by PM Tactical Radio Communications Systems (TRCS), is another prototyping activity. It demonstrated that the SCA supports the security enhancements now in the SCA and JTRS networking requirements.

Step 3: In Step 3, the JPO is developing waveform software applications and will certify JTRS products. This step is on-going. The JPO is developing waveforms as identified in the JTRS Operational Requirements Document (ORD). To reduce cost and ensure best value for waveform development, the JPO has grouped similar waveforms in consolidated acquisition efforts. The JPO is also developing certification tools and procedures for the testing of JTRS products. Also in Step 3, the Services are acquiring and will test and field JTRS radios.

On 19 July 2001, the Defense Acquisition Board (DAB) approved the basic acquisition approach. On 2 August 2001, the Defense Acquisition Executive (DAE) signed a memorandum that approved the JTRS acquisition strategy. This memorandum also designated the JTRS SCA and waveform program an ACAT 1D program, to be managed by the JTRS JPO. The Cluster 1 acquisition was also designated an ACAT 1D program, to be managed by the Army's Program Executive Officer, Command, Control, and Communications (Tactical) (PEO C3T). The first Joint Cluster procurement, Cluster 1, is a joint acquisition led by the Army (PM TRCS).

The DAB review on 03 June 2002 authorized award of the Cluster 1 contract and JPO contracts for waveforms and crypto algorithms. The Cluster 1 contract was awarded to Boeing as the Prime System Contractor on 24 June 2002. This DAB also authorized Service leads for Clusters 2-4. Twenty one ORD waveforms are being developed using the Cluster 1 contract. The JPO is also awarding a series of contracts for the balance of the ORD waveforms. The first of these contracts was awarded in September 2002, with three additional awards in December 2002. Also in December 2002, a contract was awarded for development of AIM crypto algorithms. The Sierra crypto algorithm contract was awarded JAN 2003.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604280A - Joint Tactical Radio System**

PROJECT
**162**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Architecture Development and Validation; Maintain, Evolve and Provide CM Mgmt of SCA* | Various | Various | 62557 | 1051 | 2Q | 2800 | 2Q | 2000 | 2Q | Continue | 68408 | Continue |
| b . Waveform Development; Crypto S/W; Waveform Sustainment Engineering | Various | Various | 76102 | 34983 | 1-3Q | 72393 | 1-2Q | 44183 | 1-2Q | Continue | 227661 | Continue |
| c . Certification (SCA Compliance Testing) | Various | Various | 11227 | 13198 | 1-3Q | 16500 | 1-2Q | 16300 | 1-2Q | Continue | 57225 | Continue |
| d . Technology Advancement/Problem Resolution | Various | Various | 7460 | 800 | 2Q | 3000 | 1-3Q | 3000 | 1-3Q | Continue | 14260 | Continue |
| e . JTF WARNET | TBD | TBD | 0 | 0 | | 25000 | 2-3Q | 12000 | 2-3Q | 0 | 37000 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 157346 | 50032 | | 119693 | | 77483 | | Continue | 404554 | Continue |

Remarks: * Step 2C activities partially funded in Army
Program Element 0604805A;
Managed by PM TRCS.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604280A - Joint Tactical Radio System**

PROJECT
**162**

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . FFRDC - MITRE and Other contracted Technical Support | FFP | Various | 22216 | 6996 | 1-2Q | 8500 | 1-2Q | 8000 | 1-2Q | Continue | 45712 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 22216 | 6996 | | 8500 | | 8000 | | Continue | 45712 | Continue |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . N/A* | N/A | N/A | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

Remarks: *System and operational testing performed by the Services; funded in Service appropriations.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604280A - Joint Tactical Radio System**

PROJECT
**162**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Program Support | Various | Various | 13405 | 5893 | 1-2Q | 6500 | 1-2Q | 6100 | 1-2Q | Continue | 31898 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 13405 | 5893 | | 6500 | | 6100 | | Continue | 31898 | Continue |
| Project Total Cost: | | | 192967 | 62921 | | 134693 | | 91583 | | Continue | 482164 | Continue |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604280A - Joint Tactical Radio System** | **162** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Deliver Version 2.2 of SCA | 1Q | | | | | | | |
| Maintain, Evolve and Provide Configuration Management of SCA | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Address Technology Advancement Issues and Problem Resolution | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| DAB Program Review | 3Q | | | | | | | |
| Award Cluster 1 and JPO Waveform Contracts | 3-4Q | 1Q | 1Q | | 1Q | | | |
| Acquire ORD Waveforms and Cryptographic Algorithms | 3-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | | |
| Provide Certification of JTRS SCA Compliance for Acquired Systems and Waveforms | | 3-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-2Q | |
| Manage and transition JTF WARNET | | | 1-4Q | 1-4Q | | | | |

NOTE: All milestones scheduled through 1QFY2003 have been accomplished.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE |
|---|---|
| **5 - System Development and Demonstration** | **0604321A - ALL SOURCE ANALYSIS SYSTEM** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Program Element (PE) Cost | | 44242 | 54366 | 20168 | 15548 | 12464 | 14202 | 12933 | 10789 | Continuing | Continuing |
| B19 | ASAS EVOLUTIONARY ACQ (TIARA) | 41907 | 52043 | 18043 | 13947 | 10500 | 10793 | 11106 | 8896 | Continuing | Continuing |
| B41 | CI/HUMINT SOFTWARE PRODUCTS (TIARA) | 2335 | 2323 | 2125 | 1601 | 1964 | 3409 | 1827 | 1893 | 0 | 19292 |

**A. Mission Description and Budget Item Justification:** The All Source Analysis System (ASAS) program is the flagship intelligence fusion system for the Army. The ASAS provides automated support to intelligence analysis, the management of intelligence and electronic warfare resources, and the production and dissemination of intelligence to warfighting commanders and staff. Variants of ASAS are found at all echelons in the Army, from theater down to battalion, enabling the rapid dissemination of the all-source fusion picture of the current threat to forward combat maneuver battalions. The system is the Army intelligence interface to the warfighter Army Battle Command System (ABCS) and to the Joint Global Command and Control System (GCCS), and provides the automated ground threat picture to the Joint Common Operational Picture (COP). ASAS is the Distributed Common Ground System - Army (DCGS-A) fusion component. The ASAS system is interoperable with national military intelligence database standards and the Defense Information Infrastructure Common Operating Environment (DII COE) aka Network Centric Enterprise Services (NCES). ASAS reliance on commercial-based hardware and a true “open” architecture allows continued interoperability with current intelligence legacy systems, while ensuring a smooth evolution to the future.

The All Source Analysis System (ASAS) is a ground based, mobile, command and control, intelligence processing system that provides tactical commanders a common view of the battlefield and a means for gaining a timely and comprehensive understanding of enemy force deployments, capabilities, and potential courses of action. ASAS provides automated support to the combat commander in the areas of intelligence, surveillance, reconnaissance, collection management, all-source fusion (signals intelligence, imagery intelligence, human intelligence, open source intelligence, and measurements and signatures intelligence), battlefield visualization, target development and situation analysis, and multi-source processing, intelligence reporting/collaboration, electronic warfare/countermeasures, and operational security as well as "digitized Army" automation support. ASAS is providing incremental evolutionary software for military intelligence operations. The system supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

ASAS received $6.0 million in FY02 and $12.3 million in FY03 from the Defense Emergency Response Fund (DERF).

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 44198 | 42322 | 43763 | 32735 |
| Current Budget (FY 2004/2005 PB) | 44242 | 54366 | 20168 | 15548 |
| Total Adjustments | 44 | 12044 | -23595 | -17187 |
| Congressional program reductions | | | | |
| Congressional rescissions | | -944 | | |
| Congressional increases | | 13300 | | |
| Reprogrammings | 44 | -312 | | |
| SBIR/STTR Transfer | | | | |
| Adjustments to Budget Years | | | -23595 | -17187 |

Change Summary Explanation: Funding - FY 2003: Congressional increase ($13,300K) for FALCON Language Translator, ACE Software Development and Non-Traditional Threat Intelligence Analysis Toolset. FY 2004: Funds realigned ($23,595K) to higher priority requirements. FY 2005: Funds realigned ($17,187K) to higher priority requirements.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604321A - ALL SOURCE ANALYSIS SYSTEM** | **B19** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B19 | ASAS EVOLUTIONARY ACQ (TIARA) | 41907 | 52043 | 18043 | 13947 | 10500 | 10793 | 11106 | 8896 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** The All Source Analysis System (ASAS) is a ground based, mobile, command and control, intelligence processing system that provides tactical commanders a common view of the battlefield and a means for gaining a timely and comprehensive understanding of enemy force deployments, capabilities, and potential courses of action. ASAS provides automated support to the combat commander in the areas of intelligence, surveillance, reconnaissance, collection management, all-source fusion (signals intelligence, imagery intelligence, human intelligence, open source intelligence, and measurements and signatures intelligence), battlefield visualization, target development and situation analysis, and multi-source processing, intelligence reporting/collaboration, electronic warfare/countermeasures, and operational security as well as "digitized Army" automation support. ASAS is providing incremental evolutionary software for military intelligence operations. The system supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

In FY02, $6.0 million was provided in from the Defense Emergency Response Fund (DERF) for development of nonstructured threat analysis software tools in support of counterterrorism/force protection. Additionally $12.3 million was provided in FY03 from DERF funding for ACE software development, Foreign Area Language Conversion (FALCON) language translator

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Continue SDD of ASAS Light V6, ASAS Light V7, RWS V6 and Analysis Control Element (ACE) | 41572 | 49446 | 0 | 0 |
| Complete ASAS Light V6 and RWS V6 Developmental Test and Continuous Evaluation | 335 | 263 | 0 | 0 |
| Conduct Block II ACE Development | 0 | 0 | 3495 | 0 |
| Conduct Block II Developmental Test/Operational Test | 0 | 2334 | 4081 | 0 |
| Continue SDD ASAS-Light V7 (SWB1) Execution | 0 | 0 | 7748 | 4160 |
| Conduct SDD ASAS-Light V7 (SWB1) Continuous Evaluation | 0 | 0 | 500 | 500 |
| Initiate SDD ASAS-Light Update (SWB2) Execution | 0 | 0 | 1449 | 2851 |
| Initiate SDD Intel Applications (SWB3) Preparation /Execution | 0 | 0 | 770 | 2800 |
| Initiate SDD Intel Applications (SWB4) Preparation /Execution | 0 | 0 | 0 | 700 |
| Resolve high priority Software Anomoly Reports (SARs), Safety, and Interoperability issues and provide DII COE/NCES (Network Centric Enterprise Services) maintenance | 0 | 0 | 0 | 2936 |
| Totals | 41907 | 52043 | 18043 | 13947 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| OPA (K28801) ASAS Modules | 51411 | 59240 | 36688 | 32219 | 27341 | 23654 | 25052 | 25455 | Continuing | Continuing |
| Spares (BS9704) | 712 | 727 | 1039 | 4334 | 4473 | 3467 | 4073 | 3379 | Continuing | Continuing |
| RDTE (375208.D06) ASAS/DCGS-A | 0 | 0 | 1337 | 7667 | 14706 | 19597 | 9813 | 9807 | Continuing | Continuing |

**C. Acquisition Strategy:** The ASAS development program will build upon and expand the capabilities and functionality developed and produced in the ASAS Block I System including conversion to the Army Common Hardware/Software and the Defense Information Infrastructure Common Operating Environment/Network Centric Enterprise Services (DII COE/NCES) and Modernized Integrated Database (MIDB). ASAS is being developed using a block upgrade acquisition strategy.

- ASAS Block I: Current fielded ruggedized, tactical systems at Active Component (AC) corps, divisions, and the institutional training base.

- ASAS-Extended: Current system that provides the rest of the AC and National Guard enhanced separate brigades with an interim ASAS capability by operating Block I software on commercial hardware.

- ASAS Block II: Next generation intelligence fusion system. Uses Army Tactical Command and Control System (ATCCS) common hardware and software, built on the DII COE/NCES standard. Provides open architecture, assured interoperability, and enhanced capability with room for growth. Block II is currently in advanced development and begins fielding in FY05.

- Army Software Blocking: ASAS Light V7 synchronizes with software Block I Execution Phase.

The program emphasizes multiple evolutionary deliveries, integrated test, and continuous evaluation opportunities. ASAS builds upon experience and feedback gained from the fielded ASAS and real-world operational deployments providing the soldier with improved reliability, supportability, and survivability.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604321A - ALL SOURCE ANALYSIS SYSTEM**

PROJECT
**B19**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . System Development | CPAF | Lockheed Martin, Denver, CO | 221098 | 34428 | 1Q | 2226 | 1Q | 0 | | 0 | 257752 | 0 |
| b . Subsystem Development | GSA D.O. | Electronic Warfare Associates, Huntington, WV | 9795 | 1000 | | 500 | | 0 | 1Q | 0 | 11295 | 0 |
| c . Subsystem Development | GSA D.O. | Austin Info Systems, Austin, TX | 15900 | 6053 | 1Q | 5486 | 1Q | 7351 | 1Q | Continue | Continue | 0 |
| d . System Engineering and Integration Efforts | MIPR | PEO C3T, Ft. Monmouth, NJ | 2278 | 680 | 1Q | 0 | | 0 | | 0 | 2958 | 0 |
| e . Software maintenance | MIPR | TBD | 0 | 0 | | 0 | | 2096 | 1Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 249071 | 42161 | | 8212 | | 9447 | | Continue | Continue | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604321A - ALL SOURCE ANALYSIS SYSTEM**

PROJECT
**B19**

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Facility Support | MIPR | Ft. Belvoir, VA | 700 | 250 | 1Q | 250 | 1Q | 250 | 1Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 700 | 250 | | 250 | | 250 | | Continue | Continue | 0 |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . ASAS Developmental and Operational Testing | MIPR | EPG, Ft Huachuca, AZ | 3397 | 2334 | 1Q | 4081 | 1Q | 0 | | 0 | 9812 | 0 |
| b . Continuous Evaluation | MIPR | EPG, Ft. Huachuca, AZ | 0 | 263 | | 500 | 1Q | 500 | 1Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 3397 | 2597 | | 4581 | | 500 | | Continue | Continue | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604321A - ALL SOURCE ANALYSIS SYSTEM**

PROJECT
**B19**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . FFRDC | MIPR | MITRE/Washington, DC | 8887 | 1035 | 1Q | 250 | 1Q | 250 | 1Q | 0 | 10422 | 0 |
| b . Contractor Spt | BPA | SYTEX, Inc. Vienna, VA | 23442 | 4500 | 1-4Q | 3250 | 1-4Q | 2000 | 1-4Q | Continue | Continue | 0 |
| c . Govt In House | MIPR | PM IE, Ft. Belvoir, VA | 16447 | 1500 | 1-4Q | 1500 | 1-4Q | 1500 | 1-4Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 48776 | 7035 | | 5000 | | 3750 | | Continue | Continue | 0 |
| Project Total Cost: | | | 301944 | 52043 | | 18043 | | 13947 | | Continue | Continue | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604321A - ALL SOURCE ANALYSIS SYSTEM**

PROJECT
**B19**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| ASAS Light V6 and RWS V6 Development and Test/Continuous Evaluation | 1-4Q | 1-3Q | | | | | | |
| Block II ACE Development | 1-4Q | 1-4Q | 1-3Q | | | | | |
| Block II DT/OT | | 1-4Q | 1-3Q | | | | | |
| Block II ASAS Milestone C (includes ACE) | | | 4Q | | | | | |
| SDD ASAS-Light V7 (SWB1) Execution | | 1-4Q | 1-4Q | 1-3Q | | | | |
| SDD ASAS-Light V7 (SWB1) Continuous Evaluation | | | 3-4Q | 1-3Q | | | | |
| SDD ASAS-Light V7 (SWB1) ADM IPR | | | | 3Q | | | | |
| SDD ASAS-Light Update (SWB2) Execution | | | 1-4Q | 1-4Q | 1-4Q | | | |
| SDD ASAS-Light Update (SWB2) Continuous Evaluation | | | | | 3-4Q | | | |
| SDD ASAS-Light Update (SWB2) ADM IPR | | | | | | 1Q | | |
| SDD Intel Applications (SWB3) Preparation /Execution | | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-3Q | |
| SDD Intel Applications (SWB3) Continuous Evaluation | | | | | | | 1-3Q | |
| SDD Intel Applications (SWB3) ADM IPR | | | | | | | 3Q | |
| SDD Intel Applications (SWB4) Preparation /Execution | | | | 3-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| SDD Intel Applications (SWB4) Continuous Evaluation | | | | | | | | 3-4Q |
| High priority SARs, Safety, Interoperability issues and DII COE/NCES maintenance | | | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604321A - ALL SOURCE ANALYSIS SYSTEM** | **B41** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B41 | CI/HUMINT SOFTWARE PRODUCTS (TIARA) | 2335 | 2323 | 2125 | 1601 | 1964 | 3409 | 1827 | 1893 | 0 | 19292 |

**A. Mission Description and Budget Item Justification:** The Counterintelligence/Human Intelligence (CI/HUMINT) Management System (CHIMS) is the tactical CI/HUMINT processing and analysis node. It provides the automation requirements for Army tactical CI/HUMINT information collection, investigation, interrogation, operations, document exploitation, and force protection. The total CHIMS architecture extends from the Division and Corps Analysis and Control Element (ACE) to the individual agent/collector. Products under development by the Product Manager CHIMS: 1) CI/HUMINT Single Source (CI/HUMINT SS) workstation software to provide single source analysis and processing capability at the Corps and Division level. HUMINT and CI information will be processed to produce intelligence products and to maintain CI/HUMINT intelligence databases and the Common Operational Picture (COP); 2) The AN/PYQ-7 Counterintelligence Operations/Interrogation Operations (CI and I OPS) workstation provides automation and analysis capabilities to Military Intelligence units and CI Staff Officers (CISO) at Division and Corps; 3) CI/HUMINT teams require two types of technology enablers: The first, a Team Leader device, is the AN/PYQ-3 CI/HUMINT Automated Tool Set (CHATS). It interfaces with the ASAS Remote Workstation (RWS), CI and I OPS workstation and individual CI/HUMINT agents/collectors device. The second, the AN/PYQ-8 Individual Tactical Reporting Tool (ITRT) provides a hand held collection device for agent operations. It enables collection management, receive, store and export text, electronic data, and digital imagery information. It is also capable of preparing, processing and disseminating standard messages. CI/HUMINT Automated Management Software (CHAMS) is a common software baseline for use on CHATS, ITRT and CI and I OPS workstation. CHIMS is the HUMINT component of the Distributed Common Ground System-Army (DCGS-A) planning. CHIMS will play a vital role in the Army's Future Combat System (FCS) and Objective Force as part of the DCGS-A system.

This system supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

$3.0 million was provided in FY02 from the Defense Emergency Response Fund (DERF) to support development of expanded mission functionality in CHAMS.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Complete CI/HUMINT Utilities Software Development. | 63 | 0 | 0 | 0 |
| Continue spiral development of CHAMS functionality. | 1198 | 2102 | 1795 | 1274 |
| Develop hardware improvements for CHATS, ITRT and CI and I OP Workstations. | 0 | 0 | 156 | 138 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Mature ASAS CI/HUMINT Single Source (SS) workstation software. | 0 | 60 | 0 | 0 |
| Complete development of CHATS V3 and conduct MS C. | 192 | 0 | 0 | 0 |
| Continue Test and Security Accreditation efforts. | 0 | 161 | 174 | 189 |
| Complete CI and I OPS WS development and conduct MS C. | 227 | 0 | 0 | 0 |
| Complete ITRT development and conduct MS C. | 114 | 0 | 0 | 0 |
| Provide 1 CI and I OPS WS and 1 CHATS and 2 ITRT Test Articles. | 57 | 0 | 0 | 0 |
| Obtain Generic Security Accreditation. | 85 | 0 | 0 | 0 |
| Conduct developmental testing. | 399 | 0 | 0 | 0 |
| Totals | 2335 | 2323 | 2125 | 1601 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| RDTE (PE 35208, Proj 956) DCGS-A (JMIP) | 71836 | 44823 | 8306 | 18167 | 43471 | 42361 | 46342 | 50380 | Continuing | Continuing |
| OPA (BK5275) CHIMS (TIARA) | 2475 | 9472 | 7892 | 2947 | 3922 | 6548 | 3279 | 5898 | Continuing | Continuing |

**C. Acquisition Strategy:** The CI/HUMINT Automated Management Software (CHAMS), a common software baseline, is being developed under a competitivly awarded Indefinite Delivery/Indefinite Quantity (ID/IQ) type contract. CHAMS will be tested and integrated into three of the CI/HUMINT product lines (CHATS, ITRT, and CI and I OPS workstation). CHAMS will be continuously improved through spiral development to keep pace with evolving capability requirements. The hardware for all product lines is an integration of commercial off-the-shelf (COTS) hardware.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604321A - ALL SOURCE ANALYSIS SYSTEM**

PROJECT
**B41**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . CI/HUMINT Utilities SW Development | IDIQ Competitive | Northrop Grumman, Sierra Vista, AZ | 224 | 0 | | 0 | | 0 | | 0 | 224 | 0 |
| b . CHAMS Software | IDIQ Competitive | Northrop Grumman, Sierra Vista, AZ | 2333 | 1755 | 2Q | 1491 | 2Q | 1038 | 2Q | Continue | 6617 | 0 |
| c . CHATS Development | IDIQ Competitive | ESS, Frederick, MD | 1808 | 0 | | 41 | 2Q | 36 | 2Q | Continue | Continue | 0 |
| d . CI/HUMINT SS SW Development | IDIQ Competitive | Northrop Grumman, Sierra Vista, AZ | 0 | 50 | 2Q | 0 | | 0 | | 0 | 50 | 0 |
| e . CI & I OPS WS Development | IDIQ Competitive | ESS, Frederick, MD | 1566 | 0 | | 40 | 2Q | 36 | 2Q | Continue | Continue | 0 |
| f . ITRT Development | IDIQ Competitive | ESS, Frederick, MD | 444 | 0 | | 49 | 2Q | 41 | 2Q | Continue | Continue | 0 |
| g . Refugee Management System | CPFF | EWA, Fairmont, WV | 3000 | 0 | | 0 | | 0 | | 0 | 3000 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 9375 | 1805 | | 1621 | | 1151 | | Continue | Continue | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604321A - ALL SOURCE ANALYSIS SYSTEM**

PROJECT
**B41**

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Facility Support | MIPR | PM IE, Ft. Belvoir, VA | 505 | 50 | 1-2Q | 50 | 1Q | 50 | 1Q | Continue | Continue | 0 |
| b . Contractor Support | BPA | The Sytex Group/Logicon Fort Belvoir, VA | 1437 | 135 | 1-2Q | 111 | 1Q | 47 | 1Q | Continue | Continue | 0 |
| c . Matrix Support | MIPR | I2WD, CECOM Fort Monmouth, NJ | 148 | 110 | 1-2Q | 110 | 1Q | 110 | 1Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 2090 | 295 | | 271 | | 207 | | Continue | Continue | 0 |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Developmental Test | MIPR | PRC, McLean, VA | 401 | 0 | | 0 | | 0 | | 0 | 401 | 0 |
| b . Developmental Test | MIPR | EPG, Ft. Huachuca, AZ | 304 | 0 | | 0 | | 0 | | 0 | 304 | 0 |
| c . Test Support | MIPR | Northrop Grumman, McLean, VA | 0 | 35 | 2Q | 25 | 2Q | 25 | 2Q | Continue | Continue | 0 |
| d . Operational Test | MIPR | IEWTD, Ft. Huachuca, AZ | 79 | 0 | | 0 | | 0 | | 0 | 79 | 0 |
| e . Test Articles | MIPR | ESS, Frederick, MD | 120 | 0 | | 0 | | 0 | | 0 | 120 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604321A - ALL SOURCE ANALYSIS SYSTEM**

PROJECT
**B41**

| III. Test and Evaluation (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| f . Security Accreditation | MIPR | CECOM, Ft. Monmouth, NJ | 105 | 60 | 2Q | 80 | 2Q | 90 | 2Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1009 | 95 | | 105 | | 115 | | Continue | Continue | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Government In House | | PM DCGS-A/CHIMS Fort Monmouth NJ | 521 | 128 | 1-4Q | 128 | 1-4Q | 128 | 1-4Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 521 | 128 | | 128 | | 128 | | Continue | Continue | 0 |
| Project Total Cost: | | | 12995 | 2323 | | 2125 | | 1601 | | Continue | Continue | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604321A - ALL SOURCE ANALYSIS SYSTEM**

PROJECT
**B41**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| CI/HUMINT Utilities SW Development | 1-2Q | | | | | | | |
| CHAMS Software Spiral Development | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Complete CHATS software development and continue development of hardware/software improvements | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | |
| CHATS Milestone C | 4Q | | | | | | | |
| Complete CI & I OPS software development and continue development of hardware/software improvements | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | |
| CI & I OPS Workstation Milestone C | 4Q | | | | | | | |
| Complete ITRT software development and continue development of hardware/software improvements | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | |
| ITRT Milestone C | 4Q | | | | | | | |
| Maturation of SS Workstation Software | | 1-4Q | | | | | | |
| Participate in Interim DCGS-A Demonstration 18th ABN Corps | | 4Q | | | | | | |
| Participate in Interim DCGS-A Fielding III Corps | | | 4Q | | | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604329A - Common Missile** | **013** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 013 AIR TO GROUND COMMON MISSILE | 16075 | 28602 | 183790 | 182932 | 148314 | 51328 | 24943 | 57679 | 0 | 698346 |

**A. Mission Description and Budget Item Justification:** The Common Modular Missile (CMM) is an Objective Force missile system that provides Line of Sight (LOS) and Beyond Line of Sight (BLOS) capabilities, including precision strike and fire and forget technologies, increased range, and lethality for Army rotary wing systems - Comanche (RAH-66) and Apache (AH-64). CMM is potentially a lethality candidiate for Future Combat Systems (FCS) ground platforms. The CMM is a joint program (rotary and fixed wing requirements) with the Navy and USMC and is a cooperative development program with the United Kingdom. Threshold aircraft for the Navy are the F/A 18 E/F and the AH-1Z Cobra. The CMM maximizes the warfighters' operational flexibility by allowing them to effectively engage a variety of stationary and mobile targets on the battlefield, including advanced armor, bunkers, buildings, patrol craft, command and control vehicles, transporter/erector (SCUD) launchers and light armored vehicles. A goal of the CMM is to minimize the logistics burden of the combat force. CMM reduces the number of different types of missiles that will need to be shipped to a combat zone and allows flexibility in the location of resupply on the battlefield. CMM's modular design and continuous parallel technology insertion program will reduce life-cycle costs, including demilitarization, while ensuring the missile system continues to provide the required improvements to keep pace with needed capabilities and advancing threats.

The CMM with multi-mode seeker will replace the aging stocks of the HELLFIRE family of missiles, the Navy Maverick missile, and has the potential to be the replacement/midlife upgrade for the UK Brimstone missile and the potential to mitigate risk for the aging legacy ground force missiles (TOW) with a CMM variant. The CMM mult-mode seeker will allow maximum capability in adverse weather, day or night, and in an obscured/coutermeasure environment. Developmental cost is much less than that required to develop four separate missile systems. Technology maturation and preliminary systems integration will be accomplished using SMART (Simulation and Modeling for Acquisition, Requirements and Training) to begin systems integration efforts for the enabling subsystems, including multi-mode seekers, variable thrust propulsion and advanced warheads. In FY04, the Qualified Baseline Design, developmental testing and operational assessment will be initiated for the System Development and Demonstration phase.

The CMM system supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Complete Risk Reduction engineering effort on seeker, warhead, propulsion and platform integration | 10354 | 18769 | 0 | 0 |
| Continue Systems Engineering - Risk Reduction development of multi-sensor testbed, tri-mode seeker, GPS/IMU, controllable propulsion and enhanced multi-functional warhead | 5721 | 0 | 0 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Complete Systems Engineering - Risk Reduction evaluation of sensor models, geometric/performance models, perform warhead lethality, and continue development of seeker, sensor, propulsion and warhead technologies | 0 | 9833 | 0 | 0 |
| Initiate Qualified Baseline Design, developmental testing, and operational assessment for System Development and Demonstration (SDD). | 0 | 0 | 141853 | 164084 |
| Procure component hardware for engineering testing, prepare and update missile design documentation and procure prototype hardware and test equipment | 0 | 0 | 41937 | 18848 |
| RDT&E Articles Quantity - Flyable FY 2004 - 42, FY2005 - 14 | 0 | 0 | 0 | 0 |
| RDT&E Articles Quantity - Non-Flyable FY 2004 - 31 | 0 | 0 | 0 | 0 |
| RDT&E Articles Quantity - Non-functional inert FY 2004 - 18 | 0 | 0 | 0 | 0 |
| Totals | 16075 | 28602 | 183790 | 182932 |

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 16592 | 29919 | 48485 | 64564 |
| Current Budget (FY 2004/2005 PB) | 16075 | 28602 | 183790 | 182932 |
| Total Adjustments | -517 | -1317 | 135305 | 118368 |
| Congressional program reductions | | | | |
| Congressional rescissions | | -329 | | |
| Congressional increases | | | | |
| Reprogrammings | -56 | -164 | | |
| SBIR/STTR Transfer | -461 | -824 | | |
| Adjustments to Budget Years | | | 135305 | 118368 |

Additional funds of $135.305M in FY04 and $118.368M in FY05 accelerate First Unit Equipped (FUE) from FY10 to FY08 in support of Army Transformation.

| C. Other Program Funding Summary | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| C70302 - Common Missile | 0 | 0 | 0 | 0 | 0 | 39711 | 114499 | 102555 | 1729000 | 1985765 |

**D. Acquisition Strategy:** The CMM System Definition/Risk Reduction contractors were selected via full and open competition. The CMM Program's Acquisition Strategy is based upon an evolutionary acquisition with spiral development. Full Block 1 system capability will be acquired in 60 months through a two-phased spiral approach. Spiral 1 will provide threshold Key Performance Parameter (KPP) requirements in 36 months for FUE of Apache AH-64D and Cobra AH-1Z in FY08. Spiral 2 will complete integration on the FA 18 E/F and Comanche to support FUE in FY09 and will provide full Block 1 Operational Requirements Document (ORD) requirements 12 months later. The SDD effort will be competed among the risk reduction contractors for contract award covering Spiral 1 and Spiral 2 development.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604329A - Common Missile**

PROJECT
**013**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Prime Contracts (Risk Reduction) | CPFF, Full & Open | Raytheon, AZ; Lockheed Martin, FL; Boeing, AL | 7083 | 10396 | 1Q | 0 | | 0 | | 0 | 17479 | 0 |
| b . Support Contracts (Risk Reduction/SDD) | Various | Various | 4219 | 5005 | 1-3Q | 4500 | 1-3Q | 4500 | 1-3Q | 7850 | 26074 | 0 |
| c . Development Engineering (Risk Reduction/SDD) | Various | Various | 2013 | 3368 | 1-4Q | 1625 | 1-4Q | 1656 | 1-4Q | 2445 | 11107 | 0 |
| d . Prime Contracts (SDD) | TBD | TBD | 0 | 0 | | 160244 | 1Q | 151530 | 1Q | 355394 | 667168 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 13315 | 18769 | | 166369 | | 157686 | | 365689 | 721828 | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . SETA Support | Various | Various | 1411 | 1589 | 1-3Q | 2000 | 1-3Q | 2000 | 1-3Q | 3376 | 10376 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1411 | 1589 | | 2000 | | 2000 | | 3376 | 10376 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604329A - Common Missile**

PROJECT
**013**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Prime Contract/Government Inhouse | TBD | TBD | 1119 | 1172 | 1-3Q | 5854 | 1-3Q | 9758 | 1-3Q | 28393 | 46296 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1119 | 1172 | | 5854 | | 9758 | | 28393 | 46296 | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . System Engineering/Proj Mgt (Risk Reduction/SDD) | Various | Various | 4913 | 7072 | 1-4Q | 9567 | 1-4Q | 13488 | 1-4Q | 32806 | 67846 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 4913 | 7072 | | 9567 | | 13488 | | 32806 | 67846 | 0 |
| Project Total Cost: | | | 20758 | 28602 | | 183790 | | 182932 | | 430264 | 846346 | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604329A - Common Missile**

PROJECT
**013**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Design/Procure Tandem Warhead Hardware | 1-2Q | | | | | | | |
| System Requirements Review | 2Q | | | | | | | |
| Baseline Design Review | | 1Q | | | | | | |
| Complete Performance Modeling & Virtual Prototype | | 3Q | | | | | | |
| Complete Initial Design CAD/CAE | | 3Q | | | | | | |
| Complete Simulation of System in Battlefield | | 4Q | | | | | | |
| Milestone B Decision | | 4Q | | | | | | |
| SPIRAL 1 ACTIVITIES: | | | | | | | | |
| - SDD Contract Award | | | 1Q | | | | | |
| - Preliminary Design Review (PDR) | | | 2Q | | | | | |
| - Critical Design Review (CDR) | | | 4Q | | | | | |
| - System Qualification | | | | 3-4Q | 1-3Q | | | |
| - Limited User Test | | | | | 4Q | | | |
| - Milestone C Decision | | | | | 4Q | | | |
| - Production Qualification Test (PQT) | | | | | | | 2Q | |
| - Live Fire Test | | | | | | | 2-3Q | |
| - Initial Operational Test & Evaluation (IOT&E) | | | | | | | 2-3Q | |
| SPIRAL 2 ACTIVITIES: | | | | | | | | |
| - Contract Option Award | | | | | 1Q | | | |
| - System Qualification | | | | | | 4Q | 1-3Q | |
| - IOT&E | | | | | | | | 4Q |
| - LRIP I (Spiral 1) | | | | | | 1Q | | |
| - LRIP II (Spiral 1) | | | | | | | 1Q | |
| - LRIP III (Spiral 1 & 2) | | | | | | | | 1Q |
| - PQT | | | | | | | | 3Q |
| INITIATE BLOCK II ACTIVITIES | | | | | | | | 1Q |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604601A - Infantry Support Weapons** | **033** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 033 ADV CREW SVC WPN | 0 | 0 | 21637 | 28515 | 43139 | 44091 | 20607 | 10787 | 0 | 168778 |

**A. Mission Description and Budget Item Justification:** This project addresses the development of the Objective Crew Served Weapon (OCSW), XM307, which will be the dismounted infantry crew served weapon and defensive armament system for seven variants of the Future Combat System. The system includes: a 25mm automatic cannon capable of firing airburst and armor piercing ammunition; and, a .50 Cal Variant(XM312). The system(25mm and .50 Cal Variant) provides increased lethality and significant reductions in weight and supportability costs. The high explosive airbursting munition provides incapacitation and suppression out to 2,000 meters against both exposed and defilade personnel targets and light skinned vehicles. The OCSW is a transition from Advanced Technology Demonstration/Development (ATD)(BA 3 PE 63607/D627) to BA 5 (PE 64601/D627) however, the effort for the .50 Cal Variant will be a new start in FY04. This FCS subsystem supports the Legacy to Objective transition path of the Transformation Campaign Plan.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Award Development Contract | 0 | 0 | 2000 | 0 |
| Design Weapon System Hardware | 0 | 0 | 14637 | 3000 |
| Fabricate Weapon System Hardware | 0 | 0 | 1000 | 15515 |
| Establish Interface Controls | 0 | 0 | 2000 | 0 |
| ILS/Training | 0 | 0 | 1500 | 4000 |
| Conduct Weapon System Design Proveout Test | 0 | 0 | 500 | 5000 |
| Critical Design Review/IPR | 0 | 0 | 0 | 1000 |
| Totals | 0 | 0 | 21637 | 28515 |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604601A - Infantry Support Weapons** | **033** |

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 0 | 0 | 0 | 0 |
| Current Budget (FY 2004/2005 PB) | 0 | 0 | 21637 | 28515 |
| Total Adjustments | 0 | 0 | 21637 | 28515 |
| Congressional program reductions | | | | |
| Congressional rescissions | | | | |
| Congressional increases | | | | |
| Reprogrammings | | | | |
| SBIR/STTR Transfer | | | | |
| Adjustments to Budget Years | | | | |

**C. Other Program Funding Summary:** Not applicable for this item.

**D. Acquisition Strategy:** Based on the Operational Requirements Document (ORD) and the progress of the Advanced Technology Demonstration (ATD) for the XM307 system, the program will enter System Development and Demonstration (SDD) in FY 04. The SDD phase will utilize modeling and simulation, as well as, developing, building and testing of weapon systems in order to synchronize acquisition of XM307 with the fielding of FCS and, for a .50 cal variant that offers significant cost savings. The acquisition strategy utilizes an evolutionary approach to accelerate fielding of new capabilities. During the SDD phase, PM will continue with current contractior and enter Alpha Contracting in a Cost Plus Incentive Fee Contract.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604601A - Infantry Support Weapons**

PROJECT
**033**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Primary Hardware | Sole Source | | 0 | 0 | | 16067 | 2Q | 21200 | 2Q | 0 | 37267 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 16067 | | 21200 | | 0 | 37267 | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Development (Weapon, Ammo, Mount) | MIPR | ARDEC, NJ | 0 | 0 | | 2780 | 2-3Q | 2900 | 2Q | 0 | 5680 | 0 |
| b . ILS | MIPR | Tank Automotive Cmd, Rock Island, IL | 0 | 0 | | 130 | 2-3Q | 195 | 2Q | 0 | 325 | 0 |
| c . Sensor Development | MIPR | PM SDR Sensors, Ft Belvoir, VA | 0 | 0 | | 150 | 2-3Q | 150 | 2Q | 0 | 300 | 0 |
| d . Training and Simulation | MIPR | Multiple | 0 | 0 | | 300 | 2-3Q | 1500 | 2Q | 0 | 1800 | 0 |
| e . HEL | MIPR | Army Research Lab, MD | 0 | 0 | | 150 | 2-3Q | 150 | 2-3Q | 0 | 300 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 3510 | | 4895 | | 0 | 8405 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604601A - Infantry Support Weapons**

PROJECT
**033**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . DT | MIPR | Army Test Center, Aberdeen Proving Ground, MD | 0 | 0 | | 210 | 2-3Q | 250 | 2-3Q | 0 | 460 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 210 | | 250 | | 0 | 460 | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Program Management | In House | PM Soldier Wpns, Picatinny Arsenal, NJ | 0 | 0 | | 1700 | 1-4Q | 2000 | 1-4Q | 0 | 3700 | 0 |
| b . Travel | In House | PM Soldier Wpns, Picatinny Arsenal, NJ | 0 | 0 | | 150 | 1-4Q | 170 | 1-4Q | 0 | 320 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 1850 | | 2170 | | 0 | 4020 | 0 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 0 | 0 | | 21637 | | 28515 | | 0 | 50152 | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604601A - Infantry Support Weapons** | **033** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Award Development Contract | | | 2Q | | | | | |
| Design Weapon System Hardware | | | 2-4Q | 2-4Q | | | | |
| Fabricate Weapon System Hardware | | | 2-4Q | 2-4Q | | | | |
| Establish Interface Controls | | | 3-4Q | | | | | |
| ILS/Training | | | 2-4Q | 2-4Q | | | | |
| Conduct Weapon System Design Proveout Test | | | | 3-4Q | | | | |
| Critical Design Review/IPR | | | | 4Q | | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604604A - MEDIUM TACTICAL VEHICLES** | **H07** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| H07 FAMILY OF MED TAC VEH | 1883 | 1866 | 4366 | 2879 | 1942 | 1935 | 2104 | 2055 | 0 | 21758 |

**A. Mission Description and Budget Item Justification:** This program element supports continued modernization of the Army's medium truck fleet. The Family of Medium Tactical Vehicles (FMTV) replaces aging M44 Series 2 1/2-ton trucks, M39, and M809 Series 5-ton trucks that are beyond their average useful life of 20-22 years. FMTV also provides follow-on to the M939/A2 Series 5-ton truck. FMTV fills 2-½ Light Medium Tactical Vehicle (LMTV) and 5-ton truck (MTV) requirements, resolves operational deficiencies and operates throughout the theater as multi-purpose transportation vehicles used by combat, combat support and combat service support units. This system rapidly deploys worldwide and operates on primary and secondary roads, trails, and cross-country terrain in all climatic conditions. The funds support continuous product improvements, technology insertion, and new capabilities for FMTV. Near term funding will be used to develop a dump with increased load capabilities to meet revised Operational Requirements Document (ORD); develop an improved survivability cab for the safety of the soldier; build/test prototype Load Handling System (LHS); insert state of the art electrical power management technology; and develop an alternative propulsion system.

This system supports the Legacy-to-Objective transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Load Handling System (LHS) (Perf Test (APG), Contr Test Support) | 1071 | 100 | 0 | 0 |
| Load Handling System (LHS) (Drawings, Report Writing) | 403 | 466 | 0 | 0 |
| Cab Survivability Improvement (Engr Studies, Prototype Dev, analysis) | 309 | 50 | 500 | 500 |
| Vehicle Component Improvements (Misc Engr Studies) | 100 | 0 | 0 | 0 |
| Alternative Propulsion System - Hybrid (Engr Studies, Component Integration) | 0 | 250 | 1366 | 679 |
| Competitive Rebuy Testing (LUT) | 0 | 0 | 0 | 1200 |
| Dump 10T (Hardware Dev/Installation/Testing and Drawings) | 0 | 1000 | 2500 | 0 |
| Dump 10T (Drawings Completion) | 0 | 0 | 0 | 500 |
| Totals | 1883 | 1866 | 4366 | 2879 |

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 1945 | 1953 | 2939 | 2928 |
| Current Budget (FY 2004/2005 PB) | 1883 | 1866 | 4366 | 2879 |
| Total Adjustments | -62 | -87 | 1427 | -49 |
| Congressional program reductions | | | -73 | -49 |
| Congressional rescissions | -12 | -22 | | |
| Congressional increases | | | | |
| Reprogrammings | 4 | -11 | | |
| SBIR/STTR Transfer | -54 | -54 | | |
| Adjustments to Budget Years | | | 1500 | |

FY04 adjustment continues dump improvement efforts currently in process in FY02 and FY03, based on user experiences. This funds testing of prototypes and changes to the Technical Data Package (TDP).

| **C. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| OPA1 Family of Medium Tactical Vehicles (D15500) | 459872 | 662943 | 309810 | 491834 | 496730 | 502488 | 488465 | 504606 | Continue | Continue |

**D. Acquisition Strategy:** The engineering contractual efforts will option on contracts that are based on Time and Material (T&M). The procurement of vehicle platforms will option on the current mu ltiyear firm fixed price (FFP) production contract.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604604A - MEDIUM TACTICAL VEHICLES**

PROJECT
**H07**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Load Handling System (LHS) | C-T&M | S&S, Sealy, TX | 1667 | 466 | 2-3Q | 0 | | 0 | | 0 | 2133 | 0 |
| b . Dump - 10T | C-T&M | S&S, Sealy, TX | 769 | 1000 | 2Q | 0 | | 0 | | 0 | 1769 | 0 |
| c . Dump - 10T | C - T&M | TBD | 0 | 0 | | 1000 | 2-3Q | 500 | 2Q | 0 | 1500 | 0 |
| d . Cab Survivability Impr. (FMTV) | C-T&M | KRC, Houghton, MI | 558 | 50 | 2Q | 0 | | 0 | | 0 | 608 | 0 |
| e . Cab Survivability Impr. (FMTV) | C T&M | TBD | 0 | 0 | | 500 | 2Q | 500 | 2Q | 2000 | 3000 | 0 |
| f . Vehicle Component Improvement | C-T&M | Veridian, Ann Arbor, MI | 385 | 0 | | 0 | | 0 | | 0 | 385 | 0 |
| g . Alternative Propulsion System | TBD | TBD | 0 | 250 | 2Q | 1366 | 2Q | 679 | 2Q | 6197 | 8492 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 3379 | 1766 | | 2866 | | 1679 | | 8197 | 17887 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604604A - MEDIUM TACTICAL VEHICLES**

PROJECT
**H07**

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Load Handling System | PO | ATC, Aberdeen Proving Grounds, MD | 1071 | 100 | 2Q | 0 | | 0 | | 0 | 1171 | 0 |
| b . Dump - 10T - PPQT | PO | ATC, Aberdeen Proving Grounds, MD | 0 | 0 | | 1500 | 2Q | 0 | | 0 | 1500 | 0 |
| c . Competitive Rebuy Testing - LUT | PO | ATC, Aberdeen Proving Grounds, MD | 0 | 0 | | 0 | | 1200 | 2Q | 0 | 1200 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1071 | 100 | | 1500 | | 1200 | | 0 | 3871 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604604A - MEDIUM TACTICAL VEHICLES**

PROJECT
**H07**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| Remarks: Not Applicable | | | | | | | | | | | | |
| Project Total Cost: | | | 4450 | 1866 | | 4366 | | 2879 | | 8197 | 21758 | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604604A - MEDIUM TACTICAL VEHICLES** | **H07** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| FMTV - Load Handling System (LHS) - Developmental Testing and Evaluation | 4Q | 2Q | | | | | | |
| Dump 10T - Developmental Testing and Evaluation | | | 2Q | | | | | |
| Limited User Test (LUT) (FMTV A1 Competitive Rebuy) | | | | 2Q | | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE |
|---|---|
| **5 - System Development and Demonstration** | **0604609A - Smoke, Obscurant and Target Defeating Sys-Eng Dev** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Program Element (PE) Cost | | 7611 | 7654 | 12094 | 4223 | 5275 | 7210 | 27903 | 12235 | 0 | 72101 |
| 198 | TARGET DEFEATING SYSTEM | 318 | 334 | 343 | 392 | 5275 | 7210 | 15146 | 741 | 0 | 14319 |
| 200 | SMOKE/OBSCURANT SYSTEM | 7293 | 7320 | 11751 | 3831 | 0 | 0 | 12757 | 11494 | 0 | 57782 |

**A. Mission Description and Budget Item Justification:** U.S. Forces must be able to effectively neutralize and degrade energy weapon systems and electro-optical systems/smart weapons that operate in the full range of the electro-magnetic spectrum. This program element supports the conduct of System Development and Demonstration (SDD) of logistically supportable, high performance smoke and obscurant agents, munitions, and devices to improve the survivability of the combined armed force and complement combined weapons systems. Improvements are sought across the entire multi-spectral range from visual through infrared (IR) and millimeter wavelengths (MMW) radar for incorporation into self-protection large area and projected smoke systems. The smoke obscuration technologies supported by this program element enhance smoke systems as force multipliers. The program supports critical management studies and analyses that are conducted on a continuing basis to ensure that engineering and manufacturing development efforts are targeted against the emerging threat. Program supports the conduct of SDD in smoke and obscurant agents, munitions, and devices to improve the survivability of the combined armed force, complement combined weapons systems, and enhance force effectiveness and combat power.

Systems developed in this PE primarily support the Legacy-to-Objective transition path of the Transformation Campaign Plan (TCP).

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 7854 | 8153 | 12604 | 4295 |
| Current Budget (FY 2004/2005 PB) | 7611 | 7654 | 12094 | 4223 |
| Total Adjustments | -243 | -499 | -510 | -72 |
| Congressional program reductions | | -279 | -510 | -72 |
| Congressional rescissions | | -14 | | |
| Congressional increases | | | | |
| Reprogrammings | -39 | | | |
| SBIR/STTR Transfer | -204 | -206 | | |
| Adjustments to Budget Years | | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604609A - Smoke, Obscurant and Target Defeating Sys-Eng Dev** | **200** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 200 SMOKE/OBSCURANT SYSTEM | 7293 | 7320 | 11751 | 3831 | 0 | 0 | 12757 | 11494 | 0 | 57782 |

**A. Mission Description and Budget Item Justification:** This project supports the conduct of System Development and Demonstration (SDD) in smoke and obscurant agents, munitions, and devices to improve survivability of the combined arms force, complement combined weapons systems, and enhance force effectiveness and combat power. Funding supports the development of millimeter wavelength (MMW) radar obscuration for installation on the M56 and any other required vehicle platforms. The MMW obscuration can obscure a target from emerging threat systems which use x-band, Ku-band, Ka-band, and W-band radar sensors. It can also create decoy signals to confuse these threat systems.

This developmental effort supports the Legacy-to-Objective transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| MMW - Initiated Government engineering design tests and conducted User Jury. | 536 | 0 | 0 | 0 |
| MMW - Fabricated and installed two MMW systems on two M56 Smoke Systems for conducting government engineering design tests (Estimated value $150K each MMWprototype). | 1300 | 0 | 0 | 0 |
| MMW - Conduct Government engineering design tests. | 0 | 1119 | 0 | 0 |
| MMW - Continue engineering design program including any necessary redesign following engineering design test, logistics program evaluation, and material evaluation. | 2506 | 2221 | 0 | 0 |
| MMW - Conducted contractor engineering design test on components and system. | 1300 | 0 | 0 | 0 |
| MMW - Fabricate and install MMW systems on six M56s for production qualification and initial operational tests. (Estimated value $150K each MMW prototype system). | 0 | 2135 | 0 | 0 |
| MMW - Procure necessary MMW material for contractor and Government tests. | 1000 | 1345 | 0 | 0 |
| MMW - Conduct production qualification and initial operational test and evaluation. | 0 | 0 | 6023 | 2833 |
| MMW - Conduct toxicological and environmental studies. | 651 | 500 | 2000 | 400 |
| MMW - Construct and initiate testing on prototype systems for candidate robotic platforms (Quantity and Cost to be determined). | 0 | 0 | 3728 | 0 |
| MMW - Conduct design effort for integration of MMW into candidate robotic systems and Milestone C. | 0 | 0 | 0 | 598 |
| Totals | 7293 | 7320 | 11751 | 3831 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| RDTE, A Budget Activity 2, PE 0602622A, Project 552 Smoke/Novel Munitions | 31901 | 3395 | 3540 | 3553 | 3713 | 3742 | 3830 | 3923 | Continuing | Continuing |
| RDTE,A Budget Activity 4, PE 0603627A, Smoke. Obscurant and Target Defeat | 0 | 2323 | 10262 | 12972 | 6311 | 8233 | 15218 | 8915 | Continuing | Continuing |
| Other Procurement Army, OPA3, M99103, M56 Smoke Generator | 23384 | 22345 | 22081 | 47016 | 8991 | 27496 | 46182 | 1471 | 0 | 198966 |
| Other Procurement Army, OPA3,G7100, M6 Discharger | 0 | 2906 | 13171 | 3798 | 2898 | 964 | 0 | 0 | 0 | 23737 |

**C. Acquisition Strategy:** This project supports Millimeter Wave smoke generation system that began engineer development in FY 2000 with a full and open competitive contract for engineering design, construction, and test of prototype systems mounted on the M56 Smoke System.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604609A - Smoke, Obscurant and Target Defeating Sys-Eng Dev**

PROJECT
**200**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . MMW - Conducts M56 hardware development | C/CPFF | Titan Industries, Deland, Florida | 6749 | 3617 | 1Q | 2215 | 1Q | 0 | | 0 | 12581 | 0 |
| b . MMW - Evaluates and designs M56 and robotic system integration planning | In house | SBCCOM, APG, MD | 400 | 400 | 1Q | 728 | 1Q | 300 | 1Q | 0 | 1828 | 0 |
| c . MMW - Robotic system integration | C/CPFF | Titan Industries, Deland, Florida | 0 | 0 | 1Q | 1535 | 1Q | 1435 | 1Q | 0 | 2970 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 7149 | 4017 | | 4478 | | 1735 | | 0 | 17379 | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . MMW - Environmental and Toxicological studies | In house effort | SBCCOM, APG, MD | 899 | 558 | 1Q | 2000 | 1Q | 400 | 1Q | 0 | 3857 | 0 |
| b . MMW - Human factors design efforts | In house effort | SBCCOM, APG, MD | 60 | 100 | 1Q | 100 | 1Q | 50 | 1Q | 0 | 310 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 959 | 658 | | 2100 | | 450 | | 0 | 4167 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604609A - Smoke, Obscurant and Target Defeating Sys-Eng Dev**

PROJECT
**200**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . MMW - Prototype evaluation (PPQT & IOTE) | In house | SBCCOM, APG, MD | 233 | 0 | | 3500 | 1Q | 1048 | 1Q | 0 | 4781 | 0 |
| b . MMW - Engineering design testing - Contractor | C/CPFF | Titan Industries, Deland, Florida | 1300 | 1438 | 1Q | 650 | 1Q | 0 | | 0 | 3388 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1533 | 1438 | | 4150 | | 1048 | | 0 | 8169 | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . MMW - Project Management Personnel | In-house | SBCCOM, Edgewood, MD | 1884 | 907 | 1Q | 723 | 1Q | 348 | 1Q | 0 | 3862 | 0 |
| b . MMW - Project Management Personnel | C/CPFF | Titan Industries, Deland, Florida | 300 | 300 | 1Q | 300 | 1Q | 250 | 1Q | 0 | 1150 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 2184 | 1207 | | 1023 | | 598 | | 0 | 5012 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604609A - Smoke, Obscurant and Target Defeating Sys-Eng Dev** | **200** |

Remarks: 7651

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 11825 | 7320 | | 11751 | | 3831 | | 0 | 34727 | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604609A - Smoke, Obscurant and Target Defeating Sys-Eng Dev** | **200** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| MMW - Conduct engineering design testing (Contractor) | 3-4Q | | | | | | | |
| MMW - Conduct engineering design testing (Government/User Jury) | 4Q | 1-2Q | | | | | | |
| MMW - Initiate construction of prototype systems on armored or robotic platforms | | 1Q | | | | | | |
| MMW - Initiate engineering modeling and design efforts on candidate roboatic vehicle platforms | | 1-3Q | | | | | | |
| MMW - Construct prototype systems on robotic platforms | | 4Q | | | | | | |
| MMW - Conduct Pre-Production Qualification Test (PPQT) | | | 1-3Q | | | | | |
| MMW - Conduct Initial Operational Test and Evaluation (IOTE) | | | 2-3Q | | | | | |
| MMW - Conduct Milestone C and system acceptance | | | | 3Q | | | | |
| MMW - Initiate Mod Program | | | | 4Q | | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604611A - JAVELIN** | **499** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 499 JAVELIN (AAWS-M) | 2870 | 467 | 956 | 952 | 0 | 0 | 0 | 0 | 0 | 5716 |

**A. Mission Description and Budget Item Justification:** Javelin is a critical system to the operational design of the Army's Objective Force because of its precision strike, man-portability, high reliability, and capability to engage multiple targets (tanks, APCs, bunkers, helicopters, walls, etc). These key system aspects support the Army's transformation to a more versatile, deployable, lethal, survivable, and sustainable force. This program continues the development and evolution of the Army's man-portable anti-tank system, ensuring its effectiveness in support of all three axes of Army Transformation. The Javelin, a replacement for the DRAGON, has a high kill rate against all known armor threats, at extended ranges, under all weather conditions, and in the presence of battlefield obscurants, advanced vehicle camouflage techniques and Active Protection Systems (APS). The system is hardened against countermeasures and does not require extensive training for effective employment. This program provides R&D funding for software improvements to maintain lethality against evolving targets and countermeasures, and increase the robustness of system performance in all environments. This effort includes warhead improvements, Counter Active Protection System (CAPS) improvements, training device improvements, multi-mission capability improvements, and software development. These efforts will ensure Javelin maintains its overmatch capability well into the 21st Century (i.e., 2020). This system supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Continue development of Counter Active Protection System/Countermeasures Software | 292 | 50 | 25 | 25 |
| Initiate CAPS Antenna Development | 259 | 40 | 281 | 320 |
| Initiate CAPS technology transfer | 1063 | 115 | 125 | 60 |
| Perform seeker Trade Study/Alternate Guide Modes | 286 | 50 | 125 | 125 |
| Initiate design efforts to restructure the Guidance Electronics Unit | 970 | 212 | 400 | 422 |
| Totals | 2870 | 467 | 956 | 952 |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604611A - JAVELIN** | **499** |

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 2825 | 489 | 972 | 968 |
| Current Budget (FY 2004/2005 PB) | 2870 | 467 | 956 | 952 |
| Total Adjustments | 45 | -22 | -16 | -16 |
| Congressional program reductions | | -5 | | |
| Congressional rescissions | | | | |
| Congressional increases | | | | |
| Reprogrammings | 128 | -3 | | |
| SBIR/STTR Transfer | -83 | -14 | | |
| Adjustments to Budget Years | | | -16 | -16 |

| **C. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| Missile Procurement, Army, CC0007, Javelin | 408676 | 219167 | 140715 | 115664 | 16677 | 19568 | 11560 | 0 | 0 | 2907512 |
| Missile Procurement, Army, CA0269, Javelin Initial Spares | 2328 | 2845 | 3117 | 3027 | 784 | 0 | 0 | 0 | 0 | 24540 |

**D. Acquisition Strategy:** Javelin CAPS/Countermeasures is being developed as part of a sole source procurement through the Javelin Joint Venture. This effort supports the Army Transformation and is being conducted as part of the PEO Tactical Missiles Horizontal Technology Insertion (HTI) initiative. This program has broad application to other tactical missile programs.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604619A - LANDMINE WARFARE** | **088** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 088 WIDE AREA MINE ENG DEV | 22165 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 41452 |

**A. Mission Description and Budget Item Justification:** The Wide Area Munition (WAM), a "smart," remotely-reprogrammable antitank munition, provides unique control and offensive capability for a variety of missions. WAM development was terminated in order to fund other transformation programs.

PROGRAM CANCELLED BY CONGRESSIONAL DIRECTION.

| Accomplishments/Planned Program | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Develop/design Sublet Modifications. | 4643 | 0 | 0 | 0 |
| Perform Munition Integration Activities. | 8006 | 0 | 0 | 0 |
| Conduct System Tests. | 0 | 0 | 0 | 0 |
| Develop System Software. | 2046 | 0 | 0 | 0 |
| Conduct Logistics Demonstration. | 804 | 0 | 0 | 0 |
| Develop Control Station. | 417 | 0 | 0 | 0 |
| Conduct System Demonstration and Limited User Test. | 0 | 0 | 0 | 0 |
| Develop Trainer. | 540 | 0 | 0 | 0 |
| Develop Munition Radio Tranceiver. | 3158 | 0 | 0 | 0 |
| Perform Risk Reduction Test. | 498 | 0 | 0 | 0 |
| Develop Ground Platform. | 1524 | 0 | 0 | 0 |
| Perform Modeling and Simulation. | 404 | 0 | 0 | 0 |
| Provide System Test Planning. | 125 | 0 | 0 | 0 |
| Totals | 22165 | 0 | 0 | 0 |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604619A - LANDMINE WARFARE** | **088** |

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 18780 | 11913 | 0 | 0 |
| Current Budget (FY 2004/2005 PB) | 22165 | 0 | 0 | 0 |
| Total Adjustments | 3385 | -11913 | 0 | 0 |
| Congressional program reductions | | -11913 | | |
| Congressional rescissions | | | | |
| Congressional increases | | | | |
| Reprogrammings | 3908 | | | |
| SBIR/STTR Transfer | -523 | | | |
| Adjustments to Budget Years | | | | |

FY02: Funds ($4000K) were reprogrammed in order to meet scheduled milestones and continue the development of the WAM product improvement.

FY03: Program was cancelled.

| **C. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| WAM, E78100 (PAA) | 2002 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2002 |
| WAM Remote Control Unit, G01000 (OPA) | 545 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 545 |
| WAM Individual Trainer, E78103 (PAA) | 3775 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3775 |
| WAM Collective Trainer, E78104 (PAA) | 739 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 739 |

**D. Acquisition Strategy:** The Basic WAM transitioned to Low Rate Production (LRP) in 3QFY96. A sole source Fixed Price Incentive Fee contract was awarded to the Engineering and Manufacturing Development (EMD) contractor for the LRP quantity. Production buys were included under the LRP contract as Firm Fixed Price options. A sole source Cost Plus Incentive Fee contract for the System Development and Demonstration Phase of an improved WAM was awarded to the Basic WAM developer in FY 1996. Program development has been terminated.

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

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604622A - Family of Heavy Tactical Vehicles**

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Program Element (PE) Cost | | 2510 | 14521 | 9200 | 10756 | 11727 | 14586 | 981 | 981 | 0 | 65262 |
| 659 | FAMILY OF HVY TAC VEH | 0 | 953 | 1467 | 0 | 0 | 0 | 0 | 0 | 0 | 2420 |
| E49 | HEMTT | 2510 | 13568 | 6749 | 9773 | 10747 | 13607 | 0 | 0 | 0 | 56954 |
| E50 | TRAILER DEVELOPMENT | 0 | 0 | 984 | 983 | 980 | 979 | 981 | 981 | 0 | 5888 |

**A. Mission Description and Budget Item Justification:** This program element aligns system development and demonstration of Heavy Tactical Vehicles with Objective Force requirements to support combat and combat support missions. These missions include the following: line haul, local haul, and unit resupply. These trucks transport water, ammunition, and general cargo over all terrain and throughout the battle-space. FY2004 Project 659 provides funds for the development of a Crew Protection Kit on the M915 Family of Vehicles. FY2004/2005 Project E49 provides funds for the development of the Future Tactical Truck System (FTTS). FY2004/2005 Project E50 provides funds for performance of feasibility testing on two M872A4 Semi-trailers with enhanced mobility characteristics when towed by an improved M915A4 Truck Tractor Line haul and to procure and conduct feasibility testing on two M870A3 Semi-trailers and perform assessment of the trailers' capability to match up to the M983 HEMTT Operational Mode Summary/Mission Profile with Enhanced Mobility Characteristics. This project supports the Legacy-to-Objective transition path of the Transformation Campaign Plan (TCP).

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

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604622A - Family of Heavy Tactical Vehicles**

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 0 | 3990 | 8354 | 9939 |
| Current Budget (FY 2004/2005 PB) | 2510 | 14521 | 9200 | 10756 |
| Total Adjustments | 2510 | 10531 | 846 | 817 |
| Congressional program reductions | | | -154 | -183 |
| Congressional rescissions | | -167 | | |
| Congressional increases | | 11200 | | |
| Reprogrammings | 2410 | -83 | | |
| SBIR/STTR Transfer | | -419 | | |
| Adjustments to Budget Years | 100 | | 1000 | 1000 |

Funding - FY2003: Increase of $11.2M supports the Heavy Expanded Mobility Tactical Truck (HEMTT) Technical Improvements Program.
Funding - FY2004: Increase of $1M supports the feasibility testing on the M872A4 Semi-trailer.
Funding - FY2005: Increase of $1M supports the feasibility testing on the M870A3 Semi-trailer.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604622A - Family of Heavy Tactical Vehicles** | **659** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 659 FAMILY OF HVY TAC VEH | 0 | 953 | 1467 | 0 | 0 | 0 | 0 | 0 | 0 | 2420 |

**A. Mission Description and Budget Item Justification:** FY 2004 Project 659 provides funds for the engineering development and prototype of the Crew Protection Kit for the M915 Family of Vehicles. The Crew Protection Kit will provide protection to the two-man crew against small arms, mines and artillery and is identified as a materiel requirement under an ORD for the Tactical Wheeled Vehicle Crew Protection Kit (CPK) dated 19 Jan 1996. This project supports the Legacy-to-Objective transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Development of the engineering and prototype models of the M915 Crew Protection Kit | 0 | 953 | 110 | 0 |
| Acquire prototypes for testing | 0 | 0 | 521 | 0 |
| Conduct prototype testing on the M915 Crew Protection Kit | 0 | 0 | 836 | 0 |
| Totals | 0 | 953 | 1467 | 0 |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604622A - Family of Heavy Tactical Vehicles** | **659** |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| OPA1 D15900, Truck, Tractor, Line Haul M915A2 | 42260 | 41865 | 28648 | 16030 | 16374 | 16740 | 0 | 0 | 0 | 161917 |

**C. Acquisition Strategy:** Limited RDTE effort to support follow-on production.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604622A - Family of Heavy Tactical Vehicles**

PROJECT
**659**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Program Management | IN-HOUSE | TACOM, Warren, MI | 1336 | 953 | 2-4Q | 110 | 1Q | 0 | | 0 | 2399 | 2399 |
| b . Crew Protection Kit System Development & Demonstration Award | C-CPFF | TBD | 0 | 0 | | 521 | 1Q | 0 | | 0 | 521 | 521 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1336 | 953 | | 631 | | 0 | | 0 | 2920 | 2920 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604622A - Family of Heavy Tactical Vehicles**

PROJECT
**659**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Crew Protection Kit Testing | MIPR | APG, Aberdeen, MD | 0 | 0 | | 836 | 2-4Q | 0 | | 0 | 836 | 836 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 836 | | 0 | | 0 | 836 | 836 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| Project Total Cost: | | | 1336 | 953 | | 1467 | | 0 | | 0 | 3756 | 3756 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604622A - Family of Heavy Tactical Vehicles** | **659** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Award System Development & Demonstration contract for Crew Protection Kit | | | 1Q | | | | | |
| Conduct testing on Crew Protection Kit | | | 2-4Q | | | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604622A - Family of Heavy Tactical Vehicles** | **E49** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| E49 HEMTT | 2510 | 13568 | 6749 | 9773 | 10747 | 13607 | 0 | 0 | 0 | 56954 |

**A. Mission Description and Budget Item Justification:** FY2004/FY2005 funds prototype development, which leads to the competitive procurement of the Future Tactical Truck System (FTTS). The FTTS is the Objective Force sustainment vehicle system and is the optimal solution to address numerous shortfalls exhibited by the Current Fleet when assessed against required Objective Force support. The Current tactical wheeled vehicle fleet cannot sustain the Objective Force due to an outdated architecture that requires multiple variants and models, an increasingly cumbersome logistics footprint, poor C-130 deployability, poor fuel economy, an inability to maintain the OPTEMPO of its pacing system, the Future Combat System (FCS), and mobility limitations which will not enable true seamless, just in time support. FTTS is one of the Chief of Transportation's top three priorities and will enhance sustainability and reliability by means of onboard diagnostics and prognostics and achieve mobility matching that of the FCS through advanced suspension and propulsion systems. In addition, FTTS will provide unparalleled deployability through the ability to be loaded aboard the C-130 cargo, and load/offload the C-130 without ancillary material handling equipment through the use of an integrated smart load handling system. Crew survivability will be greatly increased using subsystems that provide an integrated mine/ballistic protection, NBC and ambush protection, and enhanced situational awareness as well as allowing network centric operations with the rest of the battlefield. Technologies such as on-board power generation, which reduce supplemental generator requirements, and increased fuel economy, will enable the FTTS to be a crucial logistics footprint reducer for the Objective Force. The focus of the System Development and Demonstration phase is to complete the FTTS architecture design and thus allow for the seamless integration of high-payback technologies into a capable, affordable package. A comprehensive analysis has revealed that no single existing vehicle system can or will be able to solve all of these requirements. Without the FTTS, the FCS will have to rely upon the current fleet with all of its overwhelming shortcomings for its support. FY2004 funds also complete the test program for a FY2003 funded effort directed toward advanced technology improvements for the Heavy Expanded Mobility Tactical Truck (HEMTT) Extended Service Program and HEMTT new production. It will also provide for evolutionary transformation of the HEMTT fleet. Research efforts will be partnered with the National Automotive Center and other private industry partners to incorporate diagnostics, multiplexed smart wiring, Integrated Electronic Tech Manuals, and other advanced technology to reduce Operations and Support costs and improve the readiness of the HEMTT fleet. Prior to FY2004 funding supports development of a Block Modification on the Movement Tracking System (MTS). This Block Modification will increase the performance and functionality of the MTS through multiple interface developments. This project supports the Legacy-to-Objective transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Encryption Validation | 240 | 0 | 0 | 0 |
| User Functional Description (UFD)enhanced software development. | 650 | 1300 | 0 | 0 |
| Embedded Military Global Positioning System Selective Availability Anti-Spoofing Module interface development. | 859 | 500 | 0 | 0 |
| United States Army, Europe-Defense Transportation Recording And Control System interface development. | 0 | 100 | 0 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Automated Identification Technology/Radio Frequency Identification Device interface development. | 727 | 100 | 0 | 0 |
| Global Combat Support System-Army (Combat Service Support Control System/Force XXI Battle Command Battalion/Brigade and Below) interface development. | 34 | 861 | 0 | 0 |
| HEMTT advanced technology improvement development. | 0 | 7907 | 0 | 0 |
| HEMTT advanced technology improvement prototypes. | 0 | 2800 | 0 | 0 |
| Testing of HEMTT advanced technology improvements. | 0 | 0 | 2000 | 0 |
| FTTS Systems Integration (Government modeling & simulation) | 0 | 0 | 4749 | 0 |
| FTTS Systems Integration (Contractor Modeling and Simulation) | 0 | 0 | 0 | 4000 |
| FTTS Systems Integration (Prototype Development) | 0 | 0 | 0 | 5773 |
| Totals | 2510 | 13568 | 6749 | 9773 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| OPA1, DA0500, Family of Heavy Tactical Vehicles | 159099 | 252365 | 133130 | 99743 | 97837 | 224698 | 90894 | 75123 | Continuing | Continuing |
| OPA1, D16301 Future Tactical Truck System (FTTS) | 0 | 0 | 0 | 0 | 0 | 0 | 11497 | 183477 | Continuing | Continuing |

**C. Acquisition Strategy:** FTTS trails the FCS by 2 years, as FCS is the pacing system and drives FTTS support requirements. This enables FTTS to achieve commonality with the FCS and reduce RDT&E expenses by leveraging the FCS Concept/System Development and Demonstration (SDD) effort. The initial stages of the FTTS RDT&E effort will rely almost entirely on modeling and simulation in order to reduce program risk and development costs. This data would be used to support the competitive award for the prototype development phase of the SDD efforts. Award of a production contract will follow successful completion of SDD prototype testing and evaluation.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604622A - Family of Heavy Tactical Vehicles**

PROJECT
**E49**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . MTS Software Development, Engineering, Testing, Program Management | C/CPIF | TBD | 2510 | 2861 | 3Q | 0 | | 0 | | 0 | 5371 | 0 |
| b . Technical Improvement Development - Government | IN HOUSE | TACOM, Warren, MI | 0 | 300 | | 0 | | 0 | | 0 | 300 | 0 |
| c . Technical Improvement Development - Contractor | CPFF | Oshkosh Truck Corp., Oshkosh, WI | 0 | 7607 | 2Q | 0 | | 0 | | 0 | 7607 | 0 |
| d . Technical Improvement Prototypes | CPFF | Oshkosh Truck Corp., Oshkosh, WI | 0 | 2800 | 4Q | 0 | | 0 | | 0 | 2800 | 0 |
| e . FTTS Systems Integration - Government | IN HOUSE | TACOM, Warren, MI | 0 | 0 | | 4749 | 2Q | 0 | | 0 | 4749 | 0 |
| f . FTTS Systems Integation - Contractor | CPFF | TBD | 0 | 0 | | 0 | | 9773 | 2Q | 17354 | 27127 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 2510 | 13568 | | 4749 | | 9773 | | 17354 | 47954 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604622A - Family of Heavy Tactical Vehicles**

PROJECT
**E49**

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . HEMTT Technical Improvement Testing | MIPR | APG, Aberdeen, MD | 0 | 0 | | 2000 | 4Q | 0 | | 0 | 2000 | 0 |
| b . FTTS Testing | MIPR | APG, Aberdeen, MD | 0 | 0 | | 0 | | 0 | | 7000 | 7000 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 2000 | | 0 | | 7000 | 9000 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604622A - Family of Heavy Tactical Vehicles**

PROJECT
**E49**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Project Total Cost: | | | 2510 | 13568 | | 6749 | | 9773 | | 24354 | 56954 | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604622A - Family of Heavy Tactical Vehicles**

PROJECT
**E49**

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| MTS Interface development | 2-4Q | 1-3Q | | | | | | |
| HEMTT Technical Improvement development | | 2-4Q | 1-3Q | | | | | |
| HEMTT Technical Improvement Prototypes | | 4Q | | | | | | |
| HEMTT Technical Improvement testing | | | 4Q | 1-3Q | | | | |
| FTTS Milestone A Decision | | 4Q | 1Q | | | | | |
| FTTS Advanced Concept Technology Demonstration | | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | | |
| FTTS Modeling & Simulation | | | 2Q | | | | | |
| FTTS ORD Approval | | | | 2-3Q | | | | |
| FTTS Milestone B Decision | | | | 2-3Q | | | | |
| FTTS Prototype Development | | | | 2-4Q | 1-4Q | | | |
| FTTS Prototype Testing | | | | | | 2-4Q | | |
| FTTS Milestone C Decision | | | | | | | 2-3Q | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604622A - Family of Heavy Tactical Vehicles** | **E50** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| E50 TRAILER DEVELOPMENT | 0 | 0 | 984 | 983 | 980 | 979 | 981 | 981 | 0 | 5888 |

**A. Mission Description and Budget Item Justification:** FY2004/FY2005 funds provide for performance of feasibility testing on two M872A4 Semi-Trailers with enhanced mobility characteristics when towed by an improved M915A4 Truck Tractor Line Haul and to procure and conduct feasibility testing on two M870A3 Semi-Trailers and performance assessment of the Trailers' capability to match up to the M983 Heavy Expanded Mobility Tactical Truck (HEMTT) Operational Mode Summary/Mission Profile with Enhanced Mobility Characteristics. This project supports the Legacy-to-Objective transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Feasibility testing of enhanced M872A4 and M870A3 Semi-trailers. | 0 | 0 | 200 | 400 |
| Program Integration | 0 | 0 | 300 | 200 |
| Program Management | 0 | 0 | 84 | 83 |
| Enhanced M870A3 Semi-Trailer. | 0 | 0 | 200 | 150 |
| Enhanced M872A4 Semi-Trailer. | 0 | 0 | 200 | 150 |
| Totals | 0 | 0 | 984 | 983 |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604622A - Family of Heavy Tactical Vehicles** | **E50** |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| OPA1 D01600 Semi-Trailer FB BB/CONT TR 34T M872A4 | 9774 | 24655 | 14966 | 1785 | 1765 | 1764 | 1044 | 9489 | 0 | 65242 |
| OPA 1 D00700 Semi-Trailer LB 40T M870A3 | 1451 | 1875 | 1730 | 1603 | 0 | 377 | 0 | 0 | 0 | 7036 |

**C. Acquisition Strategy:** Conduct feasibility testing through Research and Development Program Integrator on two commercial semi-trailers with enhanced mobility and materiel handling characteristics when towed by an improved M915A4 Truck, Tractor, Line Haul. Program Integrator will be competitively selected. Procure and conduct mobility assessment on two trailers (M870A3 and Self-Loading/Off-Loading Trailer (SLOT)) when towed by the M983 Engineer Variant Heavy Expanded Mobility Tactical Truck (HEMTT). The goal is to identify concepts that would enhance the system's overall mobility through either modification of existing equipment or development of new equipment and enhanced equipment transportability and safety through improved or innovative tie-down and lifting concepts. Research and Development contractor will recommend improvements in hardware to be acquired sole source for testing.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604622A - Family of Heavy Tactical Vehicles**

PROJECT
**E50**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Program Integrator | C-CP/FF | To Be Selected (TBS) | 0 | 0 | | 300 | 2Q | 200 | 3Q | Continue | 500 | Continue |
| b . Program Management | In-House | TACOM-WRN | 0 | 0 | | 84 | 2Q | 83 | 2Q | Continue | 167 | Continue |
| c . Enhanced M872 | C-FF | To Be Selected (TBS) | 0 | 0 | | 200 | 3Q | 150 | 3Q | Continue | 350 | Continue |
| d . Enhanced M870 | C-FF | To Be Selected (TBS) | 0 | 0 | | 200 | 3Q | 150 | 3Q | Continue | 350 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 784 | | 583 | | Continue | 1367 | Continue |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604622A - Family of Heavy Tactical Vehicles**

PROJECT
**E50**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . M872A4, M870A3 | MIPR | Aberdeen Test Center, Aberdeen, MD | 0 | 0 | | 200 | 2Q | 400 | 2Q | Continue | 600 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 200 | | 400 | | Continue | 600 | Continue |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| Project Total Cost: | | | 0 | 0 | | 984 | | 983 | | Continue | 1967 | Continue |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604622A - Family of Heavy Tactical Vehicles**

PROJECT
**E50**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Conduct feasibility testing on enhanced M872A4 Semi-Trailer. | | | 2-4Q | 2-4Q | 2-4Q | 2-4Q | 2-4Q | 2-4Q |
| Conduct feasibility testing on enhanced M870A3 Semi-Trailer. | | | 2-4Q | 2-4Q | 2-4Q | 2-4Q | 2-4Q | 2-4Q |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604633A - AIR TRAFFIC CONTROL** | **586** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 586 AIR TRAFFIC CONTROL | 1116 | 2199 | 2514 | 2596 | 2733 | 2725 | 2164 | 1985 | 0 | 19191 |

**A. Mission Description and Budget Item Justification:** This program element (PE) funds continuous efforts in the development of modernized tactical and fixed base Air Traffic Control (ATC) systems that will significantly enhance aviation safety in both the tactical and strategic ATC domains. Funded in this program element is the development of the Mobile Tower System (MOTS). The MOTS is a tactical mobile tower designed to meet the deployability and communication requirements of the objective force. A Non-Developmental Item (NDI), MOTS will be equipped with modernized and secure avionics to ensure highly reliable and consistent tactical aircraft communications across all frequency bands and ranges to ensure compatibility with all Army, Joint, and Allied aircraft. MOTS will provide modern digital, secure, anti-jam communications, a digital recorder, basic weather information, a precision location capability, and full compatibility with all military and civilian airfields as well as tactical landing zones. The currently fielded systems, AN/TSW-7A and AN/TSQ-70A, are obsolete and require two, two and a half ton vehicles, a 15Kw generator, and a support trailer to fully operate the system. The system is not deployable on any aircraft smaller than a C-5, does not meet communications requirements across the operational spectrum, and is very difficult to maintain because parts are no longer manufactured for the system. An integral part of the MOTS program is the Portable Airfield Lighting System (PALS). This program element includes funds for the trailer mounted PALS and the man-portable PALS. The trailer mounted PALS provides mobile aircraft lighting and all the necessary elements to establish a remote heliport/landing zone including runways up to 5,000 feet in length. Currently, ATC units do not have an airfield lighting capability and only limited tactical lighting capabilities. PALS provides positive visual cues for runway alignment and rate of descent, allows for lower descent altitudes during precision approaches, and provides positive visual directions for Forward Area Rearming/Refueling Point (FARP) operations. The man-portable variant of PALS deploys with the Tactical Terminal Control System (TTCS), provides lighting for tactical landing zones, and provides position lights for six FARP points. PALS provides a significant force protection enhancement to the safety of Army, joint, and allied aircraft operations at all landing sites. The system will significantly enhance aviation safety for all aircraft operations, especially during night and inclement weather operations. Both MOTS and PALS are effective risk management tools.
New efforts will include the initial design and development of a Combat Mission Simulator (CMS) to support the TAIS and ATNAVICS Systems. The CMS will significantly improve controller training and support operational currency requirements. These systems support the Legacy-to-Objective transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Program Support | 109 | 117 | 130 | 135 |
| Complete MOTS Competition Testing | 85 | 0 | 0 | 0 |
| MOTS Prototype Development | 200 | 1997 | 620 | 0 |

| Accomplishments/Planned Program (continued) | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| PALS Proof of Concept Testing | 722 | 0 | 0 | 0 |
| Concept Exploration for ATC Simulators/Trainers (ATNAVICS/TAIS/MOTS) | 0 | 85 | 146 | 0 |
| PALS Prototype Development | 0 | 0 | 1215 | 0 |
| PALS Developmental Testing | 0 | 0 | 403 | 0 |
| ATC Simulators/Trainers Prototype Development | 0 | 0 | 0 | 1741 |
| TAIS P3I | 0 | 0 | 0 | 333 |
| JTRS Integration (MOTS/TAIS/ATNAVICS) | 0 | 0 | 0 | 387 |
| Totals | 1116 | 2199 | 2514 | 2596 |

| B. Program Change Summary | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 2179 | 2339 | 2613 | 2705 |
| Current Budget (FY 2004/2005 PB) | 1116 | 2199 | 2514 | 2596 |
| Total Adjustments | -1063 | -140 | -99 | -109 |
| Congressional program reductions | | | | |
| Congressional rescissions | -11 | -75 | | |
| Congressional increases | | | | |
| Reprogrammings | -1001 | -13 | | |
| SBIR/STTR Transfer | -51 | -52 | | |
| Adjustments to Budget Years | | | -99 | -109 |

FY 2002: $1 million reprogrammed to support urgent requirement for Apache 2nd Gen FLIR.

| C. Other Program Funding Summary | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| APA AA0050 - Air Traffic Control | 58611 | 63292 | 59963 | 59614 | 56171 | 77936 | 108470 | 85518 | Continue | Continue |

**D. Acquisition Strategy:** Explore new technology initiatives for the development of tactical ATC equipment, ensure complete integration of tactical ATC equipment with the National Airspace System (NAS), and integrate new technology into existing systems.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604633A - AIR TRAFFIC CONTROL**

PROJECT
**586**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . MOTS | TBD | TBD | 2739 | 1694 | 1-2Q | 620 | 1Q | 0 | | 0 | 5053 | 0 |
| b . PALS | TBD | TBD | 2416 | 0 | | 1215 | 1Q | 0 | | 0 | 3631 | 0 |
| c . ATC SIMULATORS/TRAINERS | TBD | TBD | 0 | 0 | | 56 | 1-2Q | 1741 | 1-2Q | 0 | 1797 | 0 |
| d . TAIS P3I | TBD | TBD | 0 | 0 | | 0 | | 166 | 1-2Q | 0 | 166 | 0 |
| e . JTRS INTEGRATION | TBD | TBD | 0 | 0 | | 0 | | 208 | 1-2Q | 0 | 208 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 5155 | 1694 | | 1891 | | 2115 | | 0 | 10855 | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . ATC SIMULATORS | TBD | TBD | 0 | 85 | 2Q | 90 | 2Q | 0 | | 0 | 175 | 0 |
| b . JTRS | TBD | TBD | 0 | 0 | | 0 | | 179 | 1-2Q | 0 | 179 | 0 |
| c . TAIS P3I | TBD | TBD | 0 | 0 | | 0 | | 167 | 1-2Q | 0 | 167 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 85 | | 90 | | 346 | | 0 | 521 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604633A - AIR TRAFFIC CONTROL**

PROJECT
**586**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . MOTS | MIPR | AATD, FT EUSTIS, VA | 298 | 303 | 3Q | 0 | | 0 | | 0 | 601 | 0 |
| b . PALS TESTING & INTEGRATION | TBD | TBD | 722 | 0 | | 403 | 2Q | 0 | | 0 | 1125 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1020 | 303 | | 403 | | 0 | | 0 | 1726 | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . ATNAVICS | FP | CSC, INC. | 1125 | 9 | 1-4Q | 8 | 1-4Q | 0 | | 0 | 1142 | 0 |
| b . MOTS | CPFF | CAS, INC, Huntsville, AL | 233 | 68 | 1-4Q | 22 | 1-4Q | 0 | | 0 | 323 | 0 |
| c . PALS | Various | Various | 300 | 0 | | 71 | 1-4Q | 26 | 1-4Q | 0 | 397 | 0 |
| d . TAIS | FP | CAS, INC, Huntsville, AL | 12 | 25 | 1-4Q | 8 | 1-4Q | 21 | 1-4Q | 0 | 66 | 0 |
| e . ATC SIMULATORS | TBD | TBD | 0 | 15 | 1-4Q | 21 | 1-4Q | 73 | 1-4Q | 0 | 109 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604633A - AIR TRAFFIC CONTROL**

PROJECT
**586**

| IV. Management Services (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| f . JTRS | TBD | TBD | 0 | 0 | | 0 | | 15 | 1-4Q | 0 | 15 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1670 | 117 | | 130 | | 135 | | 0 | 2052 | 0 |
| Project Total Cost: | | | 7845 | 2199 | | 2514 | | 2596 | | 0 | 15154 | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604633A - AIR TRAFFIC CONTROL** | **586** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| MOTS Competition Testing | 1Q | | | | | | | |
| MOTS Prototype Development | 4Q | 1-2Q | | | | | | |
| MOTS Developmental Testing/TDP | | 3-4Q | 1-3Q | | | | | |
| PALS Proof of Concept Testing | 2-4Q | | | | | | | |
| Concept Exploration for ATC Simulators/Trainers (ATNAVICS/TAIS/MOTS | | 2-3Q | 1-2Q | | | | | |
| PALS Prototype Development | | | 1-2Q | | | | | |
| PALS Developmental Testing | | | 3-4Q | | | | | |
| ATC Simulator Prototype Devlopment | | | | 1-3Q | | | | |
| TAIS P3I Developmental Testing | | | | 3Q | | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604641A - TACTICAL UNMANNED GROUND VEHICLE (TUGV)** | **E47** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| E47 TAC UNMANNED GND VEH | 1439 | 1146 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2873 |

**A. Mission Description and Budget Item Justification:** Tactical Unmanned Ground Vehicles (TUGVs) consist of a family of systems ranging from very large systems for assault or countermine, to very small man-portable units for close-in reconnaissance. This family of systems is being developed by the Unmanned Ground Vehicles/Systems Joint Project Office (UGV/S JPO), under the OSD Joint Robotics Program. TUGV provides commanders the means to reduce risk and neutralize threats to soldiers and Marines by reducing their exposure during dangerous combat missions such as reconnaissance, surveillance, target acquisition, Nuclear Biological and Chemical (NBC) detection, crowd control, obstacle breaching, and countermine. It performs as a force multiplier, increases the commander's perspective on the battlespace, and fills the brigade/battalion intelligence gap. Unmanned systems, operating out-front, provide force multiplication with the TUGVs reporting the nature of terrain, finding, locating and, in some cases, firing upon the enemy, locating obstacles, acquiring targets, detecting NBC agents, and providing this information to those who need it most, the battalion commander's battle staff. There will be a number of versions of TUGVs including a small-medium version for armed remoting of combat tasks for Marine and Army units. A man-portable system for intelligence collection and dissemination within buildings, tunnels, and sewers is also being developed for small unit commanders. Large assault systems mounted on tanks or bulldozers also fall within the family when designed for tactical employment, such as the Viking countermine system. This program element supports critical transition of Office of Naval Research Laboratory, Army Research Laboratory, and Defense Advanced Research Project Agency technology to the UGV/S JPO for assessment during appraisals, Advanced Concept Technology Demonstrations (ACTD), and readiness for incorporation into System Development and Demonstration (SDD) performance specifications.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Viking has completed basic safety and performance testing, and is participating in the Joint Area Clearance ACTD at Ft. A. P. Hill. Modifications for system hardening will be performed prior to live mine testing in conjunction with the ACTD. | 1439 | 1146 | 0 | 0 |
| Totals | 1439 | 1146 | 0 | 0 |

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 1490 | 0 | 0 | 0 |
| Current Budget (FY 2004/2005 PB) | 1439 | 1146 | 0 | 0 |
| Total Adjustments | -51 | 1146 | 0 | 0 |
| Congressional program reductions | | | | |
| Congressional rescissions | -7 | -14 | | |
| Congressional increases | | 1200 | | |
| Reprogrammings | -3 | -7 | | |
| SBIR/STTR Transfer | -41 | -33 | | |
| Adjustments to Budget Years | | | | |

**C. Other Program Funding Summary:** Not Applicable

**D. Acquisition Strategy:** The Tactical Unmanned Ground Vehicle (TUGV) program includes a family of products including the Man-Portable Robotic System (MPRS), the Tactical Unmanned Vehicle-Medium (TUV-M), and Viking. The Evolutionary Acquisition Strategy employed for this program by the Unmanned Ground Vehicles/Systems Joint Project Office requires Horizontal Technology Integration of emerging sensors, lasers, and command and control data link technologies to most effectively use limited resources. The first generation TUGVs will minimize risk and neutralize threats by enabling soldiers and Marines to perform dangerous scout/Reconnaissance, Surveillance, and Target Acquisition, targeting and combat support missions from a safer location. TUV-M prototype systems will incorporate state-of-the-art sensors, weapons, actuation, communications, mission planning, and semi-autonomous navigation technologies. The program utilizes a TUGV Integrated Product Team approach.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604642A - LIGHT TACTICAL WHEELED VEHICLES** | **E40** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| E40 LTV PROTOTYPE | 1920 | 7531 | 15700 | 10022 | 1961 | 1959 | 5121 | 10272 | 0 | 61417 |

**A. Mission Description and Budget Item Justification:** The High Mobility Multi-Purpose Wheeled Vehicle (HMMWV) is a lightweight, high performance, four-wheel drive, air transportable and air droppable, high mobility tactical wheeled vehicle. The HMMWV consists of a basic design with several variants including Cargo/Utility, Armament Carrier, A mbulance, Shelter Carrier and Armored Armament Carrier. FY 2004 completes the HMMWV Modernization effort, which leverages advancement in commercial and military truck technology for insertion into the HMMWV. The HMMWV Modernization Program complies with the Environmental Protection Agency (EPA) requirements for the engine and provides increased compliance with the Federal Motor Vehicle Safety Standards (FMVSS). New commercial technology, combined with greater achievement of user requirements, will result in an improved HMMWV. Testing for the HMMWV Modernization Program will include improvements to the vehicle's Reliability and Maintainability (RAM), environmental, transportability, and automotive. FY 2004 and FY 2005 fund the Up-Armored HMMWV Modernization effort and continuation of the Hybrid Electric (HE) HMMWV. Technology advancements in both armor and ballistic glass materials have progressed to the point that improved ballistic protection is available that is lighter and less expensive. This effort has the potential to decrease the M1114 Up-Armored HMMWV's overall vehicle weight by up to 1000 lbs. thereby increasing user payload. An additional benefit is a potential reduction in vehicle Operation and Sustainment (O&S) costs related to the reduction in overall vehicle weight. This effort will also address a removable armor package that could potentially be used on a portion of the HMMWV fleet to increase ballistic and blast protection on non-protected vehicles. The HE HMMWV is an Army initiative to reduce vehicle Operation and Sustainment costs, fuel consumption, and the logistical footprint while providing the opportunity for enhanced electric power and silent watch operation. The HE HMMWV Program has a potential savings of 30% in O&S costs alone. The HE HMMWV has been identified as a possible Objective Force platform in the Unit of Action and the Modernized HMMWV may be considered as the interim platform for the Future Tactical Truck System (FTTS) Utility. HMMWV supports the Legacy-to-Objective transition path of the Transformation Campaign Plan (TCP), and the HE HMMWV supports the Objective Force.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| HMMWV Modernization Development Contract | 1682 | 1275 | 0 | 0 |
| Assemble and test up to ten prototype vehicles - HMMWV Modernization | 34 | 773 | 2000 | 0 |
| HE HMMWV Development Contract | 0 | 4420 | 7500 | 2780 |
| Test up to eight HE HMMWV's | 0 | 500 | 1800 | 2750 |
| Support Costs (Engineering/Quality/M atrix Support) | 204 | 563 | 691 | 707 |
| Develop up to eight Up-Armored HMMWV LRIP vehicles with removable armor package | 0 | 0 | 3709 | 1600 |
| Test up to eight Up-Armored HMMWVs including Ballistic and Blast Test | 0 | 0 | 0 | 2185 |
| Totals | 1920 | 7531 | 15700 | 10022 |

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 2501 | 7877 | 5049 | 4109 |
| Current Budget (FY 2004/2005 PB) | 1920 | 7531 | 15700 | 10022 |
| Total Adjustments | -581 | -346 | 10651 | 5913 |
| Congressional program reductions | | -86 | | |
| Congressional rescissions | | | | |
| Congressional increases | | | | |
| Reprogrammings | -511 | -43 | | |
| SBIR/STTR Transfer | -70 | -217 | | |
| Adjustments to Budget Years | | | 10651 | 5913 |

FY 2002 - $500K reprogrammed to 654804.46112 for TSV Support and $11K DA billpayer.
FY 2003 - Less $86K Congressional program reductions, $217K SBIR/STTR Transfer and $43K DA Reprogramming.
FY 2004 - FY 2005 - funding added to support Hybrid Electic (HE) HMMWV development.

| **C. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| OPA1 Hi Mob Multi-Purp Whld Veh (D15400) | 146349 | 234270 | 137847 | 205760 | 288362 | 317694 | 484922 | 720200 | Continue | Continue |

**D. Acquisition Strategy:** The acquisition strategy for the HMMWV Modernization Program is to award a block improvement engineering change proposal to the production contract.

Strategy for the Hybrid Electric HMMWV is to award a sole source vehicle integrator contract with a competitive Hybrid Electric design and integration portion.

Strategy for the Up-Armored HMMWV Modernization is to award an engineering change proposal to the production contract.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604642A - LIGHT TACTICAL WHEELED VEHICLES**

PROJECT
**E40**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Development Contract - HMMWV Modernization | SS/CPFF | AM General, Mishawaka, IN | 14393 | 1275 | 2Q | 0 | | 0 | | 0 | 15668 | 15668 |
| b . Engineering Support - HMMWV Modernization | N/A | AMSAA, APG, MD | 67 | 0 | | 0 | | 0 | | 0 | 67 | 67 |
| c . Engineering Support - HMMWV Modernization | N/A | WES, Vicksburg, MS | 117 | 0 | | 0 | | 0 | | 0 | 117 | 117 |
| d . In-House Engineering (TACOM) | N/A | TACOM, Warren, MI | 530 | 563 | 1-4Q | 691 | 1-4Q | 707 | 1-4Q | 0 | 2491 | 2491 |
| e . Development Contract - HE HMMWV | SS/CPFF | AM General, Mishawaka, IN | 0 | 4420 | 2Q | 7500 | 2Q | 2780 | 2Q | 0 | 14700 | 14700 |
| f . Development Contract M1114 armor package | SS/CPFF | O'Gara Hess & Eisenhardt, Fairfield, OH | 0 | 0 | | 3709 | 2Q | 1600 | 2Q | 0 | 5309 | 5309 |
| | | | | | | | | | | | | |
| Subtotal: | | | 15107 | 6258 | | 11900 | | 5087 | | 0 | 38352 | 38352 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604642A - LIGHT TACTICAL WHEELED VEHICLES**

PROJECT
**E40**

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

Remarks: Not applicable

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Developmental Testing - HMMWV Modernization | MIPR | ATC, Aberdeen, MD | 255 | 362 | 2Q | 891 | 2Q | 0 | | 0 | 1508 | 1508 |
| b . Developmental Testing - HMMWV Modernization | MIPR | Yuma Proving Ground, AZ | 10 | 411 | 3Q | 1109 | 2Q | 0 | | 0 | 1530 | 1530 |
| c . Transportability Testing - HMMWV Modernization | MIPR | Defense Ammunition Center, OK | 19 | 0 | | 0 | | 0 | | 0 | 19 | 19 |
| d . Developmental Testing - HE HMMWV | MIPR | ATC, Aberdeen, MD | 0 | 500 | 2Q | 700 | 1Q | 1500 | 1Q | 0 | 2700 | 2700 |
| e . Developmental Testing - HE HMMWV | MIPR | Yuma, Proving Ground, AZ | 0 | 0 | | 700 | 2Q | 675 | 2Q | 0 | 1375 | 1375 |
| f . Cold Regions Testing - HE HMMWV | MIPR | CRTC, Alaska | 0 | 0 | | 400 | 2Q | 575 | 2Q | 0 | 975 | 975 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604642A - LIGHT TACTICAL WHEELED VEHICLES**

PROJECT
**E40**

| III. Test and Evaluation (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| g . Developmental Testing - UA HMMWV Armor | MIPR | ATC, Aberdeen, MD | 0 | 0 | | 0 | | 2185 | 2Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 284 | 1273 | | 3800 | | 4935 | | Continue | Continue | Continue |

Remarks: Testing will include Reliability and Maintainability (RAM), environmental, transportability, and automotive testing.

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

Remarks: Not applicable

| Project Total Cost: | | | 15391 | 7531 | | 15700 | | 10022 | | Continue | Continue | Continue |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604642A - LIGHT TACTICAL WHEELED VEHICLES**

PROJECT
**E40**

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Test & Evaluation - HMMWV Modernization | | 2Q | | | | | | |
| Award Production Contract - HMMWV Modernization | | | | 3Q | | | | |
| Development Contract - HE HMMWV | | 3Q | | | | | | |
| Test & Evaluation - HE HMMWV | | 3Q | 2Q | | | | | |
| Award Production Contract - HE HMMWV | | | | | 1Q | | | |
| Award Development Contract - M1114 Armor Package | | | 2Q | | | | | |
| Developmental Test & Evaluation - M1114 Armor Package | | | | 2Q | | | | |
| Award Production Contract - M1114 Armor Package | | | | | 2Q | | | |

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

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)-Eng. Dev.**

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Program Element (PE) Cost | | 0 | 239213 | 1701331 | 2458373 | 2596341 | 2094897 | 2067071 | 2086678 | Continuing | 13243904 |
| 470 | FUTURE COMBAT SYSTEM - SDD | 0 | 157649 | 1245118 | 1967611 | 1853885 | 1074551 | 1046145 | 807495 | 0 | 8152454 |
| F49 | NETWORKED FIRES SYSTEMS TECHNOLOGY - SDD | 0 | 81564 | 102971 | 127827 | 223829 | 438065 | 490255 | 652553 | 0 | 2117064 |
| F50 | OBJECTIVE FORCE INDIRECT FIRES - SDD | 0 | 0 | 353242 | 362935 | 518627 | 582281 | 530671 | 626630 | Continuing | 2974386 |

**A. Mission Description and Budget Item Justification:** Future combat systems are comprised of a family of advanced, networked air and ground based maneuver, maneuver support, and sustainment systems that will include manned and unmanned platforms...networked via a C4ISR architecture, including networked communications, network operations, sensors, battle command systems, and manned and unmanned reconnaissance and surveillance capabilities that will enable improved situational understanding and operations at a level of synchronization heretofore unachievable.

Future combat systems will operate as a system of systems that will network existing systems, systems already under development, and new systems to be developed to meet the needs of the Unit of Action. The network will enable improved intelligence, surveillance, and reconnaisance, battle command, real time sensor-shooter linkages, and increased synergy between echelons and within small units. It will also enable the Unit of Action to connect to the Unit of Employment, joint capabilities, and national assets making these capabilities available to the small units of the Unit of Action.

Future combat systems enable the networked Unit of Action to develop the situation in and out of contact, set conditions, manuever to positions of advantage, and to close with and destroy the enemy through standoff attack and combat assault as articulated in the Objective Force Unit of Action operational & organizational plan.

Army transformation is grounded in the operational framework of joint doctrine and the concepts for future joint and combined operations. Transforming to the Objective Force and developing the Future Combat Systems (FCS) is the Army's number one priority. The FCS family of systems is being designed with the joint fight in mind.

The System Development and Demonstration (SDD) Program Element 0604645A, Project F49, Networked Fires Systems Technology was transitioned from the Concept & Technology Demonstration (CTD) Program Element 0603645A, Project F48, Networked Fires System Technology.

The System Development and Demonstration (SDD) Program Element 0604645A, Project F50, Objective Force Indirect Fires was transitioned from the

Concept & Technology Demonstration (CTD) Program Element 0603845A, Project F47, Objective Force Indirect Fires.

This system supports the Objective transition path of the Transformation Campaign Plan (TCP).

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 0 | 59860 | 399887 | 771353 |
| Current Budget (FY 2004/2005 PB) | 0 | 239213 | 1701331 | 2458373 |
| Total Adjustments | 0 | 179353 | 1301444 | 1687020 |
| Congressional program reductions | | | | |
| Congressional rescissions | | -3179 | | |
| Congressional increases | | 190750 | | |
| Reprogrammings | | -1373 | | |
| SBIR/STTR Transfer | | -6845 | | |
| Adjustments to Budget Years | | | 1301444 | 1687020 |

Funding increased due to FCS System Development and Demonstration (SDD) program acceleration.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604645A - Armored Systems Modernization (ASM)- Eng. Dev.** | **470** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 470 | FUTURE COMBAT SYSTEM - SDD | 0 | 157649 | 1245118 | 1967611 | 1853885 | 1074551 | 1046145 | 807495 | 0 | 8152454 |

**A. Mission Description and Budget Item Justification:** This project funds the System Development and Demonstration (SDD) of Future Combat Systems (FCS), a DARPA/Army collaborative program established by an MOA signed in February 2000. FCS is the centerpiece of the Army's strategy to achieve the Objective Force.

This project supports the detailed design, integration, and demonstration necessary to begin implementation of advanced architectures, to include detailed architectures for Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR); software and hardware; development including prototype build; and plans for logistics support, environmental issues, training, and fielding.

This project contains funding for all RDT&E activities for the FCS family of systems except for Non-Line of Sight-Launch Systems (F49) and Non-Line of Sight-Cannon (F50). These developmental efforts include manned and unmanned ground vehicles, unmanned aerial systems, unattended sensors, common sensors, and unattended munitions.

The FY04-05 budget supports initiation of the FCS System Development and Demonstration (SDD) phase and conduct of Preliminary Design Reviews (PDR) for FCS subsystems, systems, and System of Systems. FY04 funds the beginning of prototypes manufacturing, integration and testing of subsystems, C4ISR fabrication, testing and integration of prototypes. FY05 funds the delivery of the first prototype, completion of final design, initiation of prototype testing, and Critical Design Reviews (CDR) for FCS subsystems, systems, and System of Systems Increment 1.

To satisfy the Army's urgent capability requirement and to keep up with the pace of technology, the FCS uses an evolutionary acquisition strategy that ensures insertion of mature technologies and capabilities in manageable pieces over time. Component and Technology Development (CTD) and System Development and Demonstration (SDD) for subsequent blocks of capability will be ongoing throughout system development and fielding.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Detailed design of platforms, components, and subsystems to include development of the overarching network system of systems | 0 | 85100 | 438588 | 551172 |
| Prototype design, development, and manufacturing | 0 | 2400 | 204600 | 564500 |
| Software Engineering | 0 | 46149 | 396250 | 628219 |
| System Test, Simulation, and Analysis | 0 | 1600 | 29120 | 33040 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Systems Engineering Program Management (Contractor) | 0 | 4200 | 77200 | 92820 |
| Extension of the Advanced Collaborative Environment (classified and unclassified), support for core, matrix and program support and other government agencies. | 0 | 7100 | 31260 | 33860 |
| Systems Engineering and Technical Assistance | 0 | 1100 | 5400 | 5700 |
| Modeling and Simulation to support the development of FCS | 0 | 0 | 62700 | 58300 |
| Intelligent Munitions System | 0 | 10000 | 0 | 0 |
| Totals | 0 | 157649 | 1245118 | 1967611 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| PE 0602601A/HH7 | 19475 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19475 |
| PE 0603005A/53G | 110587 | 114351 | 114051 | 111102 | 48998 | 0 | 0 | 0 | 0 | 499089 |
| PE 0603845A/F47 | 0 | 356651 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 356651 |
| PE 0604645/F49 | 0 | 81564 | 102971 | 127827 | 223829 | 438065 | 490255 | 652553 | 0 | 2117064 |
| PE 0604645/F50 | 0 | 0 | 353242 | 362935 | 518627 | 582281 | 530671 | 626630 | 0 | 2974386 |
| G86100 | 0 | 0 | 0 | 225289 | 829206 | 1038022 | 3562240 | 2918987 | 0 | 8573744 |

**C. Acquisition Strategy:** In September 2001, the Army Leadership synchronized the DARPA/Army efforts to attain an Initial Operational Capability in FY10. This refined direction targets MS B in FY03, transition of program leadership from DARPA to the Army, and initiation of the SDD phase at that time. The Army Leadership approved the Draft Mission Need Statement in Oct 01 clearing the way for continued work in the Concept and Technology Development phase and clarifying requirements to be fulfilled by FCS during the SDD and production phase. The Unit of Action Operational and Organizational Concept was approved in Jul 02.

In February 2002, DARPA awarded the lead systems integrator (LSI) contract to the Boeing/SAIC team. The Acquisition Strategy will be presented to the MDA for approval prior to MS B. It envisions continued development of FCS via the LSI, and includes a contracting strategy that relies upon the Joint LSI/Government team to select the contractor teams for the families of vehicles, sensors, and architecture to be developed in this phase.

The Operational Requirements Document was reviewed by the Army Requirements Oversight Council on 22 January 2003 and tentatively is scheduled to be reviewed by the Joint Requirements Oversight Council on 14 April 2003.

FCS will use evolutionary acquisition to field, develop and upgrade FCS throughout its lifecycle.

The planned acquisition strategy focuses on growing increments of capability at the system of systems level and applying spiral development for individual systems within the FCS family of systems to get to full objective capability. Objective requirements represent the full Objective Force capabilities expected from the system of systems or individual systems. FCS system of systems threshold capability requirements identified in Key Performance Parameters (KPPs) are the minimum acceptable operational values below which the utility of FCS becomes questionable. Other initial threshold requirements represent desired baseline "increment 1" capabilities at system or system of systems level. Planning for subsequent increments or spirals, to include what they consist of and when they occur, is dependent on availability of future technologies, value to the operational concept, affordability, and integration considerations at the system and system of systems level.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)-Eng. Dev.**

PROJECT
**470**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Detailed System Design | CPAF | The Boeing Company, Seattle WA | 0 | 85100 | 3Q | 438588 | | 551172 | | 0 | 1074860 | 0 |
| b . Prototype Design, Development, Manufacturing | CPAF | The Boeing Company, Seattle Wa | 0 | 2400 | 3Q | 204600 | | 564500 | | 0 | 771500 | 0 |
| c . Software Engineering | CPAF | The Boeing Company, Seattle WA | 0 | 46149 | 3Q | 396250 | | 628219 | | 0 | 1070618 | 0 |
| d . Systems Engineering Program Management (Contractor) | CPAF | The Boeing Company, Seattle WA | 0 | 4200 | 3Q | 77200 | | 92820 | | 0 | 174220 | 0 |
| e . Detailed System Design - Intelligent Munitions System | CPIF | TBD | 0 | 10000 | 2Q | 0 | | 0 | | 0 | 10000 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 147849 | | 1116638 | | 1836711 | | 0 | 3101198 | 0 |

Remarks: The Army is pursuing Legislative permission to utilize "Other Transactions" agreements (OT) for all RDT&E activities for the FCS Family of Systems. Termination liability parameters are agreed to by parties within "Other Transactions" agreements, and do not require funding set-asides for termination liability.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)-Eng. Dev.**

PROJECT
**470**

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . System Test, Simulation, and Analysis-Government & Contractor | Various | TBD | 0 | 1600 | 3Q | 29120 | | 33040 | | 0 | 63760 | 0 |
| b . Modeling and Simulation | Various | TBD | 0 | 0 | | 62700 | | 58300 | | 0 | 121000 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 1600 | | 91820 | | 91340 | | 0 | 184760 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)-Eng. Dev.**

PROJECT
**470**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . ACE,Core Program Support and OGA's | Various | PM FCS | 0 | 7100 | 1-2Q | 31260 | | 33860 | | 0 | 72220 | 0 |
| b . SETA Contracts | FFP | Booz-Allen Hamilton, Camber, Warren MI | 0 | 1100 | 3Q | 5400 | | 5700 | | 0 | 12200 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 8200 | | 36660 | | 39560 | | 0 | 84420 | 0 |
| Project Total Cost: | | | 0 | 157649 | | 1245118 | | 1967611 | | 0 | 3370378 | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)-Eng. Dev.**

PROJECT
**470**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Mission Needs Statement | 1Q | | | | | | | |
| O&O | 4Q | | | | | | | |
| ASR | | 2Q | | | | | | |
| ORD | | 2Q | | | | | | |
| SDD Solicitation | | 2Q | | | | | | |
| Milestone B | | 3Q | | | | | | |
| SDD Contract Award for FCS | | 3Q | | | | | | |
| PDR for system of systems increment 1 | | 4Q | | | | | | |
| Long Lead for Prototypes | | 3-4Q | | | | | | |
| Begin Manufacturing of Prototypes | | | 1-2Q | | | | | |
| Integration and Testing of Subsystems | | | 2-3Q | | | | | |
| C4ISR Fabrication, Testing and Integration in Manufacturing of Prototypes | | | 2-3Q | | | | | |
| First Prototype delivered | | | | 2Q | | | | |
| Final Design Complete | | | | 2Q | | | | |
| Begin Prototype Testing | | | | 2Q | | | | |
| CDR for system of systems increment 1 | | | | 3Q | | | | |
| LRIP Long Lead Procurement Decision | | | | 4Q | | | | |
| Milestone C | | | | | 4Q | | | |
| FUE | | | | | | | 4Q | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604645A - Armored Systems Modernization (ASM)- Eng. Dev.** | **F49** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| F49 | NETWORKED FIRES SYSTEMS TECHNOLOGY - SDD | 0 | 81564 | 102971 | 127827 | 223829 | 438065 | 490255 | 652553 | 0 | 2117064 |

**A. Mission Description and Budget Item Justification:** This project supports the Non-Line-of-Sight Launch System (NLOS-LS) and the Networked Fires and Effects (NFE) Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) capability.

The NLOS-LS effort focuses on the development of a materiel solution to meet the requirements of the NLOS-LS operational requirement as delineated in the Future Combat Systems (FCS) Operational Requirements Document (ORD). NLOS-LS provides lethality for the FCS. NLOS-LS consists of a family of missiles and a highly deployable, platform-independent Container Launch Unit (CLU) with self-contained technical fire control, electronics, and software for remote, unmanned operations. The NLOS-LS Block I configuration will consist of Precision Attack Missiles (PAM) focused on defeating hard targets and Loitering Attack Missiles (LAM) focused on defeating fleeting, high-value targets as well as providing organic targeting information. Each of the missiles will be vertically launched directly from the CLU based on fire missions received via the FCS Unit of Action (UA) network and be capable of being updated in-flight via on-board radios by the network. The vertical launch capability provides a system that is highly deployable and able to engage a wide spectrum of targets in diverse environments and terrain. Both Block I missiles will have Automatic Target Recognition (ATR) capability. Future missile variants in future blocks may include Air Defense and non-lethal variants.

FY03 NLOS-LS effort focuses on maturing technology, thus reducing risk for development of the NLOS-LS missiles and CLU. This effort will transition the Defense Advanced Research Projects Agency (DARPA) NetFires demonstration technologies to the Army and perform trade studies and risk mitigation activities. Further, a preliminary definition of the Block I configuration to meet the requirements of the ORD and FCS schedule will be accomplished based on the trades and risk assessments. Areas of concentration include all elements of the missiles and CLU. As one of the FCS core systems, this risk reduction effort is critical for the NLOS-LS program to meet the program schedule so that the NLOS-LS achieves the system of systems schedule requirement.

FY 04-05 budget supports the initiation of a System Development and Demonstration (SDD) program and conduct of a Preliminary Design Review for NLOS-LS. Efforts will be focused on maturing the design of the Defense Advanced Research Projects Agency (DARPA) NetFires technologies for qualification and producibility, developing warheads and electronic safe and arm devices (ESAD) for PAM and LAM, performing component level testing, and designing interfaces for NLOS-LS to integrate to FCS platforms and the network.

NFE C4ISR provides tactical and technical fire control for a number of systems including Army and Joint mortars, cannons, rockets, missiles, naval gunfire, attack aviation and air support. NFE C4ISR provides attack analysis, system-target pairing, develops mission data, mission planning, ballistics solutions, airspace management and deconfliction.

NFE C4ISR also includes the planning and management of non-lethal systems including the use of information operations capabilities such as operations security (OPSEC), military deception, psychological operations (PSYOP) and electronic warfare (EW). NFE C4ISR provides tactical fire control for the NLOS-LS including missile mission planning and management, CLU Command and Control (C2), munition-target pairing, the ability to designate and employ PAM and LAM, conduct in-flight retargeting and retargeting of in-flight missiles via the tactical information grid. This effort will also develop the communications interface between the NLOS-LS CLU, LAM/PAM, C2 Systems and Observers.

This System Development and Demonstration (SDD) Program Element (0604645A), Project F49 was transitioned from The Concept and Technology Demonstration (CTD) Program Element 0603645A, Project F48.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| (NLOS-LS) Perform trade studies, risk assessments and maturation effort for potential NLOS-LS technologies | 0 | 8947 | 0 | 0 |
| (NLOS-LS) Define NLOS-LS increment 1 configuration to include platform and network integration requirements. | 0 | 27650 | 0 | 0 |
| (NLOS-LS) Detailed system design | 0 | 0 | 21780 | 29422 |
| (NLOS-LS) Prototype design, development, and manufacturing | 0 | 0 | 10214 | 13803 |
| (NLOS-LS) System test, Simulation, and Analysis | 0 | 4066 | 5389 | 7881 |
| (NLOS-LS) Systems Engineering and Technical Assistance | 0 | 0 | 1550 | 1894 |
| (NLOS-LS) Extension of the Advanced Collaborative Environment (ACE), classified and unclassified, support for core, matrix and program support and other government agencies. | 0 | 0 | 7749 | 15260 |
| (NLOS-LS) Modeling and Simulation to suport the development of FCS | 0 | 0 | 1642 | 2401 |
| (NLOS-LS) Software Engineering | 0 | 0 | 5473 | 8002 |
| (NFE C4ISR) Mature technology building blocks for key Networked Fires and Effects C4ISR software modules to facilitate subsequent transition of capabilities into FCS. | 0 | 20112 | 0 | 0 |
| (NFE C4ISR) Software Engineering. Develop NFE software to provide tactical and technical fire control for Army and Joint mortars, cannons, rockets, missiles, attack aviation, air support, non-lethal effects systems and NLOS-LS PAMs and LAMs. Develop interface between C2 systems, CLU, LAM/PAM and observers. | 0 | 17489 | 42124 | 41914 |
| (NFE C4ISR) Extension of the ACE, classified and unclassified, support for core, matrix and program support and other government agencies. | 0 | 3300 | 5850 | 6050 |
| (NFE C4ISR) Systems Engineering and Technical Assistance | 0 | 0 | 1200 | 1200 |
| Totals | 0 | 81564 | 102971 | 127827 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| PE 0602601A/HH7 | 19475 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19475 |
| PE 0603005A/53G | 110587 | 114351 | 114051 | 111102 | 48998 | 0 | 0 | 0 | 0 | 499089 |
| PE 0603845/F47 | 32000 | 356651 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 388651 |
| G86100 | 0 | 0 | 0 | 225289 | 829206 | 1638022 | 3562240 | 2918987 | 0 | 9173744 |

**C. Acquisition Strategy:** The SDD NLOS-LS effort will be competed between the CTD contractors. The NFE C4ISR efforts will continue to use existing prime contractors to develop incremental software release, synchronized and coordinated with Missile and CLU efforts to minimize technical and schedule risk in support of FCS FUE in 2008.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)-Eng. Dev.**

PROJECT
**F49**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Detailed System Design | CPAF | The Boeing Company - Seattle Washington | 0 | 0 | | 21780 | 1Q | 29422 | 1Q | 0 | 51202 | 0 |
| b . Prototype Design, Development, Manufacturing | CPAF | The Boeing Company - Seattle Washington | 0 | 0 | | 10214 | 1Q | 13803 | 1Q | 0 | 24017 | 0 |
| c . Software Engineering | CPAF | The Boeing Company - Seattle Washington | 0 | 0 | | 47597 | 1Q | 49916 | 1Q | 0 | 97513 | 0 |
| d . Prime Contracts (NFE C4ISR) | Sole Source to LSI w/ Primes Full & Open | Boeing LSI, CA ; TBD | 0 | 37601 | 2Q | 0 | | 0 | | 0 | 37601 | 0 |
| e . Define FCS NLOS-LS Increment I Configuration and define integration requirements | CPIF | TBD | 0 | 27650 | 2Q | 0 | | 0 | | 0 | 27650 | 0 |
| f . Perform Trade Studies, risk assessments and maturation effort for potential NLOS-LS technologies | Various | TBD | 0 | 6460 | 2Q | 0 | | 0 | | 0 | 6460 | 0 |
| | | | | | | | | | | | | |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)-Eng. Dev.**

PROJECT
**F49**

| I. Product Development (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Subtotal: | | | 0 | 71711 | | 79591 | | 93141 | | 0 | 244443 | 0 |

Remarks: The Army is pursuing Legislative permission to utilize "Other Transactions" agreements (OT) for all RDT&E activities for the FCS Family of Systems. Termination liability parameters are agreed to by parties within "Other Transactions" agreements, and do not require funding set-asides for termination liability.

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . System Test, Simulation, and Analysis-Government & Contractor | Various | TBD | 0 | 4066 | 2Q | 5389 | 1Q | 7881 | 1Q | 0 | 17336 | 0 |
| b . Modeling and Simulation | | | 0 | 0 | | 1642 | 1Q | 2401 | 1Q | 0 | 4043 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 4066 | | 7031 | | 10282 | | 0 | 21379 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)-Eng. Dev.**

PROJECT
**F49**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . ACE, Core Program Support and OGAs | Various | PM FCS | 0 | 5787 | 2-4Q | 13599 | 1-4Q | 21310 | 1-4Q | 0 | 40696 | 0 |
| b . SETA Contracts | FFP | Booz-Allen Hamilton, Camber, Warren, Mi | 0 | 0 | 2Q | 2750 | 1-4Q | 3094 | 1-4Q | 0 | 5844 | 0 |
| c . Transition DARPA Technologies | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 5787 | | 16349 | | 24404 | | 0 | 46540 | 0 |
| Project Total Cost: | | | 0 | 81564 | | 102971 | | 127827 | | 0 | 312362 | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)-Eng. Dev.**

PROJECT
**F49**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Milestone B | | 3Q | | | | | | |
| SDD Contract award for FCS | | 3Q | | | | | | |
| PDR for system of systems increment I | | 4Q | | | | | | |
| NLOS-LS Increment I SDD Contract Award | | | 1Q | | | | | |
| Integration and Testing of Sub-systems | | | 2-3Q | | | | | |
| C4ISR Fabrication, Testing and Integration in Manufacturing of Prototypes | | | 2-3Q | | | | | |
| NLOS-LS Critical Design Review | | | | 4Q | | | | |
| FCS Milestone C | | | | | 4Q | | | |
| NLOS-LS Increment II SDD Contract Award | | | | | | | 1Q | |
| NLOS-LS LRIP Award | | | | | | | 1Q | |
| NLOS-LS Increment II Critical Design Review | | | | | | | 4Q | |
| FCS FUE | | | | | | | 4Q | |
| NLOS-LS Limited User Testing | | | | | | | | 3Q |
| NLOS-LS Increment I FUE | | | | | | | | 3Q |
| NFE C4ISR Program Management Review (PMR) | | 4Q | 4Q | 3Q | 1Q | 1Q | 1Q | |
| NFE C4ISR Final Launcher C3 Interface Control Document | | | | 1Q | | | | |
| NFE C4ISR Incremental Mission Planning/Mgmt Module and Launcher C3 Software delivery | | | | 1Q | 1Q | 2Q | 1Q | 1Q |
| NFE C4ISR Contract Award | | 3Q | | | | | | |
| NFE C4ISR PDR | | | 2Q | | | | | |
| NFE C4ISR Target Development Simulation | | | 2-4Q | | | | | |
| NFE C4ISR CDR | | | 4Q | | | | | |
| NFE C4ISR System Qualification | | | | 2-3Q | 4Q | 4Q | 4Q | |
| NFE C4ISR LUT | | | | 3-4Q | | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604645A - Armored Systems Modernization (ASM)- Eng. Dev.** | **F50** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| F50 | OBJECTIVE FORCE INDIRECT FIRES - SDD | 0 | 0 | 353242 | 362935 | 518627 | 582281 | 530671 | 626630 | Continuing | 2974386 |

**A. Mission Description and Budget Item Justification:** This project supports System Development and Demonstration (SDD) efforts for the Non Line of Sight-Cannon (NLOS-C) variant of the Future Combat Systems. The Army's Objective Force will require networked Indirect Fire capability that is an integral component of the Unit of Action, with overmatching combat power, sustainability, agility, and versatility. This will require analysis of the potential solutions and challenges of packaging an indirect fire capability into the FCS system architecture. The maturity of the technologies and components necessary for NLOS-C, (as part of the FCS family of systems) will be assessed, including automation, armaments and ammunition. System Development and Demonstration will include both real and virtual prototypes. Virtual prototypes will be developed using Modeling and Simulation. Modeling and Simulation will be utilized throughout the effort to describe and support design activities, technology feasibility, limitations, and NLOS-C capabilitites within the Future Combat System of Systems. SDD will include analysis of multi-role concepts for lethality and resupply. Design and integration of available subsystem hardware (maximize for commonality among the FCS family of systems) will be conducted, leading to demonstrations of the viability/feasibility of selected concept components as applicable.

Future combat systems are comprised of a family of advanced, networked air and ground based maneuver, maneuver support, and sustainment systems that will include manned and unmanned platforms...networked via a C4ISR architecture, including networked communications, network operations, sensors, battle command systems, and manned and unmanned reconnaissance and surveillance capabilitites that will enable improved situational understanding and operations at a level of synchronization heretofore unachievable.

Future combat systems will operate as a system of systems that will network existing systems, systems already under development, and new systems to be developed to meet the needs of the Unit of Action. The network will enable improved intelligence, surveillance, and reconnaissance, battle command, real time sensor-shooter linkages, and increased synergy between echelons and within small units. It will also enable the Unit of Action to connect to Unit of Employment, joint capabilities, and national assets making these capabilities available to the small units of the Unit of Action.

The System Development and Demonstration (SDD) Program Element 0604645A, Project F50, Objective Force Indirect Fires was transitioned from the Concept & Technology Demonstration (CTD) Program Element 0603845A, Project F47, Objective Force Indirect Fires.

This project is an integral component of the overall maturation plan for the FCS systems of systems. This supports the Objective Force transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Design Mission Module, detailed design of objective force indirect fires mission module components and subsystems. | 0 | 0 | 99200 | 112100 |
| Design Common, detailed design of platforms, components and subsystems to include development of the overarching network system of systems that support objective force indirect fires. | 0 | 0 | 101712 | 85428 |
| Software Common | 0 | 0 | 77360 | 66277 |
| Prototype design, development and manufacturing | 0 | 0 | 40200 | 65400 |
| System Engineering, Program Management (Contractor) | 0 | 0 | 19300 | 16380 |
| System Test and Evaluation | 0 | 0 | 7280 | 8260 |
| Systems Engineering and Technical Assistance | 0 | 0 | 3000 | 3500 |
| Extension of the Advanced Collaborative Environment (classified and unclassified), support for core, matrix and program support and other government agencies | 0 | 0 | 5190 | 5590 |
| Totals | 0 | 0 | 353242 | 362935 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| PE 0604645A/470 | 0 | 157649 | 1245118 | 1967611 | 1853885 | 1074551 | 1046145 | 807495 | 0 | 8152454 |
| G86100 | 0 | 0 | 0 | 225289 | 829206 | 1638022 | 3562240 | 2918987 | 0 | 9173744 |
| PE 0603854A/F47 | 32000 | 356651 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 388651 |
| PE 0603005/53G | 110587 | 114351 | 114051 | 111102 | 48998 | 0 | 0 | 0 | 0 | 499089 |
| PE 0604645/F49 | 0 | 81564 | 102971 | 127827 | 223829 | 438065 | 490255 | 652553 | 0 | 2117064 |
| PE 0602601A/HH7 | 19475 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19475 |

**C. Acquisition Strategy:** The AAE concurred with the Boeing request to change the FCS competitive strategy and designate United Defense and General Dynamics Land Systems (GDLS) as Vehicle Integrators for FCS Manned Ground Vehicle (MGV) development in System Design and Development and LRIP. Early designation of GDLS and United Defense as FCS Vehicle Integrators will reduce competitive barriers between these corporations and Boeing, allowing these companies to collaborate on common MGV subsystem designs.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)-Eng. Dev.**

PROJECT
**F50**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Design Mission Module | CPAF | The Boeing Company - Seattle, Washington | 0 | 0 | | 99200 | 2Q | 112100 | 2Q | 666259 | 877559 | 0 |
| b . Design Common | CPAF | The Boeing Company - Seattle, Washington | 0 | 0 | | 101712 | 2Q | 85428 | 2Q | 590079 | 777219 | 0 |
| c . Software Common | CPAF | The Boeing Company - Seattle, Washington | 0 | 0 | | 77360 | 2Q | 66277 | 2Q | 452908 | 596545 | 0 |
| d . Prototype | CPAF | The Boeing Company - Seattle, Washington | 0 | 0 | | 40200 | 2Q | 65400 | 2Q | 332972 | 438572 | 0 |
| e . Systems Engineering - Program Management (Contractor) | CPAF | The Boeing Company - Seattle, Washington | 0 | 0 | | 19300 | 2Q | 16380 | 2Q | 112504 | 148184 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 337772 | | 345585 | | 2154722 | 2838079 | 0 |

Remarks: The Army is pursuing Legislative permission to utilize "Other Transactions" agreements (OT) for all RDT&E activities for the FCS Family of Systems. Termination liability parameters are agreed to by parties within "Other Transactions" agreements, and do not require funding set-asides for termination liability.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)-Eng. Dev.**

PROJECT
**F50**

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . System Test and Evaluation | TBD | TBD | 0 | 0 | | 7280 | 1-2Q | 8260 | 1-2Q | 49000 | 64540 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 7280 | | 8260 | | 49000 | 64540 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)-Eng. Dev.**

PROJECT
**F50**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . ACE, Core Program Support and OGA's | various | PM FCS Lethality | 0 | 0 | | 5190 | 1-3Q | 5590 | 1-3Q | 33992 | 44772 | 0 |
| b . SETA Contracts | TBD | TBD | 0 | 0 | | 3000 | 1-3Q | 3500 | 1-3Q | 20495 | 26995 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 8190 | | 9090 | | 54487 | 71767 | 0 |
| Project Total Cost: | | | 0 | 0 | | 353242 | | 362935 | | 2258209 | 2974386 | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)-Eng. Dev.**

PROJECT
**F50**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Milestone B | | 3Q | | | | | | |
| SDD Contract Award for FCS | | 3Q | | | | | | |
| Long Lead for prototypes | | 3-4Q | | | | | | |
| PDR for system of systems increment I | | 4Q | | | | | | |
| Begin manufacturing of prototypes | | | 1-2Q | | | | | |
| Integration and Testing of Subsystems | | | 2-3Q | | | | | |
| C4ISR Fabrication, Testing and Integration in Manufacturing of Prototypes | | | 2-3Q | | | | | |
| First Prototype delivered | | | | 2Q | | | | |
| Final Design Complete | | | | 2Q | | | | |
| Begin Prototype testing | | | | 2Q | | | | |
| CDR for system of systems Increment I | | | | 3Q | | | | |
| LRIP Long Lead Procurement Decision | | | | 4Q | | | | |
| Milestone C | | | | | 4Q | | | |
| FUE | | | | | | | 4Q | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604649A - ENGINEER MOBILITY EQUIPMENT DEVELOPMENT** | **G29** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| G29 ENGINEER VEHICLE UPGRADES | 8902 | 7786 | 0 | 0 | 0 | 0 | 11268 | 12056 | 0 | 40012 |

**A. Mission Description and Budget Item Justification:** Armored Vehicle Launched Bridge (AVLB) is an assault bridge system consisting of a scissors type bridge mounted on an M48/M60 based launcher. System supports gap crossings of heavy forces (Abrams/HERCULES/Bradley).

AVLB must complement the Wolverine to meet the assault bridging requirement in the Counter Attack Corps. With an average age of 28 years, the 37 year old AVLB has never had a major upgrade and is plagued with historically low readiness rates, rarely meeting the Department of the Army goal of 90%. Readiness data indicates that the hydraulic/electrical systems are significant contributers. Replacing the current 1950's technology hydraulic/electrical systems with state of practice hardware improves readiness by increasing reliability and by reducing associated supply and obsolescence issues.

This system supports the Legacy transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Depot engineering support and application of prototype hardware. | 12 | 0 | 0 | 0 |
| Procure hardware for Hydraulic/Electrical Upgrade test vehicles. | 0 | 250 | 0 | 0 |
| Procure hardware for Full Recap test vehicles. | 1280 | 0 | 0 | 0 |
| Program Management. PM staff, matrix support and administrative support. | 754 | 1600 | 0 | 0 |
| Testing. To procure test SSP (Supply Support Package) and support all test requirements. (Hydraulic/Electrical Upgrade) | 0 | 300 | 0 | 0 |
| Testing. To procure test SSP (Supply Support Package) and support all test requirements. (Full Recap) | 801 | 0 | 0 | 0 |
| Tooling required to build hydraulic/electrical upgrade test vehicles. | 0 | 100 | 0 | 0 |
| Tooling required to build Full Recap test vehicles. | 155 | 0 | 0 | 0 |
| Logistics efforts including development of technical manual changes for hydraulic/electrical upgrade. | 0 | 3055 | 0 | 0 |
| Logistics efforts including development of technical manual changes for Full Recap. | 2419 | 0 | 0 | 0 |
| Engineering, techical Data Package Development and Documentation for hydraulic/electrical upgrade. | 0 | 2481 | 0 | 0 |
| Engineering, techical Data Package Development and Documentation for Full Recap. | 3481 | 0 | 0 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Totals | 8902 | 7786 | 0 | 0 |

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 9202 | 8146 | 7109 | 0 |
| Current Budget (FY 2004/2005 PB) | 8902 | 7786 | 0 | 0 |
| Total Adjustments | -300 | -360 | -7109 | 0 |
| Congressional program reductions | | -90 | | |
| Congressional rescissions | -45 | -45 | | |
| Congressional increases | | | | |
| Reprogrammings | | | | |
| SBIR/STTR Transfer | -255 | -225 | | |
| Adjustments to Budget Years | | | -7109 | |

FY04 dollars realigned to fund higher priority programs.

| **C. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| PA, WTCV, GZ3000, AVLB MOD | 3968 | 9853 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13821 |

**D. Acquisition Strategy:** The hydraulic/electrical systems upgrade redesign incorporates proven current state of practice technology components and is a low risk effort. Engineering and logistics efforts will be accomplished with a horizontal contracting initiative using an existing contract with General Dynamics Land Systems. Tailored testing will be performed to ensure performance, durability and safety. When development effort is completed, procurement funding will buy kit hardware for application in the field at unit location by contractor teams.

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

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604710A - Night Vision Systems - Eng Dev**

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Program Element (PE) Cost | | 24783 | 36581 | 29022 | 22399 | 32263 | 35204 | 14560 | 10778 | Continuing | Continuing |
| L67 | SOLDIER NIGHT VISION DEVICES | 0 | 7145 | 9335 | 9826 | 14701 | 17338 | 0 | 0 | 0 | 58345 |
| L69 | HTI 2D GEN FLIR ED | 3263 | 5688 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15216 |
| L70 | NIGHT VISION DEV ED | 14234 | 11577 | 10446 | 10362 | 17562 | 17866 | 14560 | 10778 | Continuing | Continuing |
| L74 | LRAS3 | 769 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 27041 |
| L75 | PROFILER | 5908 | 6500 | 4140 | 0 | 0 | 0 | 0 | 0 | 0 | 21323 |
| L76 | LIGHTWEIGHT LASER DESIGNATOR RANGEFINDER UPGRADES | 609 | 5671 | 5101 | 2211 | 0 | 0 | 0 | 0 | 0 | 13592 |

**A. Mission Description and Budget Item Justification:** This program element provides night vision/reconnaissance, surveillance and target acquisition technologies required for U. S. defense forces to engage enemy forces twenty-four hours a day under conditions of degraded visibility due to darkness, adverse weather, battlefield obscurants, foliage and man-made structures. These developments and improvements to high performance night vision electro-optics, radar, laser, and thermal systems and integration of related multi-sensor suites will enable near to long range target acquisition, identification and engagement to include significant fratricide reduction, which will improve battlefield command and control in "around-the-clock" combat operations. Project L67 focuses on night vision electro-optical, laser, and other target identification and location equipment for a variety of Future Combat System of Systems (FCS) Units of Action/Employment and Objective Force platforms. This project includes the enhanced night vision goggle, modular HTI multi-function laser activities, and thermal upgrades to include an uncooled medium thermal weapon sight. Project L69 focuses on inserting key Horizontal Technology Integration Second Generation and beyond Forward Looking Infrared (FLIR) (HTI SGF) thermal sensor technology into combat and support forces. Project L70 focuses on night vision, reconnaissance, surveillance and target acquisition (RSTA) sensors and suites of sensors to provide well-defined surveillance and targeting capabilities for a variety of Future Combat System of Systems (FCS) Units of Action/Employment and Objective Force platforms. This project includes initiation of standard uncooled thermal sensor packages, initiation of Sense Through The Wall programs, and radar packaging for FCS platforms and other applications. Project L74 focuses on a long-range multi-function target acquisition common sensor system utilizing the HTI SGF thermal sensor and other technologies, for use by U. S. Army forces at ranges beyond the Abrams and Bradley capabilities. The Long Range Advanced Scout Surveillance System (LRAS3) will provide U. S. forces their first reconnaissance and surveillance system with a twenty-four hour, all weather capability that can be used in either mounted or dismounted modes. The current P3I effort supports the development and implementation of an LRAS3 interface with FBCB2 (Force XXI Battle Command Brigade and Below), enabling automated handoff of the digital target grid location. Project L75 focuses on the development of Profiler, an upgrade to the capabilities of the current AN/TMQ-41 Meteorological Measuring Set. Profiler will employ remote and local sensing of the atmosphere, mesoscale modeling and enhanced computing capabilities to provide target area and more accurate meteorological data. These enhancements and new capabilities will increase the lethality of field artillery systems such as Multiple Launched Rocket System (MLRS) and towed and self-propelled cannons.

Project DL76 focuses on the addition of a Laser Designation Module (LDM) to the LRAS3 that will increase the operational capability and survivability of Combat Observation Lasing (COLT) and Fire Support (FIST) teams. The resulting target acquisition common sensor will yield greater lethality from precision and area munitions through precise target location and designation. Upgrades developed under this project will be inserted through ongoing production contracts.

These projects support the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 27376 | 32328 | 21625 | 18904 |
| Current Budget (FY 2004/2005 PB) | 24783 | 36581 | 29022 | 22399 |
| Total Adjustments | -2593 | 4253 | 7397 | 3495 |
| Congressional program reductions | | | | |
| Congressional rescissions | | -495 | | |
| Congressional increases | | 5950 | | |
| Reprogrammings | -1848 | -210 | | |
| SBIR/STTR Transfer | -745 | -992 | | |
| Adjustments to Budget Years | | | 7397 | 3495 |

Change Summary Explanation:

FY2003: Congressional Add for Avenger 1st Generation FLIR upgrade efforts.
FY 2004/2005: Increase from SSN KA3500 and K31100 to fund PM Soldier Development efforts in Project L67.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604710A - Night Vision Systems - Eng Dev** | **L67** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| L67 | SOLDIER NIGHT VISION DEVICES | 0 | 7145 | 9335 | 9826 | 14701 | 17338 | 0 | 0 | 0 | 58345 |

**A. Mission Description and Budget Item Justification:** This project develops and improves high performance night vision electro-optics, thermal and laser systems, and systems integration of related multi-sensor suites to enable near to long range target acquisition and engagement as well as improve battlefield command and control in "around-the-clock" combat operations. This project is focusing on immediately improving the capability of the Counter Attack, Containment Forces, and Stryker Brigade Combat Teams (SBCT), to systems supporting transitioning to the Objective Force. All of the devices are candidates, as sub systems, for the Objective Force. The enhanced night vision goggle will be a head/helmet mounted night vision system for the individual soldier. The system will use both image intensifier and uncooled thermal technology to provide a multi-spectral image to the user. The Thermal Weapons Sight (TWS) development establishes competition for an uncooled medium TWS for the Thermal Omnibus II procurement. Other efforts include evaluation of the suitability and technology supporting a common Horizontal Technology Integration (HTI) laser system that could be used in a variety of ground and air platforms. This Project supports the legacy-to-objective transition path of the Transformation Campaign Plan (TCP).

FY04/FY05 funding supports continuation of Night Vision Goggles enhancement, multifunction laser and sensors development and thermal upgrade activities.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Continue development of next generation Image Intensifier systems (Enhanced Night Vision Goggles (ENVG)). | 0 | 2000 | 3620 | 6748 |
| Continue development of Multi Function Laser System. | 0 | 749 | 2005 | 739 |
| Complete Thermal Upgrade activities (prototype test and evaluation) to enhance combat effectiveness of TWS Heavy/Medium/Light. | 0 | 4396 | 3710 | 2339 |
| Totals | 0 | 7145 | 9335 | 9826 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| AN/PVS-7 Aid (K36400) OPA2 | 36913 | 46321 | 43133 | 59386 | 69771 | 90568 | 120971 | 110756 | Continuing | Continuing |
| Thermal Weapon Sight (TWS) (K22900) OPA2 | 36281 | 50662 | 50504 | 67472 | 78233 | 84524 | 69681 | 70712 | Continuing | Continuing |
| Lightweight Laser Designator Rangefinder (LLDR) (K31100) OPA2 | 11210 | 9693 | 12302 | 17431 | 17495 | 27233 | 33145 | 33839 | Continuing | Continuing |
| Infrared Aiming Light (K35000) OPA2 | 1087 | 6257 | 4847 | 7384 | 14091 | 14263 | 3922 | 3894 | 0 | 55745 |

**C. Acquisition Strategy:** The development programs in this project are currently based on competitive awards.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604710A - Night Vision Systems - Eng Dev**

PROJECT
**L67**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Enhanced NVG Analysis and Design | C/CP | Various | 0 | 1295 | 2-4Q | 3000 | 1-4Q | 5833 | 1-4Q | Continue | 10128 | 0 |
| b . Modular HTI Multifunction Laser Activity | C/CP | Insight Technologies, Londonderry, NH & DRS Technologies, Torrence, CA | 0 | 250 | 2-4Q | 1354 | 1-4Q | 739 | 1-4Q | Continue | 2343 | 0 |
| c . Thermal Upgrades for TWS (Target Location) | C/CP | Ratheon, El Segundo, CA, Various | 0 | 2114 | 2-4Q | 2810 | 1-4Q | 1439 | 1-4Q | Continue | 6363 | 0 |
| d . SBIR/STTR | TBD | TBD | 0 | 367 | | 0 | | 0 | | 0 | 367 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 4026 | | 7164 | | 8011 | | Continue | 19201 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604710A - Night Vision Systems - Eng Dev**

PROJECT
**L67**

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Matrix Support | MIPR | Various | 0 | 206 | 1-2Q | 315 | 1Q | 290 | 1Q | Continue | 811 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 206 | | 315 | | 290 | | Continue | 811 | 0 |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Test Support | MIPR | Various | 0 | 2578 | 1-4Q | 1428 | 1-4Q | 1050 | 1-4Q | Continue | 5056 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 2578 | | 1428 | | 1050 | | Continue | 5056 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604710A - Night Vision Systems - Eng Dev**

PROJECT
**L67**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Project Management | MIPR | PM Multi-Spectrum Sensors | 0 | 335 | 1-2Q | 428 | 1-2Q | 475 | 1-2Q | Continue | 1238 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 335 | | 428 | | 475 | | Continue | 1238 | 0 |
| Project Total Cost: | | | 0 | 7145 | | 9335 | | 9826 | | Continue | 26306 | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604710A - Night Vision Systems - Eng Dev** | **L67** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Enhanced Night Vision Goggles (ENVG) | | 2-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | | |
| Develop Prototype Multifunction Eyesafe Tactical HTI Laser for Dismounted Applications | | 2-4Q | 1-4Q | 1-4Q | | | | |
| Thermal Upgrade target location and display capability demonstration and evaluation for TWS | | 2-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604710A - Night Vision Systems - Eng Dev** | **L70** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| L70 NIGHT VISION DEV ED | 14234 | 11577 | 10446 | 10362 | 17562 | 17866 | 14560 | 10778 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This project performs System Development and Demonstration (SDD) on high performance night vision reconnaissance, surveillance and target acquisition (RSTA) and other related systems that allow forces to locate and track enemy units in day, night, and all battlefield conditions, and through natural and man-made structures and obscurants. It also develops and integrates suites of these sensors to provide well-defined surveillance and targeting capabilities, as well as architectures for these sensors to communicate automatically. The focus is on meeting the requisite night vision RSTA capabilities required for evolving Future Combat System-of-Systems (FCS), and Objective Force Unit of Action/Unit of Employment systems. Efforts will develop a standard architecture among sensors with the Sensor Link Protocol to allow these sensors to communicate automatically for improved aided target recognition and target hand-off. The Target Acquisition Radar packages for FCS will be reduced in volume and weight to provide this capability for Unit of Action/Unit of Employment and Objective Force systems reconnaissance, surveillance and target acquisition.

This project will also demonstrate the producibility of uncooled thermal focal plane arrays, and develop an uncooled sensor B-Kit family that will result in standardized sensor modules for a variety of applications. By eliminating the requirement for cryogenic coolers, uncooled thermal imagers are inherently smaller, lighter, more reliable and less expensive. Uncooled B-Kits can be used for a variety of FCS and Objective Force systems such as weapon sights, driver's viewers/situational awareness aids, missile seeker sensors, unattended ground sensors/security sensors, and unmanned ground and aerial vehicle payloads.

This project was shared between Project Manager, Night Vision/Reconnaissance, Surveillance and Target Acquisition (PM-NV/RSTA) and Product Manager, Multi-Spectrum Sensors (PM-MSS). In FY03 a new project L67 has been established for the PM-MSS efforts.

This Project supports the Legacy-to-Objective transition path of the Transformation Campaign Plan (TCP).

FY04/FY05 funding supports continuation of Unattended Ground Sensors development, commencing Uncooled B Kit and Sense Through The Wall development efforts, continuing Sensor Link Protocol maintenance and completing Ground Moving Target Indication Radar efforts.

| Accomplishments/Planned Program | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Continue development of next generation Image Intensifier systems (Enhanced Night Vision Goggles (ENVG)). | 3360 | 0 | 0 | 0 |
| Continue development of Multi Function Laser System. | 3695 | 0 | 0 | 0 |
| Complete Thermal Upgrade activities (prototype test and evaluation) to enhance combat effectiveness of TWS Heavy/Medium/Light. | 2615 | 0 | 0 | 0 |
| Continue multisensor upgrade activities for Dismounted Optics. | 300 | 1347 | 0 | 0 |
| Conduct System Development and Demonstration (SDD) for Digital RSTA RAPT. | 1514 | 2942 | 0 | 0 |
| Complete multisensor upgrade activities, to include LRAS3, LLDR and Light Forward Observer Optics. | 1030 | 0 | 0 | 0 |
| Establishment of Sensor Link Protocol (SLP) as part of the DoD Variable Message Format (VMF) standard while maintaining configuration management and modifying application software tools. Sensor Link Protocol (SLP)/Sensor Architecture – A uniform and standard means of describing and coordinating the collection, preprocessing, communication, and fusion of RSTA functions for the Objective Force and FCS. Two man-year effort will develop early architecture and provide SLP maintenance. | 439 | 951 | 340 | 340 |
| Develop advanced capabilities for 2nd GEN FLIR B-kit, to include electronic stabilization and self healing focal plane arrays. Electronic Stabilization/Self Healing Standard Advanced Dewar Assembly (SADA) – SDD for technology that stabilizes images and other visual information, and developing a more robust SADA. | 1281 | 500 | 0 | 0 |
| Development of "Sense Through The Wall" sensor program. Sense Through The Wall Unmanned/Short Standoff - Technology to sense motion on the other side of a wall, or series of walls for close-in urban settings. This effort supports SDD for this capability in FCS and Objective Force Unattended/Unmanned Ground Vehicle applications. | 0 | 0 | 1800 | 1846 |
| Initiate development of the uncooled thermal B-Kit for platform sensors, navigation systems and target acquisition devices. Uncooled B-Kit – Development of a standard uncooled thermal detector B-kit to extend night vision capability across many platforms with interchangeable parts, lower cost, weight and volume. This effort is the SDD for B-Kit development on FCS and Objective Force Systems. | 0 | 0 | 840 | 1845 |
| Target Acquisition Radar Repackaging for FCS – effort to reconfigure radar antennas to reduce size in order to allow use within FCS and Objective Force systems. | 0 | 2522 | 0 | 0 |
| Ground Moving Target Indicator Radar – Development of automatic/autonomous moving target indicator capability upgrade in ground radar systems for FCS and Objective Force. | 0 | 0 | 1500 | 0 |
| Unattended Ground Sensors (UGS) – develop ruggedized/producible imager and field controller; conduct SDD for unattended ground and relocatable sensors for FCS and other applications. | 0 | 3315 | 5966 | 6331 |
| Totals | 14234 | 11577 | 10446 | 10362 |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604710A - Night Vision Systems - Eng Dev** | **L70** |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| Night Vision AN/PVS-7 Aid K36400 OPA2 | 36913 | 38499 | 43133 | 59386 | 69771 | 90568 | 127971 | 110756 | Continuing | Continuing |
| Night Vision TWS K22900 OPA2 | 36281 | 50662 | 50504 | 67472 | 78233 | 84524 | 69681 | 70712 | Continuing | Continuing |
| Night Vision DVE K31300 OPA2 | 2102 | 1883 | 8899 | 16448 | 40088 | 23336 | 19194 | 22097 | Continuing | Continuing |
| Night Vision LLDR K31100 OPA2 | 11210 | 9693 | 12302 | 17431 | 17495 | 27233 | 33145 | 33839 | Continuing | Continuing |
| Future Combat System, G86100 WTCV | 0 | 0 | 0 | 225289 | 829206 | 1638022 | 3562240 | 2918987 | Continuing | Continuing |
| Infrared Aiming Light K35000 OPA2 | 1087 | 6257 | 4847 | 7384 | 14091 | 14263 | 3933 | 3894 | Continuing | Continuing |
| Digital RSTA K28808 OPA2 | 0 | 0 | 292 | 4050 | 4734 | 0 | 0 | 0 | 0 | 9076 |

**C. Acquisition Strategy:** The development programs in this project are currently based on competitive awards and under cost reimbursement type contracts. The GMTI radar enhancements will be a sole source effort to Syracuse Research.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604710A - Night Vision Systems - Eng Dev**

PROJECT
**L70**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . DVE Development | C/CPIF | Various | 21831 | 0 | | 0 | | 0 | | 0 | 21831 | 21831 |
| b . Various Prototypes and Studies | C/CPIF | Various | 2947 | 0 | | 0 | | 0 | | 0 | 2947 | 2947 |
| c . LLDR Advanced Demonstration System | C/CP | Litton Laser, Apopka, FL | 2556 | 0 | | 0 | | 0 | | 0 | 2556 | 2556 |
| d . LLDR RAPT | C/CP | Various | 4253 | 0 | | 0 | | 0 | | 0 | 4253 | 4253 |
| e . LLDR EMD | C/CP | Litton Lasers, Apopka, FL | 19873 | 0 | | 0 | | 0 | | 0 | 19873 | 19873 |
| f . Sensor Architecture/Digital RSTA/SLP | C/CPIF & C/CP | Various | 9498 | 951 | 2Q | 340 | 1Q | 340 | 1Q | Continue | 11129 | Continue |
| g . HTI Laser Trade Studies | C/CP | Various | 1020 | 0 | | 0 | | 0 | | 0 | 1020 | 1020 |
| h . HTI Laser MFS3 design and prototype activities | C/CPIF | Raytheon, Dallas,TX | 565 | 0 | | 0 | | 0 | | 0 | 565 | 565 |
| i . Modular HTI Multifunction Laser Activities | C/CP | Insight Technologies, Londonderry, NH & DRS Technologies, Torrence, CA | 3868 | 0 | | 0 | | 0 | | 0 | 3868 | 4641 |
| j . AN/TMQ-41 Trade Studies and related activities | C/CP | Various | 1232 | 0 | | 0 | | 0 | | 0 | 1232 | 1232 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604710A - Night Vision Systems - Eng Dev**

PROJECT
**L70**

| I. Product Development (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| k . MANTECH Focal Plane Array and optics | C/CP | Raytheon, Dallas, TX | 1500 | 0 | | 0 | | 0 | | 0 | 1500 | 1500 |
| l . Thermal Upgrades for TWS (target location) | C/CP | Raytheon, El Segundo, CA, Various | 5811 | 0 | | 0 | | 0 | | 0 | 5811 | 7050 |
| m . Thermal Upgrades for DVE (Dual wavelength) and competition | C/CP | Kaiser Electric San Diego, CA, Various | 3608 | 0 | | 0 | | 0 | | 0 | 3608 | 5811 |
| n . Image Fusion for DVE | C/CP | To Be Selected | 1274 | 0 | | 0 | | 0 | | 0 | 1274 | 1274 |
| o . LLDR Vehicle applications | C/CP | Litton Laser, Apopka, FL Various | 3487 | 0 | | 0 | | 0 | | 0 | 3487 | 3362 |
| p . Digital MELIOS Design & Fabrication | C/FP | Litton Lasers, Inc. | 1000 | 0 | | 0 | | 0 | | 0 | 1000 | 1000 |
| q . Enhanced NVG Analysis & Design | C/CP | Various | 4782 | 0 | | 0 | | 0 | | Continue | 4782 | Continue |
| r . Uncooled B-Kit | C/CP | To Be Selected | 0 | 0 | | 840 | 2Q | 1845 | 1Q | Continue | 2685 | Continue |
| s . FLIR develop/integrate | Various | Various | 1281 | 500 | 1-2Q | 0 | | 0 | | 0 | 1781 | 1769 |
| t . Digital RSTA SDD | C/CP | To Be Selected | 1514 | 2602 | 2Q | 0 | | 0 | | 0 | 4116 | 3182 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604710A - Night Vision Systems - Eng Dev**

PROJECT
**L70**

| I. Product Development (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| u . Ground MTI Radar effort | SS T&M | Syracuse Research, Syracuse, NY | 0 | 0 | | 1500 | | 0 | | 0 | Continue | Continue |
| v . Light Forward Observer Optics | C/CP | Various | 300 | 958 | 2Q | 0 | | 0 | | 0 | 1258 | 0 |
| w . Target Acquisition Radar Repackaging | SS/CP | Northrop Grumman, Baltimore, MD | 0 | 2522 | 2Q | 0 | | 0 | | 0 | 2522 | 0 |
| x . UGS | C/CP | To Be Selected | 0 | 3315 | 2Q | 5291 | 1Q | 5656 | 1Q | Continue | 14262 | 0 |
| y . Sense Through The Wall | C/CP | To Be Selected | 0 | 0 | | 1800 | 2Q | 1846 | 1Q | Continue | 3646 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 92200 | 10848 | | 9771 | | 9687 | | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604710A - Night Vision Systems - Eng Dev**

PROJECT
**L70**

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Matrix Support | MIPR | Various | 12940 | 304 | 1Q | 250 | 1Q | 250 | 1Q | Continue | 13744 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 12940 | 304 | | 250 | | 250 | | Continue | 13744 | Continue |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . DT/IOT&E* | MIPR | ATEC | 8769 | 0 | | 0 | | 0 | | 0 | 8769 | 8769 |
| b . Other Test Support* | MIPR | Various | 3966 | 250 | 2Q | 250 | 2Q | 250 | 2Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 12735 | 250 | | 250 | | 250 | | Continue | Continue | Continue |

Remarks: * Includes TWS, DVE, LLDR and other sensor test and evaluation activities

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604710A - Night Vision Systems - Eng Dev**

PROJECT
**L70**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Project Management | In house support | PM, NV/RSTA, Fort Belvoir, VA | 4283 | 175 | 1Q | 175 | 1Q | 175 | 1Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 4283 | 175 | | 175 | | 175 | | Continue | Continue | Continue |
| Project Total Cost: | | | 122158 | 11577 | | 10446 | | 10362 | | Continue | Continue | Continue |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604710A - Night Vision Systems - Eng Dev**

PROJECT
**L70**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Develop Prototype Multifunction Eyesafe Tactical HTI Laser for Dismounted Application | 2-4Q | | | | | | | |
| Enhanced NVG | 1-4Q | | | | | | | |
| Light Forward Observer Optics application | 2-4Q | 2-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | | |
| Thermal Upgrade target location and display capability demonstration and evaluation for TWS | 1-4Q | | | | | | | |
| Thermal Upgrade dual wavelength capability demonstration and evaluation and competition for DVE | 1-4Q | | | | | | | |
| DRSTA Milestone B | | 1Q | | | | | | |
| DRSTA Milestone C | | | 4Q | | | | | |
| Tactical Unattended Ground Sensors (UGS) MS B for FCS UA | | 3Q | | | | | | |
| Uncooled B-Kit MS B | | | 2Q | | | | | |
| Sense Through the Wall Unmanned (STTW) MS B for FCS UA | | 3Q | | | | | | |
| Foliage Penetration (FOPEN) MS B for FCS Block II | | | | | 2Q | | | |
| Transparent Armor MS B | | | | | 4Q | | | |
| 3rd Gen FLIR MS B | | | | | | | 4Q | |
| Sense Through the Wall Stand-off (STTW) MS B | | | | 4Q | | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604710A - Night Vision Systems - Eng Dev** | **L75** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| L75 PROFILER | 5908 | 6500 | 4140 | 0 | 0 | 0 | 0 | 0 | 0 | 21323 |

**A. Mission Description and Budget Item Justification:** Profiler will employ remote and local sensing of the atmosphere, mesoscale modeling and enhanced computing capabilities to provide target area and more timely meteorological data. By providing more accurate meteorological data messages, Profiler will enable supported cannon and rocket systems to decrease miss distances, which will increase fire effectiveness. These capabilities will increase the lethality of artillery systems such as Multiple Launch Rocket Systems, towed and self-propelled cannons. This System Development and Demonstration (SDD) effort will increase the accuracy of a wide range of deep fire weapons and munitions and ultimately reduce total cost of ownership to the Army. Four SDD systems will be delivered and tested through Developmental Testing. Profiler will replace the current AN/TMQ-41 Meteorological Measuring Set (MMS).

This system supports the Legacy-to-Objective transition path of the Transformation Campaign Plan and will replace the legacy force MMS systems in the Objective Force.

FY04 funding completes the System Development and Demonstration (SDD) phase and conduct of IOT&E for the Profiler program.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Continue MMS-P SDD development effort, including software & hardware integration, and fabrication of four units for contractor testing. | 5710 | 5890 | 1880 | 0 |
| Evaluate alternative technologies to reduce reliance on balloon-borne radiosondes, improve accuracy, establish a government developmental lab, provide better/more data input to the Mesoscale Model, and provide broadband datalink capabilities. | 198 | 150 | 100 | 0 |
| Conduct Developmental Test (DT) for system meteorological accuracy. | 0 | 340 | 480 | 0 |
| Conduct Initial Operational Test & Evaluation (IOT&E) activities. | 0 | 0 | 1500 | 0 |
| Conduct ballistics and meteorology simulations to support accuracy requirements. | 0 | 120 | 180 | 0 |
| Totals | 5908 | 6500 | 4140 | 0 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| Profiler K27900 OPA2 | 0 | 4743 | 12591 | 11627 | 16912 | 17970 | 13603 | 9168 | 9500 | 96114 |

**C. Acquisition Strategy:** The MMS Profiler program awarded a competitive Cost Plus Incentive Fee (CPIF) contract in Sep 00 to Smiths Detection (formerly ETG) for the development of four System Development and Demonstration (SDD) units. The contract included Firm Fixed Price production options. A Milestome C decision for LRIP will be held in FY03 with a FRP decision in FY04.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604710A - Night Vision Systems - Eng Dev**

PROJECT
**L75**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . EMD Contract | C/CPIF | Smiths Detection, Edgewood, MD | 8862 | 4420 | 1-2Q | 918 | 1Q | 0 | | 0 | 14200 | 14200 |
| b . EMD Studies | C/T&M | Smiths Detection, Edgewood, MD | 0 | 0 | | 500 | 1Q | 0 | | 0 | 500 | 0 |
| c . Studies and Simulations | MIPR | Army Research Lab | 239 | 90 | 1Q | 120 | 1Q | 0 | | 0 | 449 | 0 |
| d . Government Furnished Equipment | MIPR | HQCPSQ/ZJ, San Antonio, TX | 120 | 0 | | 0 | | 0 | | 0 | 120 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 9221 | 4510 | | 1538 | | 0 | | 0 | 15269 | 14200 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Matrix Support | MIPR | CECOM, Fort Monmouth NJ | 1724 | 514 | 1Q | 390 | 1Q | 0 | | 0 | 2628 | 0 |
| b . Sys Engr/Tech Assist | C/T&M | Various | 1011 | 331 | 1-2Q | 230 | 1Q | 0 | | 0 | 1572 | 0 |
| c . OGA | MIPR | Various | 1089 | 205 | 1-2Q | 0 | | 0 | | 0 | 1294 | 0 |
| | | | | | | | | | | | | |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604710A - Night Vision Systems - Eng Dev**

PROJECT
**L75**

| II. Support Cost (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Subtotal: | | | 3824 | 1050 | | 620 | | 0 | | 0 | 5494 | 0 |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Test Planning and Preparation | MIPR | ATEC, Various | 65 | 180 | 1-2Q | 255 | 1Q | 0 | | 0 | 500 | 0 |
| b . Developmental Testing | MIPR | ATEC, Various | 0 | 200 | 2-3Q | 327 | 1Q | 0 | | 0 | 527 | 0 |
| c . Initial Operational Test & Evaluation | MIPR | ATEC, Various | 0 | 0 | | 1200 | 1-3Q | 0 | | 0 | 1200 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 65 | 380 | | 1782 | | 0 | | 0 | 2227 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604710A - Night Vision Systems - Eng Dev**

PROJECT
**L75**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Project Management | In house support | PM Nav/Sys, Fort Monmouth NJ | 623 | 560 | 1-4Q | 200 | 1-4Q | 0 | | 0 | 1383 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 623 | 560 | | 200 | | 0 | | 0 | 1383 | 0 |
| Project Total Cost: | | | 13733 | 6500 | | 4140 | | 0 | | 0 | 24373 | 14200 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604710A - Night Vision Systems - Eng Dev** | **L75** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Continued SDD phase. | 1-4Q | | | | | | | |
| Continued HW/SW development phase. | 1-4Q | | | | | | | |
| Met Accuracy Testing on Target Hardware. | | 1Q | | | | | | |
| MS C LRIP Decision. | | 3Q | | | | | | |
| Conduct Initial Operational Test & Evaluation. | | | 3Q | | | | | |
| Full Rate Production (FRP) Decision. | | | 4Q | | | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604710A - Night Vision Systems - Eng Dev** | **L76** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| L76 | LIGHTWEIGHT LASER DESIGNATOR RANGEFINDER UPGRADES | 609 | 5671 | 5101 | 2211 | 0 | 0 | 0 | 0 | 0 | 13592 |

**A. Mission Description and Budget Item Justification:** The Army's mounted Fire Support and Combat Observation Lasing Teams require a day/night targeting sensor that can detect, observe, and pinpoint the locations of threats for attack. The sensor must be able to determine the precise target location of the target and digitally transfer this information, or laser designate the target for precision engagement by laser-guided munitions.

This target acquisition common sensor system will combine the long-range surveillance and targeting capabilities of the Army's Long Range Advanced Scout Surveillance System (LRAS3) with the laser designation capabilities of the Lightweight Laser Designator Rangefinder's Laser Designation Module (LDM). RDT&E funding is required to integrate the physical, electronic and data interfaces of the LRAS3 and LDM, as well as to integrate the system to the physical, electronic and data interfaces of the Stryker Brigade Combat Team (SBCT) Fire Support Vehicle's and Knight's M707 Mission Equipment Package. In addition to the design activities, sufficient prototype systems will be produced to support testing and other pre-production activities. The system significantly increases the observation and target engagement capabilities over that provided by the current first generation equipment, AN/TAS-4 Night Sight and Ground/Vehicular Laser Locator Designator (G/VLLD).

The FY 2004/2005 funds are for FS3 testing and initiation of initial fielding corrective actions.

This system supports the Legacy-to-Objective transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Design the modifications necessary to integrate the LDM with the LRAS3. | 609 | 2141 | 0 | 0 |
| Fabricate six prototype target acquisition common sensors. | 0 | 2430 | 320 | 0 |
| Conduct contractor prototype qualifications. | 0 | 377 | 720 | 0 |
| Conduct system/platform Integration and Test (I&T). | 0 | 523 | 875 | 0 |
| Conduct Government Development Test and User Excursion. | 0 | 200 | 2636 | 0 |
| Implement corrective actions and update documentation. | 0 | 0 | 550 | 2211 |
| Totals | 609 | 5671 | 5101 | 2211 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| TACS K38303 OPA2 (TBD) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**C. Acquisition Strategy:** The target acquisition commmon sensor integration will be implemented via new tasks executed under an existing contract with Raytheon. This effort will integrate the LRAS3 and the LLDR Laser Designator Module (LDM).

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604710A - Night Vision Systems - Eng Dev**

PROJECT
**L76**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Contract | CPIF | Raytheon Inc., McKinney TX | 561 | 4760 | 1Q | 2501 | 1Q | 1736 | 1Q | 0 | 9558 | 10316 |
| b . SBIR/STTR | TBD | TBD | 0 | 163 | | 0 | | 0 | | 0 | 163 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 561 | 4923 | | 2501 | | 1736 | | 0 | 9721 | 10316 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Matrix Support | MIPR | NVESD, CECOM, Other | 13 | 225 | 1Q | 325 | 1Q | 225 | 1Q | 0 | 788 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 13 | 225 | | 325 | | 225 | | 0 | 788 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604710A - Night Vision Systems - Eng Dev**

PROJECT
**L76**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Test Planning and Preparation | MIPR | ATEC | 0 | 0 | | 225 | 1Q | 0 | | 0 | 225 | 0 |
| b . Government Development and Operational Tests | MIPR | ATEC | 0 | 0 | | 1525 | 1Q | 0 | | 0 | 1525 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 1750 | | 0 | | 0 | 1750 | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Project Management | PM-NV/RSTA | | 35 | 523 | 1Q | 525 | 1Q | 250 | 1Q | 0 | 1333 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 35 | 523 | | 525 | | 250 | | 0 | 1333 | 0 |
| Project Total Cost: | | | 609 | 5671 | | 5101 | | 2211 | | 0 | 13592 | 10316 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604710A - Night Vision Systems - Eng Dev** | **L76** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Award Integration Task | 4Q | | | | | | | |
| Design Activities | 4Q | 1-4Q | | | | | | |
| Prototype Fabrication Activities | | 2-4Q | 1Q | | | | | |
| Qualification Testing | | 4Q | 1Q | | | | | |
| Conduct DT and UE | | 4Q | 1-2Q | | | | | |
| Production cut-in | | | 1-4Q | | | | | |
| First fielding | | | 3-4Q | | | | | |
| Implement corrective actions | | | 3-4Q | 1-2Q | | | | |

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

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604713A - Combat Feeding, Clothing, and Equipment**

| | COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Program Element (PE) Cost | 90579 | 86449 | 67283 | 66748 | 66368 | 96495 | 106257 | 114238 | Continuing | 783122 |
| 548 | MIL SUBSISTENCE SYS | 1800 | 1799 | 1985 | 1984 | 3361 | 1450 | 965 | 964 | Continuing | 16002 |
| 667 | LAND WARRIOR | 59262 | 57633 | 49163 | 48293 | 40890 | 69983 | 79821 | 87784 | 0 | 552325 |
| 668 | SOLDIER ENHANCE PGM | 13545 | 13510 | 10144 | 11999 | 14104 | 16054 | 16229 | 16326 | 0 | 125673 |
| C40 | SOLDIER SUPPORT EQUIPMENT - ED | 11083 | 12197 | 2891 | 21 | 0 | 0 | 0 | 0 | 0 | 34828 |
| L40 | CLOTHING & EQUIPMENT | 4889 | 1310 | 3100 | 4451 | 8013 | 9008 | 9242 | 9164 | 0 | 54294 |

**A. Mission Description and Budget Item Justification:** This program element (PE) supports System Development and Demonstration (SDD) and Non-Developmental Item (NDI) evaluation of unit/organizational equipment, clothing, individual equipment, field shelters, field service equipment, subsistence, and food service equipment that will enhance soldier efficiency, effectiveness, lethality, sustainability and survivability. The system integration of demonstrated subsystems, components, or NDI in order to reduce integration risks associated with system development and demonstration of various commodities, components, and technologies are also included in this PE. The program element also supports demonstration of engineered development models and the associated developmental and operational testing of systems, components, and commodities prior to their transition to the Production and Deployment phase to include a new generation of field service support items of soldier equipment. The Land Warrior program will produce the first fully integrated fighting system for dismounted combat soldiers. The Soldier Enhancement Program supports soldier items that will transition into production in three years or less.

This system supports the Legacy-to-Objective transition path of the Transformation Campaign Plan (TCP).

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 90244 | 94474 | 65466 | 56310 |
| Current Budget (FY 2004/2005 PB) | 90579 | 86449 | 67283 | 66748 |
| Total Adjustments | 335 | -8025 | 1817 | 10438 |
| Congressional program reductions | | -5072 | | |
| Congressional rescissions | | -497 | | |
| Congressional increases | | | | |
| Reprogrammings | 601 | | | |
| SBIR/STTR Transfer | -266 | -2456 | | |
| Adjustments to Budget Years | | | 1817 | 10438 |

FY04 and FY05 increases support the LW-Stryker Interoperable Capability Increments (LW-SI) requirement to meet key performance parameters for Army Battle Command System (ABCS) Interoperability, as well as weight and power reduction initiatives.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604713A - Combat Feeding, Clothing, and Equipment** | **548** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 548 MIL SUBSISTENCE SYS | 1800 | 1799 | 1985 | 1984 | 3361 | 1450 | 965 | 964 | Continuing | 16002 |

**A. Mission Description and Budget Item Justification:** This project supports the development and demostration and Non-developmental Item (NDI) evaluation of combat feeding equipment to enhance soldier efficiency and survivability, and to reduce food service logistics requirements for all four services. The project supports multi-fuel, rapidly deployable field food service equipment initiatives and engineering and manufacturing development to improve equipment through enhanced safety in food service, and decreased fuel and water requirements. This project develops critical enablers that support the Army's Transformation Campaign Plan Axes I (Trained and Ready), Line of Operation 2 (Modernization and Re-capitalization) by maintaining readiness through fielding and integrating new equipment. Also Line of Operation 3 (Manning the Force) by enhancing the field soldier's well-being and providing soldier usable equipment; Axes II (transforming the Operational Force), Line of Operation 9 (Deploying and Sustaining) by reducing sustainment requirements, related Combat Support/Combat Service Support (CS/CSS) demands on lift, combat zone footprint, and costs for logistical support.

This project develops critical enablers that support the Legacy-to-Objective transition path of the Army's Transformation Campaign Plan.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Conduct technical and operational testing of thermostatically controlled Modern Burner Unit (MBU), and incorporate cold weather kit and thermostatic control into the burner production contract. Analyze combustion by-products in the kitchen environment for design of ventilation configuration. | 0 | 340 | 0 | 0 |
| Tested four new/advanced food service equipment items for shipboard applications. Provided two of these for shipboard testing. The Accutemp Griddle has been accepted and is being procured by several ships including the USS Cole. Transitioned Convenience Food Logistics Model (CFLM) program to Navy for use in optimizing use of prepared food and freezer storage space. Prepare evaluation report on labor saving equipment and food technologies for the Navy. Continue evaluation of new shipboard food service equipment such as stainless steel liner in convection oven to improve galley efficiencies, reduce costs, and improve quality of life. | 302 | 277 | 387 | 0 |
| Conduct technical and operational testing of prototype kitchen International Standards Organization (ISO) container that is compatible with the Army Load Handling System (ALHS) without the need for additional material handling equipment. | 0 | 153 | 0 | 0 |

| Accomplishments/Planned Program (continued) | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Conducted technical, user testing, and completed Technical Data Package (TDP) for Single Pallet Expeditionary Kitchen (SPEK), transition to Air Force for procurement. Upgrade Single Pallet Expeditionary Kitchen feeding capabilities to serve Unitized Group Ration - A's (UGR-A) to expand menu variety and extend initial kitchen deployment; conduct user tests; complete technical data package and transition to Air Force. (FY05) | 250 | 68 | 192 | 285 |
| Completed user testing of upgraded Tray Ration Heater with low cost burner and support equipment. Conducted in-house technical tests. Complete in-house and user testing of upgraded Tray Ration Heater System to demonstrate enhanced mobility, increased ration preparation capability and cost savings; complete modifications, prepare technical data package and deliver prototype system to the Marine Corps. Develop a water recycling system for the Tray Ration Heater to conserve water and reduce Wastewater disposal. Complete user testing, prepare technical data package and transition to Marine Corps. Complete model for equipment selection for retrofit and integration into new ship designs. | 350 | 260 | 197 | 0 |
| Complete development of technical data for use in a rebuild program optimizing the future Mobile Kitchen Trailer configuration. Initiate development of an integrated power co-generator for mobile field kitchens to reduce operating and support costs. | 0 | 0 | 437 | 0 |
| Completed TDP for Field Kitchen Equipment Efficiency Upgrades and transitioned into procurement. | 54 | 0 | 0 | 0 |
| Completed the design and initiated the fabrication of an Advanced Design Refrigerator prototype. Conduct technical tests of Advanced Design Refrigerator and user tests with the Air Force. Design and develop a highly mobile refrigeration system that will maximize storage capabilities and enhance transportability and thermal efficiency. Complete developmental and operational testing; prepare performance specification and transition to Air Force. | 350 | 231 | 192 | 90 |
| Review and update the Initial Deployment Kitchen (IDK) to reduce power requirements, and reconfigure in an easier to transport shelter on the C130 aircraft. | 0 | 0 | 0 | 351 |
| Conducted reliability analysis on fielded Modern Burner Units (MBUs) and completed fabrication, conducted field testing, and transitioned changes to procurement for low noise, low heat prototype Modern Burner Unit (MBU). | 201 | 0 | 0 | 0 |
| Design/Evaluate new food service equipment for Navy 21 (Surface,Subs), transition to Navy, complete model for equipment selection for retrofit and integration into new ship designs. | 0 | 470 | 0 | 0 |
| Awarded Research and Development (R&D) contract, completed the design, and initiated fabrication of prototype kitchen International Standard Organization (ISO) container that is compatible with the Army Load Handling System without the need for additional material handling equipment. | 293 | 0 | 0 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Design, fabricate, and initiate technical testing of a scrubbing ventilation system for fielded kitchen systems. | 0 | 0 | 212 | 0 |
| Complete technical and field-testing of a scrubbing ventilation system for fielded kitchen systems, and transition to production. Perform design and fabrication of multifunctional skillet for field kitchens to accommodate future ration systems. | 0 | 0 | 0 | 438 |
| Fabricate, test, and transition into production, the prognostic controls for the Modern Burner Unit (MBU) and a high output MBU for use in the Food Sanitation Center (FSC). | 0 | 0 | 368 | 0 |
| Conduct technical and operational testing on the integrated power co-generator for mobile field kitchens. | 0 | 0 | 0 | 484 |
| Complete configuration design, procure NDI components, and initiate field-testing of the highly mobile Assault Kitchen for feeding the Objective Force. | 0 | 0 | 0 | 336 |
| Totals | 1800 | 1799 | 1985 | 1984 |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604713A - Combat Feeding, Clothing, and Equipment** | **548** |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| RDTE, 0603747.610, Food Adv Dev | 3627 | 3569 | 3771 | 3847 | 3441 | 1872 | 2129 | 2195 | Continuing | Continuing |
| OPA3, M65803, Kitchen, Containerized, Field | 3813 | 11984 | 7287 | 7032 | 7893 | 0 | 0 | 0 | 0 | 38009 |
| OPA 3, M65802, Sanitation Center, Field Feeding | 2771 | 9616 | 8734 | 9643 | 8738 | 8933 | 9598 | 9091 | Continuing | Continuing |
| OPA3, M65801, Refrigerated Containers | 1066 | 0 | 0 | 5249 | 5178 | 10057 | 10230 | 10415 | Continuing | Continuing |

**C. Acquisition Strategy:** Complete System Development and Demonstration of food items and equipment for transition into competitive procurement contract.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604713A - Combat Feeding, Clothing, and Equipment**

PROJECT
**548**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Vraious combat feeding eq, multi-fuel and water eq | In-House | SBCCOM | 9439 | 725 | 1-4Q | 1086 | 1-4Q | 936 | 1-4Q | Continue | Continue | Continue |
| b . Contracts | Various | Various | 2078 | 242 | 2-4Q | 395 | 1-4Q | 345 | 1-4Q | Continue | Continue | Continue |
| c . PEO CS&CSS | In-House | PM_Forces Sustainment System (FSS) | 0 | 137 | 1-4Q | 130 | 1-4Q | 200 | 1-4Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 11517 | 1104 | | 1611 | | 1481 | | Continue | Continue | Continue |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

Remarks: Not Applicable

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604713A - Combat Feeding, Clothing, and Equipment**

PROJECT
**548**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Various | MIPR | TECOM/OEC | 3492 | 534 | 2-4Q | 284 | 1-4Q | 358 | 1-4Q | Continue | 4668 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 3492 | 534 | | 284 | | 358 | | Continue | 4668 | Continue |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Project Ofc Management | In-House | SBCCOM | 907 | 161 | 2-4Q | 90 | 1-4Q | 145 | 1-4Q | Continue | 1303 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 907 | 161 | | 90 | | 145 | | Continue | 1303 | Continue |
| Project Total Cost: | | | 15916 | 1799 | | 1985 | | 1984 | | Continue | Continue | Continue |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604713A - Combat Feeding, Clothing, and Equipment**

PROJECT
**548**

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Deliver prototype Tray Ration Heater to Marine Corps. | | | 4Q | | | | | |
| Transition Navy 21 service equipment to Navy for production. | | 4Q | | | | | | |
| Complete TDP for SPED and transition to production. | | 4Q | | | | | | |
| Conduct Technical and Operational Evaluations on Field Kitchen Equipment Efficiency Upgrades | 4Q | | | | | | | |
| Complete design and fabrication of Advanced Design Refrigerator - 1200 prototype | 3Q | | | | | | | |
| Conduct Developmental Testing for the Advanced Design Refrigerator -1200 | 4Q | | | | | | | |
| Transition noise reduction and heat output changes to MBU production | 4Q | | | | | | | |
| Conduct Field Testing for the Assult Kitchen | | | | 4Q | | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604713A - Combat Feeding, Clothing, and Equipment** | **667** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 667 LAND WARRIOR | 59262 | 57633 | 49163 | 48293 | 40890 | 69983 | 79821 | 87784 | 0 | 552325 |

**A. Mission Description and Budget Item Justification:** This project is currently in the system development and demonstration phase, Land Warrior (LW) establishes the Infantry soldier as the Army's unique weapons platform. It is a first generation integrated fighting system for soldiers that provides combat overmatch for the five types of Infantry (air assault, airborne, light, mechanized, and ranger), and Army Special Operations Forces in the close and personal fight. Land Warrior provides enhanced capabilities to the dismounted soldier. LW - Initial Capability (LW-IC) development takes maximum advantage of Commercial-Off-The-Shelf (COTS), as well as Government-Off-The-Shelf (GOTS) components and technologies, to support a rapid prototyping process. LW-IC provides the foundation system upon which other warrior and Future Warrior integrated systems will be based, and supports Marine Corps and Special Operations Forces. LW Stryker Interoperable Capability Increments (LW-SI) include Stryker integration, tactical internet connectivity/interface with the Army Battle Command System, Future Combat System (FCS) interoperability, and weight/power advancements. LW Advanced Capability Increments (LW-AC) systems will take advantage of technological advancements transitioned from the Science and Technology (S&T) community, Objective Force Warrior (OFW), and includes advanced soldier technologies such as image fusion and robotic mules.

This program supports the Legacy-to-Objective transition path of the Transformation Campaign Plan.

| Accomplishments/Planned Program | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Fabricate LW systems that will be used for development testing and operational testing for LW-IC. Conduct contractor acceptance testing to validate system functionality and integration prior to formal government testing. Provide contractor logistics support of hardware and software on test units during early fightability assessments and safety testing. Obtain preproduction prototype Multi Function Laser Systems (MFLs) that will be government furnished equipment (GFE) to support LW-IC and LW-SI system. | 44856 | 21885 | 1620 | 0 |
| Incorporate software and hardware fixes from Development Test/Initial Operational Test and Evaluation (DT/IOTE) into LW-SI design. Begin LW-SI development which addresses LW to Stryker integration to meet KPP for Army Battle Command System (ABCS) interoperability with Light Digital Tactical Operations Center (TOC) and to provide on-board power recharging capability in interim force vehicle for LW equipped soldiers. Fabricate LW-SI systems that will be used for development and operational testing. Initiate development efforts for follow on LW-AC to support the objective force Future Combat System. | 0 | 9865 | 26725 | 30040 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Conduct airborne certification, user fightability assessment, and obtain necessary safety releases. Conduct DT to measure reliability and performance and complete test reports. Conduct operational test readiness reviews (OTRR). Conduct IOTE and conduct government system assessment of operational test results. Complete development of training program of instruction, lesson plans, and computer based training and interactive multimedia instruction. Develop range, targetry, and marksmanship tasks and training, tactics and procedures (TTP). Update and transition training package and manuals to electronic format. Complete development of interactive training scenarios and evaluate integrated training environment. Conduct tactics training, operators/leaders training, and direct support maintenance training prior to IOTE. Finalize training materials and training package. Develop and apply Training Aids, Devices, Simulators and Simulations (TADSS) to meet VCSA guidance. | 4477 | 14345 | 9565 | 13037 |
| Program management and systems engineering support for overall program efforts. Continue operation of PM Land Warrior - Fort Monmouth, and maintain minimal activity at PM Soldier LW Forward at Fort Bragg. Initiate procurement planning efforts for follow on LW competitive contracts. Conduct Source Selection Evaluation Board (SSEB) process for production contract award. Conduct technical and program reviews for In Process Review (IPR) or Army System Acquisition Review Council reporting and briefings. Continue LW demonstrations to other countries to demonstrate system capability and functionality. Support to NATO Land Group 3 and other partnered countries to ensure compatibility with potential multinational military operations. | 9929 | 11538 | 11253 | 5216 |
| Totals | 59262 | 57633 | 49163 | 48293 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| RDTE, 0603001, DJ50, Future Warrior Technology Integration | 36635 | 35913 | 83745 | 81711 | 84967 | 69302 | 77692 | 78157 | Continuing | Continuing |
| OPA3, M80500, Land Warrior | 0 | 0 | 96935 | 114885 | 139929 | 186880 | 109474 | 128956 | Continuing | Continuing |
| RDTE, 0603747, D669 Clothing and Equipment | 4661 | 4881 | 9046 | 8796 | 8647 | 8747 | 9995 | 10194 | Continuing | Continuing |
| RDTE, 0604713 , DL40 Clothing and Equipment | 4412 | 4651 | 3200 | 4595 | 8295 | 9295 | 9513 | 9434 | Continuing | Continuing |
| OPA4, MS3610, Land Warrior Initial Spares | 0 | 0 | 686 | 758 | 873 | 992 | 503 | 131 | Continuing | Continuing |
| RDTE, 0604817, D902 Combat Identification | 2906 | 5215 | 0 | 0 | 0 | 0 | 0 | 0 | Continuing | Continuing |

**C. Acquisition Strategy:** The LW Program takes maximum advantage of components available from other government agencies as well as Commercial-Off-the-Shelf (COTS) components and technologies. The program minimizes the use of LW-unique hardware and software using an open systems architecture. This architectural approach will provide greater flexibility to incorporate technology upgrades as they become available, reduce intellectual and proprietary rights issues, and reduce development and support costs. LW development effort will utilize Other Transactions Agreement through FY03 as the contract vehicle to increase the level of commercial company involvement and will maximize the rapid prototyping process. The LW system development will conform to standards identified in Interface Control Documents (ICD's), and System Performance Specifications, which will be controlled by the Government. The follow-on production effort will utilize standard FAR-based full/open competition (best value, price based approach) based on government provided system level performance specifications and system level ICD's. The LW total procurement objective is approximately 48,801 units. The LW Program supports the Chief of Staff of the Army's (CSA) vision of establishing lethal forces through the use of commercial technologies to lighten the force; increase soldier lethality, and making the force more survivable, more mobile, and more deployable.

This program supports the Legacy-to-Objective transition path of the Army's Transformation Campaign Plan.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604713A - Combat Feeding, Clothing, and Equipment**

PROJECT
**667**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Helmet Mounted Display/Daylight Video Sight | FFP | Kaiser Electronics, Carlsbad, CA/KOPIN | 2295 | 0 | | 0 | | 0 | | Continue | 2295 | Continue |
| b . Other Transactions Agreement (OTA) | FFP | LW OTA Consortium, Vienna, VA | 80727 | 19385 | 1Q | 0 | | 0 | | Continue | 100112 | 72267 |
| c . Global Positioning Systems Cards/Antennas | T&M | ARINC, Annapolis, MD | 780 | 200 | 2Q | 0 | | 0 | | 0 | 980 | 880 |
| d . Develop LW-SI (M&S,Stryker integration, etc.) | TBD | TBD | 0 | 7000 | 1Q | 21530 | 1Q | 21311 | 1Q | Continue | 49841 | Continue |
| e . Ruggedized Batteries/Rechargers | Time & Materials | CMR Technologies, Island Heights, NJ/ARINC, Annapolis, MD | 5488 | 536 | 1Q | 0 | | 0 | | Continue | 6024 | Continue |
| f . Multifunction Laser/Thermal Weapon Sights, etc. | MIPR | PM Night Vision, Fort Belvoir, VA | 1064 | 2650 | 1Q | 1620 | 1Q | 0 | | 0 | 5334 | 5484 |
| g . ORACLE - Software Licenses | FFP | DLT Solutions, Herndon, VA | 576 | 293 | 2Q | 0 | | 0 | | 0 | 869 | 869 |
| h . Security DAA SME/Security Certif & Accreditation | Task Order | Various | 305 | 160 | 1Q | 0 | | 0 | | 0 | 465 | 465 |
| i . Modelling and Simulation/SW Blocking | TBD | TBD | 0 | 0 | 1Q | 4395 | 1Q | 6677 | 1Q | Continue | 11072 | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604713A - Combat Feeding, Clothing, and Equipment**

PROJECT
**667**

| I. Product Development (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| j . LW-AC Development | TBD | TBD | 0 | 0 | | 800 | 1-2Q | 2052 | 1Q | Continue | 2852 | Continue |
| k . Computer Based Training/Interactive Multimedia Ins | IDIQ/MIPR | OMEGA, Columbus GA; STRICOM, Orlando, FL | 650 | 2000 | 2Q | 2900 | 1-2Q | 2100 | 1-2Q | 0 | 7650 | 7650 |
| | | | | | | | | | | | | |
| Subtotal: | | | 91885 | 32224 | | 31245 | | 32140 | | Continue | 187494 | Continue |

Remarks: Award dates covering multiple quarters reflect multiple awards.

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . PM Land Warrior-North Program Support | MIPR | CECOM, Fort Monmouth, NJ | 12020 | 400 | 1-2Q | 400 | 1-2Q | 250 | 1-3Q | Continue | 13070 | Continue |
| b . TSM -Soldier program support | MIPR | TSM Soldier, Fort Benning, GA | 1550 | 350 | 1-3Q | 350 | 1-3Q | 100 | 1-3Q | Continue | 2350 | Continue |
| c . Modern Tech Inc. - support contractors | Task Order | Modern Tech Inc., Springfield, VA | 10124 | 750 | 1Q | 750 | 1Q | 350 | 1Q | Continue | 11974 | Continue |
| d . System Engineering support | T&M | Various | 1290 | 540 | 1Q | 300 | 1Q | 300 | 1Q | Continue | 2430 | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604713A - Combat Feeding, Clothing, and Equipment**

PROJECT
**667**

| II. Support Cost (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| e . PM Land Warrior in-house support | In-house | PM Land Warrior, Fort Belvoir, VA | 11458 | 736 | 1-4Q | 613 | 1-4Q | 650 | 1-4Q | Continue | 13457 | Continue |
| f . Physical Integration Team - LW integration support | MIPR | SBCCOM - Natick, MA | 482 | 150 | 1Q | 150 | 1Q | 0 | | Continue | 782 | Continue |
| g . NVESD Program Matrix Support | MIPR | CECOM NVESD, Fort Belvoir, VA | 899 | 300 | 1-3Q | 170 | 1-3Q | 240 | 1-3Q | Continue | 1609 | Continue |
| h . Other Government Agencies Program Support | MIPR | Various | 285 | 300 | 1-2Q | 150 | | 0 | | Continue | 735 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 38108 | 3526 | | 2883 | | 1890 | | Continue | 46407 | Continue |

Remarks: Buys government and contract engineering and logistical support for overall program support.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604713A - Combat Feeding, Clothing, and Equipment**

PROJECT
**667**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Testing Organizations - Developmental testing | MIPR | ATC, TTC/YPG/DTC/EPG/ ARL-SLAD, etc. | 5812 | 4210 | 1-2Q | 2500 | 1-2Q | 635 | 1-2Q | Continue | 13157 | Continue |
| b . Testing Organizations - Operational testing/evaluation | MIPR | OTC, AEC | 8343 | 9007 | 1-3Q | 989 | 1-3Q | 7252 | 1-3Q | Continue | 25591 | Continue |
| c . Test Equip/Support/Soldiers | Various | Various | 4208 | 346 | 1-2Q | 176 | 1-4Q | 200 | 1-4Q | Continue | 4930 | Continue |
| d . Airworthiness/Airborne Certification | MIPR | Various | 170 | 370 | 1-2Q | 0 | | 750 | 1-2Q | 1200 | 2490 | 3000 |
| e . Test Program Sets/Direct Support Manuals/Built in test | MIPR/T&M | Huntsville, AL; Fort Monmouth, NJ | 50 | 405 | 1-2Q | 0 | | 0 | | 0 | 455 | 552 |
| | | | | | | | | | | | | |
| Subtotal: | | | 18583 | 14338 | | 3665 | | 8837 | | Continue | 46623 | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604713A - Combat Feeding, Clothing, and Equipment**

PROJECT
**667**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . PM Soldier Warrior oversight of LW program - Various | In-House/Task Order | PM Soldier Warrior, Fort Belvoir, VA | 11597 | 4495 | 1-4Q | 6120 | 1-4Q | 2626 | 1-4Q | Continue | 24838 | Continue |
| b . Management Support/Cost Analysis Support | Task Order | Wexford Group, Vienna, VA/Camber Corp | 2644 | 200 | 1Q | 400 | 1Q | 400 | 1Q | Continue | 3644 | Continue |
| c . SW IV&V | Task Order | CYIOS, Washington, DC | 1548 | 0 | | 0 | | 0 | | 0 | 1548 | 1897 |
| d . ADP Support/Equipment | Various | Various | 356 | 0 | | 0 | | 0 | | 0 | 356 | 356 |
| e . Support Contractors | Task Order | BRTRC, Fairfax, VA | 839 | 0 | | 0 | | 0 | | Continue | 839 | Continue |
| f . SBCCOM Spt | MIPR | SBCCOM-Natick, MA/APG, MD | 2640 | 0 | | 0 | | 0 | | 0 | 2640 | 5992 |
| g . PEO Support/DA Support | Task Order | Camber Corp/SY-Tech, Springfield, VA | 808 | 700 | 1-4Q | 2000 | 1-4Q | 1800 | 1-4Q | Continue | 5308 | Continue |
| h . Demo Maintenance Support | GSA | Exponent, Menlo Park, CA | 825 | 850 | 1-4Q | 850 | 2-3Q | 100 | 1-4Q | Continue | 2625 | Continue |
| i . Power Initiatives | Various | Various | 300 | 1300 | 1-3Q | 2000 | 1-3Q | 500 | 1-2Q | Continue | 4100 | Continue |
| j . Engineering support - Schools | MIPR | Various | 147 | 0 | | 0 | | 0 | | 0 | 147 | 547 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604713A - Combat Feeding, Clothing, and Equipment**

PROJECT
**667**

| IV. Management Services (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 21704 | 7545 | | 11370 | | 5426 | | Continue | 46045 | Continue |

Remarks: Award dates covering multiple quarters reflect multiple awards.

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 170280 | 57633 | | 49163 | | 48293 | | Continue | 326569 | Continue |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604713A - Combat Feeding, Clothing, and Equipment**

PROJECT
**667**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Award Developmental Contract/Follow On Options - SI | 2Q | 2Q | 1Q | 1Q | | | | |
| Conduct LW Preliminary Design Review (PDR) (LW-SI) - repetitive event due to spiral development | | 3Q | 4Q | | | | | |
| Conduct LW Critical Design Review (CDR) (LW-SI) - repetitive event due to spiral development | | 1Q | | 1Q | | | | |
| Deliver prototypes for government testing | 2-4Q | 1-2Q | 2Q | 1-4Q | 1Q | | | |
| Conduct Safety Testing and obtain safety releases | 3-4Q | 1Q | 2-4Q | 4Q | 1Q | | | |
| Conduct developmental test planning/testing and prepare reports | 2-4Q | 1-4Q | 1-4Q | 1-2Q | 1-2Q | | | |
| Conduct Initial Operational Test and Evaluation (IOTE) | | 3-4Q | | 1-2Q | 2-4Q | | | |
| Milestone C (ASARC) | | 4Q | 1Q | | 4Q | | | |
| Full Rate Production (FRP) | | | 1Q | 4Q | | | | 3Q |
| Production Contract Award/Subsequent Options | | | | 1Q | 1Q | 1Q | 1Q | 1Q |
| First Unit Equipped (FUE) | | | 4Q | 4Q | | | 4Q | |
| Initial Operational Capability (IOC) - IC/SI | | | | 4Q | 4Q | | | |
| Fielding | | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604713A - Combat Feeding, Clothing, and Equipment** | **668** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 668 SOLDIER ENHANCE PGM | 13545 | 13510 | 10144 | 11999 | 14104 | 16054 | 16229 | 16326 | 0 | 125673 |

**A. Mission Description and Budget Item Justification:** This project supports accelerated integration, modernization, and enhancement efforts of lighter, more lethal weapons, and improved Soldier items including lighter, more comfortable load-bearing equipment, field gear, survivability items, communications equipment, and navigational aids. Soldiers are managed in three categories: dismounted Soldiers, combat crews (air and ground), and other Soldiers. Projects are generally completed in three years or less.

This program supports the Legacy-to-Objective and Legacy-to-Interim transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Completed evaluation/type classified/transition into production for several efforts to include: 5.56 Non-Lethal Muzzle Launched Ordnance, M240B Combat Ammunition Pack, XM107 Semi-Automatic Anti-Materiel Rifle, Collapsible Grappling Hook, Combined Camouflage Face Paint(Compact), Concealable Stab Protective Body Armor, Tactical Search Mirrors, Family of Batons and Night Sticks, Boot Gaiters, Survival Egress Air (SEA) MK 2.0, and Protective Gloves. | 4507 | 0 | 0 | 0 |
| Continued evaluation/procured prototypes and/or test for several efforts such as: Close Combat Mission Capability Kit, M84 Reloadable Fuze, XM107 Sniper Ammunition, M203 Granade Launched Rail System, Integrated Laser White Light Pointer, Parchutists Drop Bag, Camouflage Uniform System for Soldiers, Tactical Assault Ladder System, Neck Shield, Improved Combat Shelter, and NBC Compatible Drinking System. | 4329 | 0 | 0 | 0 |
| Initiated market surveys and/or evaluations for: M9 Pistol Rail, Collapsible Buttstock for M249 Machine Gun, Hand Thrown Stingball Grenade, Individual Riot Control Agent Disperser, Body Restraint, Modular Glove, Aircrew Immersion Coveralls, Aircrew Survival/Egress Knife, and Tactical Thigh Holster. | 2773 | 0 | 0 | 0 |
| Complete evaluation/type classify/transition to production for several efforts such as: M203 Grenade Launched Rail System, XM107 Sniper Ammunition, M84 Reloadable Fuze, Integrated Laser White Light Pointer, Parachutists Drop Bag, Individual Riot Control Agent Disperser, Tactical Assault Ladder System, Modular Glove, Combat Uniform for Soldiers, Neck Shield, Tactical Thigh Holster, Body Restraint, POL Handlers Glove System, Aircrew Survival/Egress Knife, Improved Combat Shelter, NBC Compatible Drinking System, and LE/SRT Civil Disturbance Equipment Bag. | 0 | 1319 | 0 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Continue evaluation/procure prototypes: Close Combat Mission Capability Kit, M9 Pistol Rail, Collapsible Buttstock for M249 Machine Gun, Hand Thrown Stingball Grenade, Under the Barrel Shotgun, and Commanders Digital Assistant. | 0 | 8316 | 0 | 0 |
| Initiate market surveys and/or evaluations for several efforts such as: Glove Light Duty Utility, 12-guage Peacekeeping Round, Water Purification Pen, Individual Ration Heater System, Standoff Blast Resistent Footwear System, and Infantry Wall Breaching Kit. | 0 | 2520 | 0 | 0 |
| Complete evaluation/type classify/transition into production for the: Close Combat Mission Capability Kit, M9 Pistol Rail, Collapsible Buttstock for M249 Machine Gun, Hand Thrown Stingball Grenade, and Face Paint (Stick), Under the Barrel Shotgun, and Commanders Digital Assistant. | 0 | 0 | 3219 | 0 |
| Continue evaluation/procure prototypes for the: Glove Light Duty Utility, 12-guage Peacekeeping Round, Water Purification Pen, Individual Ration Heater System, Standoff Blast Resistent Footwear System, and Infantry Wall Breaching Kit. | 0 | 0 | 2581 | 0 |
| Initiate market surveys and/or evaluations on new items to commence development and demonstration. New items started will continue evaluation/procure prototypes. | 0 | 0 | 2150 | 6325 |
| Complete evaluation/type classify/transition into production for the: Glove Light Duty Utility, 12-guage Peacekeeping Round, Water Purification Pen, Individual Ration Heater System, Standoff Blast Resistent Footwear System, and Infantry Wall Breaching Kit. | 0 | 0 | 0 | 3545 |
| Continue In-house engineering support services, computer services, conduct technical evaluation and program reviews. | 1936 | 1355 | 2194 | 2129 |
| Totals | 13545 | 13510 | 10144 | 11999 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| OPA3, MA6800, Soldier Enhancement | 3127 | 2421 | 4286 | 4726 | 4816 | 8952 | 7015 | 3314 | Continuing | Continuing |
| OPA2, BA5300, Soldier Enhancement | 4850 | 11397 | 8025 | 8048 | 8294 | 14368 | 8282 | 4351 | Continuing | Continuing |
| WTCV, GC0076, Small Arms (SEP) | 301 | 1954 | 1140 | 1024 | 2168 | 2055 | 3394 | 999 | Continuing | Continuing |
| WTCV, GZ1290, Squad Automatic Wpn (Mods) | 4372 | 4049 | 5096 | 805 | 566 | 372 | 19726 | 4063 | Continuing | Continuing |
| WTCV, GZ2800, M16 Rifle Mods | 2085 | 0 | 2369 | 2351 | 2650 | 0 | 3901 | 0 | Continuing | Continuing |
| WTCV, GB3007, M4 Carbine Mods | 0 | 9111 | 6660 | 7399 | 5933 | 6137 | 4932 | 0 | 0 | 40172 |
| WTCV, G01500, Sniper Rifle | 2118 | 8763 | 8753 | 8701 | 8698 | 7898 | 0 | 0 | 0 | 44931 |
| WTCV, GC0925, Mods | 1243 | 803 | 2220 | 2201 | 489 | 488 | 488 | 487 | Continuing | Continuing |
| PAA, F47500, 7.62mm AP | 2395 | 2414 | 400 | 400 | 400 | 400 | 0 | 0 | 0 | 71517 |
| PAA, F47600, 5.56mm AP | 3526 | 3559 | 1600 | 1600 | 600 | 600 | 0 | 0 | 0 | 24464 |
| PAA, F00900, 40mm Canister | 0 | 5548 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5548 |
| PAA, E84900, XM84 Stun Grenade | 2381 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5775 |
| PAA, E86400, 12 Gauge Non Lethal | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 821 |
| PAA, E91100,XM95 Cartridge, Non Lethal Crowd | 4564 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6838 |
| PAA, E89000, 40mm Non Lethal | 1960 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7854 |
| OMA, 121017, Central Funding & Fielding | 79515 | 72427 | 86050 | 87492 | 91526 | 115583 | 117873 | 117873 | Continuing | Continuing |

**C. Acquisition Strategy:** The Soldier Enhancement Program (SEP) focuses on developmental initiatives and integration efforts that lend themselves to accelerated acquisition and fielding in the near term (within three years). New SEP candidates are reviewed and approved annually. SEP items are procured from multiple appropriations, i.e., OMA, OPA, WTCV, and PAA.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604713A - Combat Feeding, Clothing, and Equipment**

PROJECT
**668**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Various | MIPR | SBCCOM, MA | 4508 | 496 | 1Q | 485 | 1Q | 550 | 1Q | 0 | 6039 | 0 |
| b . Various | MIPR | PM-SA, NJ | 13838 | 4262 | 1Q | 2138 | 1Q | 3696 | 1Q | 0 | 23934 | 0 |
| c . Various | MIPR | ERDEC, Edgewood, MD | 598 | 450 | 1Q | 400 | 1Q | 380 | 1Q | 0 | 1828 | 0 |
| d . Contracts | Various | SBCCOM, MA | 1822 | 391 | 2Q | 250 | 3Q | 420 | 2Q | 0 | 2883 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 20766 | 5599 | | 3273 | | 5046 | | 0 | 34684 | 0 |

Remarks: Candidates for the Soldier Enhancement Program are received, reviewed, and approved annually. Contractual efforts primarily are focused on procurring prototypes for testing.

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Various | MIPR | TSM-SDR, GA | 631 | 227 | 1Q | 230 | 1Q | 235 | 1Q | 0 | 1323 | 0 |
| b . Various | Contracts | Various | 9073 | 1685 | 3Q | 1390 | 2Q | 2629 | 3Q | 0 | 14777 | 0 |
| c . DCD Support - Military Police | MIPR | GSA/FEDLEARN | 324 | 130 | 1Q | 145 | 1Q | 150 | 1Q | 0 | 749 | 0 |
| d . Logistics Support | MIPR | Army Logistics Support Activity | 123 | 55 | 1Q | 60 | 1Q | 65 | 1Q | 0 | 303 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604713A - Combat Feeding, Clothing, and Equipment**

PROJECT
**668**

| II. Support Cost (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| e . DCD Support | MIPR | Armor School, KY | 108 | 0 | | 0 | | 0 | | 0 | 108 | 0 |
| f . Various | MIPR | West Point, NY | 329 | 0 | | 0 | | 0 | | 0 | 329 | 0 |
| g . Various | MIPR | NVEOD, VA | 338 | 1289 | 1Q | 1222 | 1Q | 0 | | 0 | 2849 | 0 |
| h . Various | MIPR | AMCOM, AL | 50 | 0 | | 0 | | 0 | | 0 | 50 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 10976 | 3386 | | 3047 | | 3079 | | 0 | 20488 | 0 |

Remarks: Support costs vary annually depending on the type of items we are evaluting. Research Development and Engineering Centers support to evaluate items also varies annually depending on the number and types of items.

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Various | MIPR | SBCCOM(OFIG), Natick, MA | 75 | 50 | 2Q | 50 | 3Q | 50 | 3Q | 0 | 225 | 0 |
| b . Various | MIPR | OPTEC/ATEC | 2951 | 1620 | 2Q | 1580 | 2Q | 1695 | 1Q | 0 | 7846 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 3026 | 1670 | | 1630 | | 1745 | | 0 | 8071 | 0 |

Remarks: Testing costs vary annually by item(s) and are primarily funded by customers using the program dollars we send to them.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604713A - Combat Feeding, Clothing, and Equipment**

PROJECT
**668**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . In-House | | PM-Soldier Equipment, Fort Belvoir, VA | 5741 | 2855 | 1Q | 2194 | 1Q | 2129 | 1Q | 0 | 12919 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 5741 | 2855 | | 2194 | | 2129 | | 0 | 12919 | 0 |

Remarks: Costs vary annually depending on number and type of items being evaluated.

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 40509 | 13510 | | 10144 | | 11999 | | 0 | 76162 | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604713A - Combat Feeding, Clothing, and Equipment**

PROJECT
**668**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| M203 Grenade Launched Rail System: achieve MS C and transition to production. | | 2Q | | | | | | |
| M240B Combat Ammunition Pack: achieve MS C and transition to production. | | 1Q | | | | | | |
| Tactical Assault Ladder System: achieve MS C and transition to production. | | 3Q | | | | | | |
| Collapsible Grappling Hook: achieved MS C and transitioned to production. | 4Q | | | | | | | |
| Concealable Stab Protective Body Armor: achieved MS C and transitioned to production. | 4Q | | | | | | | |
| Family of Batons and Night Sticks: achieved MS C and transitioned to production. | 3Q | | | | | | | |
| Survival Egress Air (SEA) MK 2.0: achieved MS C and transitioned to production. | 4Q | | | | | | | |
| M84 Reloadable Fuze: achieve MS C and transition to production. | | 2Q | | | | | | |
| Individual Riot Control Agent Disperser: achieve MS C and transition to production. | | 3Q | | | | | | |
| Combat Uniform for Soldiers: achieve MS C and transition to production. | | 3Q | | | | | | |
| Tactical Thigh Holster: achieve MS C and transition to production. | | 2Q | | | | | | |
| Aircrew Survival/Egress Knife: achieve MS C and transition to production. | | 4Q | | | | | | |
| Improved Combat Shelter: achieve MS C and transition to production. | | 4Q | | | | | | |
| Close Combat Mission Capability Kit: achieve MS C and transition to production. | | | 3Q | | | | | |
| M9 Pistol Rail: achieve MS C and transition to production. | | | 3Q | | | | | |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604713A - Combat Feeding, Clothing, and Equipment**

PROJECT
**668**

| **Schedule Detail (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Collapsible Buttstock for M249 Machine Gun: achieve MS C and transition to production. | | | 3Q | | | | | |
| Hand Thrown Stingball Grenade: achieve MS C and transition to production. | | | 3Q | | | | | |
| Face Paint (Stick): achieve MS C and transition to production. | | | 3Q | | | | | |
| Glove Light Duty Utility: achieve MS C and transition to production. | | | | 3Q | | | | |
| Water Purification Pen: achieve MS C and transition to production. | | | | 3Q | | | | |
| Standoff Blast Resistant Footwear System: achieve MS C and transition to production. | | | | 3Q | | | | |
| Infantry Wall Breaching Kit: achieve MS C and transition to production. | | | | 3Q | | | | |

NOTE: Numerous individual projects are ongoing under the Soldier Enhancement Program (SEP) and each project has its own milestone schedule.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604713A - Combat Feeding, Clothing, and Equipment** | **C40** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C40 | SOLDIER SUPPORT EQUIPMENT - ED | 11083 | 12197 | 2891 | 21 | 0 | 0 | 0 | 0 | 0 | 34828 |

**A. Mission Description and Budget Item Justification:** This project supports the system development and demonstration and integration of field shelters, showers, latrines, heaters, environmental control units, mortuary affairs, organizational equipment, and other combat service support equipment to improve unit sustainability and combat effectiveness. Project supports development and type classification of personnel and cargo parachutes, airdrop containers and other aerial delivery equipment to improve safety and efficiency of airborne operations. Project supports development of tactical field shelters including a series of Rigid Wall Shelters (RWS) with added capabilities and enhanced survivability. This project develops critical enablers that support the Army's Transformation Campaign Plan Axes I (Trained and Ready), Line of Operation 2 (Modernization) by maintaining readiness through fielding and integrating new equipment. Also inclues, Line of Operation 3 (Manning the Force) by ensuring Army forces are capable of rapid deployment through aerial delivery initiatives and by reducing sustainment requirements, related Combat Support/Combat Service Support (CS/CSS) demands in lift, combat zone footprint, and costs for logistical support.

This project develops critical enablers that support the Legacy-to-Objective transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Completed developmental testing and conduct program review for Advanced Tactical Parachute System (ATPS). | 1404 | 1300 | 0 | 0 |
| Conduct operational testing and program review for ATPS. | 257 | 488 | 1000 | 0 |
| Procure Operational Test items for ATPS. | 1319 | 740 | 0 | 0 |
| Procured test items for the Developmental Testing of Phase II ATPS (30 ea @ $4,000). | 120 | 0 | 0 | 0 |
| Purchase data rights for ATPS. | 0 | 747 | 1308 | 0 |
| Conduct Milestone C for ATPS. | 0 | 0 | 583 | 21 |
| Conduct Developmental Testing for the 500 ft. Low Velocity Airdrop System (LVADS). | 0 | 2620 | 0 | 0 |
| Planned and conducted Down-Select Testing on the 500 ft. LVADS. | 1057 | 0 | 0 | 0 |
| Procured test items for the Down-Select Testing of 500 ft. LVADS. | 890 | 0 | 0 | 0 |
| Procure Test items for 500 ft. LVADS Developmental Testing. | 0 | 890 | 0 | 0 |
| Obtained Milestone C Type Classification - Standard and Material Release for the Containerized Chapel. | 500 | 0 | 0 | 0 |
| FY 02 completed Full-Rate Production Decision for Space Heater Small. FY03 Conduct Technical Testing on Space Heater Large. | 600 | 1500 | 0 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Conduct Developmental Testing on the Enhanced Container Delivery System (ECDS). | 0 | 1482 | 0 | 0 |
| Procured Test items (liners, Frame/pole interface, and Plenum) for the Modular General Purpose Tent System (MGPTS) P3I (10 complete systems @ $25K ea). Initiate system Testing and Evaluation. | 558 | 0 | 0 | 0 |
| Investigate and evaluate airbeam technology and composite materials for potential employment in the Lightweight Maintenance Enclosure (LME) P3I and Tent, Extendable, Modular, Personnel, (TEMPER). Develop and evaluate LME P3I enhancements. | 550 | 500 | 0 | 0 |
| Conducted Milestone B, fabricated prototypes (3 @ 250K ea) initiated testing on the Containerized Batch Laundry (CBL). | 1500 | 0 | 0 | 0 |
| Type Classify CBL (MS C) and initiate water recycling product improvements. | 0 | 1500 | 0 | 0 |
| Conduct Testing and Evaluation of MGPTS P3I components and transition into production. | 0 | 430 | 0 | 0 |
| Procured Large Capacity Field Heater Developmental Test items. | 228 | 0 | 0 | 0 |
| Procured Authorized Stockage List Mobility System (ASL-Mobility) Developmental Test items. | 2100 | 0 | 0 | 0 |
| Totals | 11083 | 12197 | 2891 | 21 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| RDTE, 0603747.C09, Soldier Support Equipment - AD | 6674 | 11344 | 1352 | 0 | 0 | 0 | 0 | 0 | 0 | 19370 |
| MA8061, Lightweight Maintenance Enclosure | 6590 | 8494 | 7577 | 7159 | 5990 | 8733 | 12160 | 12148 | 13000 | 81851 |
| M82708, Containerized Batch Laundry (CBL) | 0 | 2927 | 3913 | 3905 | 0 | 0 | 0 | 0 | 0 | 10745 |

**C. Acquisition Strategy:** Provides for system integration and initial operational test and evaluation followed by a transition into production.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604713A - Combat Feeding, Clothing, and Equipment**

PROJECT
**C40**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . SBCCOM | MIPR | SBCCOM (NRDEC), Natick, MA | 7450 | 2000 | 1-4Q | 0 | | 0 | | 2522 | 11972 | 9665 |
| b . Contracts | Various | Various | 16700 | 3900 | 2Q | 0 | | 0 | | 9606 | 30206 | 30549 |
| | | | | | | | | | | | | |
| Subtotal: | | | 24150 | 5900 | | 0 | | 0 | | 12128 | 42178 | 40214 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604713A - Combat Feeding, Clothing, and Equipment**

PROJECT
**C40**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . TECOM/OEC | MIPR | Various | 14383 | 5692 | 1-4Q | 2452 | 3Q | 0 | | 4551 | 27078 | 25208 |
| | | | | | | | | | | | | |
| Subtotal: | | | 14383 | 5692 | | 2452 | | 0 | | 4551 | 27078 | 25208 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Program Management | In-House | PM Force Sustainment Systems, Natick | 2200 | 605 | 1-4Q | 0 | | 0 | | 1562 | 4367 | 4479 |
| b . Program Managment | In-House | PM Soldier, Fort Belvoir, VA | 0 | 0 | | 439 | 1Q | 21 | 1Q | 0 | 460 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 2200 | 605 | | 439 | | 21 | | 1562 | 4827 | 4479 |
| Project Total Cost: | | | 40733 | 12197 | | 2891 | | 21 | | 18241 | 74083 | 69901 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604713A - Combat Feeding, Clothing, and Equipment**

PROJECT
**C40**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Completed testing and conducted MS B for Advanced Tactical Parachute System. | 2Q | | | | | | | |
| Conduct MS C for Advanced Tactical Parachute System. | | | 4Q | | | | | |
| Obtained MS C, Standard and Material Release for the Containerized Chapel. | 4Q | | | | | | | |
| Conducted MS B for the Authorized Stockage List Mobility System. | 4Q | | | | | | | |
| Conduct MS B for 60k British Thermal Unit Space Heater Convective. | | 3Q | | | | | | |
| Conducted MS B, fabricated prototypes and initiated testing on the Containerized Batch Laundry. | 2Q | | | | | | | |
| Conduct MS C for Containerized Batch Laundry. | | 3Q | | | | | | |
| Awarded R&D/Production contract for Authorized Stockage List Mobility System. | 4Q | | | | | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604713A - Combat Feeding, Clothing, and Equipment** | **L40** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| L40 | CLOTHING & EQUIPMENT | 4889 | 1310 | 3100 | 4451 | 8013 | 9008 | 9242 | 9164 | 0 | 54294 |

**A. Mission Description and Budget Item Justification:** The funding in this project support development of state-of-the-art individual clothing and equipment to improve the survivability, mobility, and sustainment affecting the quality of life of the individual soldier.

This project supports the Legacy-to-Objective transition path of the Army's Transformation Campaign Plan.

| Accomplishments/Planned Program | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Identified integration opportunities for the Advanced Combat Helmet and collaborated with NATO nations on functional trade-offs. | 370 | 0 | 0 | 0 |
| Procure test items and initiate integration efforts for the Advanced Combat Helmet and award developmental contract. | 0 | 185 | 0 | 0 |
| Conduct operational testing, achieve Milestone C, and intitiate production for the Advanced Combat Helmet and complete integration efforts. | 0 | 0 | 150 | 0 |
| Complete developmental contract and inititiate operational testing for the Advanced Combat Uniform. | 0 | 0 | 0 | 2895 |
| Type Classify limited, initiated production for the Advanced Bomb Suit, and achieved Milestone C. | 300 | 0 | 0 | 0 |
| Complete user evaluation, laser integration, and commence operational testing for Military Eye Protection System. | 0 | 416 | 0 | 0 |
| Military Eye Protection System: complete operational testing, achieve Milestone C, and initiate production. | 0 | 0 | 1500 | 0 |
| Concealable Body Armor: completed testing, achieved Milestone C, and initiated production. | 227 | 0 | 0 | 0 |
| Aircrew Battle Dress Uniform P3I: conducted and completed user evaluation, and amended ABDU performance specification as required. | 210 | 0 | 0 | 0 |
| Alternative Fabric for Extended Cold Weather Clothing System: migrate fabric alternatives to related wet weather gear. | 0 | 80 | 0 | 0 |
| Update fabrics, style changes, and consolidate dress clothing for Joint Services, and as approved by the Army Uniform Board. | 328 | 564 | 500 | 300 |
| Modular Sleeping Bag System P31: conducted market survey, evaluated commercially available candidates submitted against specification performance requirements. | 220 | 0 | 0 | 0 |
| Modular Sleeping Bag System P31: conduct user evaluation of new concepts for soldier acceptance, and achieve Milestone C. | 0 | 65 | 0 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| In-house engineering support services, computer services, and conduct technical evaluation and program reviews. | 3234 | 0 | 950 | 1256 |
| Totals | 4889 | 1310 | 3100 | 4451 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| RDTE, 0603747.669, Clothing & Equipment | 46381 | 4645 | 8864 | 8366 | 8176 | 8201 | 9438 | 9633 | Continuing | Continuing |
| OMA, 121017, Central Funding and Fielding | 90013 | 73401 | 86050 | 87492 | 91526 | 115583 | 117873 | 103185 | Continuing | Continuing |

**C. Acquisition Strategy:** Soldier modernization will be accomplished by various methods. Acquisition strategies will vary from: 1) quick fixes in 36 months or less from concept to Type Classification (TC) similar to Soldier Enhancement Programs (SEP), 2) modular improvements which require limited RDT&E and will be completed in more than 36 months from concept to Type Classification, 3) fully integrated development that will require substantial RDT&E funding and will be completed in 4 years or more.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604713A - Combat Feeding, Clothing, and Equipment**

PROJECT
**L40**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Various | MIPRS | SBCCOM, Natick, MA | 2607 | 807 | 1Q | 1745 | 1Q | 1315 | 1Q | Continue | 6474 | Continue |
| b . Various | Contracts | Various | 2851 | 303 | 3Q | 105 | 2Q | 750 | 2Q | Continue | 4009 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 5458 | 1110 | | 1850 | | 2065 | | Continue | 10483 | Continue |

Remarks: Product development costs vary annually depending on the number and types of programs being evaluated.

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Misc Support | MIPR | Various | 246 | 50 | 1Q | 100 | 1Q | 100 | 1Q | 0 | 496 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 246 | 50 | | 100 | | 100 | | 0 | 496 | 0 |

Remarks: Support Costs vary annually depending on number of and types of programs being evaluated.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604713A - Combat Feeding, Clothing, and Equipment**

PROJECT
**L40**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Various | MIPRS | ATEC | 1461 | 100 | 3Q | 150 | 2Q | 980 | 3Q | 0 | 2691 | 0 |
| b . Various | MIPRS | SBCCOM (OFIG), Natick, MA | 205 | 50 | 1Q | 50 | 2Q | 50 | 2Q | 0 | 355 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1666 | 150 | | 200 | | 1030 | | 0 | 3046 | 0 |

Remarks: Testing costs vary annually by item.

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Various | In-House | PM Soldier, Ft. Belvoir, VA | 6059 | 0 | 1Q | 950 | 1Q | 1256 | 1Q | Continue | 8265 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 6059 | 0 | | 950 | | 1256 | | Continue | 8265 | Continue |

Remarks: Management Services costs vary annually depending on the number and types of programs being evaluated.

| Project Total Cost: | | | 13429 | 1310 | | 3100 | | 4451 | | Continue | 22290 | Continue |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604713A - Combat Feeding, Clothing, and Equipment**

PROJECT
**L40**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Advanced Combat Helmet: achieve MS C, and intitiate production. | | 4Q | | | | | | |
| Advanced Bomb Suit: achieve MS C, Type Classify Limited, and initiated production. | 3Q | | | | | | | |
| Military Eye Protection System: achieve MS C, and initiate production. | | | 2Q | | | | | |
| Advanced Combat Uniform achieved MS C and initiate prodction | | | | 4Q | | | | |

A Life Cycle System Review is held during the 2nd and 4th quarter of each fiscal year.

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

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604715A - Non-System Training Devices - Eng Dev**

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Program Element (PE) Cost | | 29010 | 56002 | 71616 | 62634 | 43472 | 59555 | 38904 | 38245 | Continuing | Continuing |
| 241 | NSTD COMBINED ARMS | 27630 | 54976 | 70024 | 60266 | 42144 | 58182 | 37518 | 36826 | 0 | 436465 |
| 573 | STRICOM/NAWCTSD SUPPORT | 1380 | 1026 | 1592 | 2368 | 1328 | 1373 | 1386 | 1419 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** Program Element funds development of Non-System Training Devices to support force-on-force training at the Combat Training Centers (CTC), general military training and training on more than one item/system, as compared with system devices which are developed in support of a specific item/weapon system. Training devices and training simulations help to modernize the forces through force multipliers that improve combat effectiveness by providing realistic training. Training devices maximize the transfer of knowledge, skills, and experience from the training situation to a combat situation. Force-on-force training at the National Training Center (NTC), Ft. Irwin, CA; Joint Readiness Training Center (JRTC), Ft. Polk, LA, and Combat Maneuver Training Center (CMTC), Hohenfels, Germany; and battle staff training in Battle Command Training Program (BCTP) provide increased combat readiness through realistic collective training in low, mid, and high intensity scenarios. Project 241, Non-System Training Devices-Combined Arms, develops simulation training devices for Army-wide use, including the CTCs. Project 573 supports salaries and travel.

In FY04/05, project 241 Non-System Training Devices program line will develop prototype training devices to support Combined Arms (Infantry, Armor, Aviation, Air Defense, Artillery, Engineer, Chemical, and Support troops) training and multi-system training within the Army. In FY04/05, project 573 STRICOM/NAWCTSD SUPT will provide for minimum PEO STRI core operations supporting development of training devices and simulations by PEO STRI project managers (PM TRADE, PM ITTS, PM CATT and PM WARSIM).

These systems support the Interim, Legacy, Objective, and Legacy to Objective transition paths of the Transformation Campaign Plan (TCP).

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

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604715A - Non-System Training Devices - Eng Dev**

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 28682 | 43650 | 62476 | 54407 |
| Current Budget (FY 2004/2005 PB) | 29010 | 56002 | 71616 | 62634 |
| Total Adjustments | 328 | 12352 | 9140 | 8227 |
| Congressional program reductions | | -1051 | | |
| Congressional rescissions | | -322 | | |
| Congressional increases | | 15250 | | |
| Reprogrammings | 1047 | | | |
| SBIR/STTR Transfer | -719 | -1525 | | |
| Adjustments to Budget Years | | | 9140 | 8227 |

FY04/05 funding increases support additional requirements in development of prototype training devices such as SATCOM Principles Transformation Trainer (SPTT), Advanced Morse Mission Trainer (AMMT), Homestation Instrumentation Training System (HITS), and Basic Electronics Maintenance Trainer (BEMT).

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604715A - Non-System Training Devices - Eng Dev** | **241** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 241 NSTD COMBINED ARMS | 27630 | 54976 | 70024 | 60266 | 42144 | 58182 | 37518 | 36826 | 0 | 436465 |

**A. Mission Description and Budget Item Justification:** This project is used to develop prototype training devices to support Combined Arms (Infantry, Armor, Aviation, Air Defense, Artillery, Engineer, Chemical, and Support troops) training and multi-system training within the Army, to include the Reserve Components.

Corps Battle Simulation (CBS) is the Army's command and staff training simulation at the corps/division level. Tactical Simulation System (TACSIM) is the tactical intelligence module and Combat Service Support/Tactical Simulation System (CSS/TSS) provides logistics functions in support of warfighter exercises. The One Tactical Engagement Simulation System (One TESS) provides for an advanced, joint, collective, combined arms, live training system using tactical weapon system supported by a family of Training Aids, Devices, Simulations and Simulators (TADSS). The National Training Center Objective Instrumentation System (NTC OIS) provides a completely digital based system for full tactical system connectivity and High Level Architecture (HLA) compatibility. The NTC Range Data Management System (NTC RDMS) Frequency Conversion develops the architecture to resolve the frequency usage conflict at NTC. The Combat Maneuver Training Center (CMTC) RDMS replaces RDMS infrastructure and the Data Communications Interfaces (DCIs) to ensure CMTC can sustain training operations. The CMTC SINCGARS Infrastructure correctly integrates Range Measurement and Control Subsystem into the CMTC-IS communications structure. The CMTC Observer Contoller Communications Systems (OCCS) provides a communication system that operates on non-tactical frequencies for the Hohenfels Training Area at CMTC. The New Generation Army Targetry Systems (NGATS) program is an evolutionary, blocked approach acquisition program that continues to provide the development and planning to address shortcomings in non-NGATS targetry as well as emerging weapon system targetry requirements and technology insertion. The FY04/05 program will continue supporting the Live Training Transformation strategy Common Training Instrumentation Architecture (CTIA) and CTIA-compliant reusable components to implement Objective Instrumentation Systems (OISs) for the Maneuver CTCs, Homestations, Military Operations Urbanized Terrain (MOUT), CMTC RDMS, CMTC SINCGARS Infrastructure, Digital Multi-Purpose Range Complexes (DMPRCs), and the Homestation Instrumentation Training System (HITS) which provides digital communications in the battle field. In FY 04/05, this project funds development of limited enhancements to Corps Battle Simulation to ensure training relevance until the system is replaced with objective system. In addition, the FY04/05 program will provide funding for emerging concepts and studies for training material needs and Army initiatives. The SATCOM Principles Transformation Trainer (SPTT) program will develop a Defense Satellite Communication (SATCOM) Training Device to meet the U. S. Army Signal School requirements as well as the Objective Force communication training requirements. The Advanced Morse Mission Trainer (AMMT) program will develop a training system to meet U. S. Army Intelligence School Morse Mission Training requirements. The Basic Electronics Maintenance Trainer (BEMT) program will support the basic electronics training of missile electronics repair, test, measurements, and diagnostics for Redstone Arsenal and Ft. Gordon.

These systems support the Legacy, Interim and Objective transition path of the Transformation Campaign Plan.

| Accomplishments/Planned Program | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Completed Virtual Emergency Response Training System (VERTS)development efforts for Camp Dawson. | 2474 | 0 | 0 | 0 |
| Continue development of devices, simulators and simulations to support training at the Combat Training Centers (CTCs), to include establishment of CTIA version 1.0 baselines for Live Training Transformation (LTT) product line to include NTC OIS, initiate development of renovation to the Range Data Measuring System and complete engineering development of Army Tactical Command and Control Systems (ATCCS) modules required for ABCS integration at NTC. | 18643 | 42502 | 51901 | 21040 |
| Continue development of limited enhancements to CBS. | 5369 | 3795 | 6609 | 4559 |
| Continue funding for emerging engineering manufacturing and development programs and studies for training material needs and Army initiatives. | 0 | 580 | 0 | 0 |
| Continue NGATS program development and planning to address emerging weapon system targetry requirements to include: Digital Multi-Purpose Range Complex (DMPRC) acquisition contract effort; develop and test prototype Lookback/Shootback Targetry that senses opposing force and initiates appropriate response. Block I will correct shortcomings, in non-NGATS target systems' reliability, availability, mainatainability, supportability, interoperabiity, deployability. Block II and future Blocks will address emerging weapon systems targetry requirements and technology insertion. | 970 | 1031 | 1870 | 2142 |
| Develop limited enhancements to CSS/TSS. | 0 | 0 | 785 | 480 |
| Initiated development of One Tactical Engagement Simulation System One TESS. | 174 | 7068 | 3908 | 21011 |
| Develop limited enhancements and integration of TACSIM. | 0 | 0 | 1520 | 1561 |
| Initiate development of HITS. | 0 | 0 | 2757 | 0 |
| Initate Front End Analysis of SPTT. | 0 | 0 | 50 | 0 |
| Initiate development of prototype SPTT Training Device. | 0 | 0 | 0 | 5860 |
| Initiate development of prototype AMMT. | 0 | 0 | 150 | 3613 |
| Evaluate BEMT computerized instructional devices with the capability for computer based instruction and hands-on practical exercise training. | 0 | 0 | 474 | 0 |
| Totals | 27630 | 54976 | 70024 | 60266 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| OPA3, Appropriation NA0100 Training Devices, Non-System | 118965 | 156434 | 165254 | 220612 | 152338 | 164005 | 178507 | 189803 | Continuing | Continuing |
| OPA3, Appropriation MA6601 CTC Support | 8806 | 53018 | 36827 | 87097 | 108100 | 82458 | 95651 | 86797 | Continuing | Continuing |

In FY 2002, IEWTPT transferred to PE 0604742 Proj 361. In FY 2002, WARSIM/WIM transferred to PE 0604742 Proj 362.

**C. Acquisition Strategy:** Competitive development efforts based on performance specifications.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604715A - Non-System Training Devices - Eng Dev**

PROJECT
**241**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . CBS Development | C/FFP | JPL, Cal Tech, Pasadena, CA | 31143 | 3200 | 1-4Q | 5849 | 1Q | 3739 | 1Q | Continue | 43931 | Continue |
| b . TACSIM Enhancement Development | C/FFP | TBD | 0 | 0 | | 1220 | 1-2Q | 1224 | 1Q | Continue | 2444 | Continue |
| c . CSS/TSS Upgrade Development | TBD | TBD | 0 | 0 | | 485 | 1-2Q | 328 | 1Q | Continue | 813 | Continue |
| d . ABCS Integration | C/CPFF | ARL, Univ Texas, TX | 11306 | 0 | | 0 | | 0 | | 0 | 11306 | 11306 |
| e . NGATS | T & M | AMCOM, Redstone Arsenal, AL | 3416 | 677 | 1Q | 1215 | 1Q | 1392 | 1Q | Continue | 6700 | Continue |
| f . NTC-OIS | CPAF | Lockheed Martin Corp, Orlando, FL | 6493 | 13130 | 2Q | 45479 | 2Q | 17299 | 2Q | Continue | 82401 | Continue |
| g . CTIA | C/FFP | Lockheed Martin Inc., Orlando, FL | 18125 | 10016 | 2Q | 4225 | 2Q | 4200 | 2Q | Continue | 36566 | Continue |
| h . One TESS | TBD | TBD | 0 | 6348 | 2Q | 3158 | 2Q | 20161 | 1Q | Continue | 29667 | Continue |
| i . CMTC OCCS, RDMS & Sincgars Infrastrucure | FFP | TBD | 65 | 3119 | 2Q | 1465 | 1Q | 0 | | 0 | 4649 | 7788 |
| j . NTC RDMS | FFP | SAIC, San Diego, CA | 3812 | 0 | | 0 | | 0 | | 0 | 3812 | 3812 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604715A - Non-System Training Devices - Eng Dev**

PROJECT
**241**

| I. Product Development (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| k . VERTS | FFP | SAIC, San Diego, CA | 2474 | 0 | | 0 | | 0 | | 0 | 2474 | 2541 |
| l . HITS | TBD | TBD | 0 | 0 | | 2482 | 2Q | 0 | | 0 | 2482 | 0 |
| m . SPTT | TBD | TBD | 0 | 0 | | 0 | | 5474 | 1Q | 0 | 5474 | 0 |
| n . AMMT | TBD | TBD | 0 | 0 | | 0 | | 3227 | 1Q | 0 | 3227 | 0 |
| o . BEMT | SS/FFP | Nida Corp., Melbourne, FL | 0 | 0 | | 349 | 3Q | 0 | | 0 | 349 | 0 |
| p . CTIA, NTC Fiber Optic | FFP | SAIC, San Diego, CA | 0 | 15000 | 3-4Q | 0 | | 0 | | 0 | 15000 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 76834 | 51490 | | 65927 | | 57044 | | Continue | 251295 | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604715A - Non-System Training Devices - Eng Dev**

PROJECT
**241**

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . CBS Engineering & Technical Support | Various | Multiple | 515 | 305 | 1Q | 375 | 1Q | 420 | | Continue | 1615 | Continue |
| b . TACSIM Engineering & Technical Support | Various | Multiple | 0 | 0 | | 55 | 1Q | 80 | 1Q | Continue | 135 | Continue |
| c . CSS/TSS Engineering & Technical Support | TBD | TBD | 0 | 0 | | 95 | 1Q | 42 | 1Q | Continue | 137 | Continue |
| d . NTC-OIS | Various | Multiple | 6843 | 1026 | 1-4Q | 1224 | 1-4Q | 1109 | 1-4Q | Continue | 10202 | Continue |
| e . ABCS Integration | C/FFP | Madison Res Corp, Orlando, FL | 4064 | 0 | | 0 | | 0 | | 0 | 4064 | 4512 |
| f . NGATS | T&M | AMCOM, Redstone Arsenal, AL | 1280 | 354 | 1Q | 655 | 1Q | 750 | 1Q | Continue | 3039 | Continue |
| g . CTIA | MIPR | Various | 3025 | 937 | 1-4Q | 775 | 1-4Q | 800 | 1-4Q | Continue | 5537 | Continue |
| h . Concept Exploration | Multiple | Various | 908 | 580 | 1-3Q | 0 | | 0 | | Continue | 1488 | Continue |
| i . OneTESS | Multiple | Various | 0 | 720 | 1-4Q | 750 | 1-4Q | 850 | 1-4Q | Continue | Continue | 0 |
| j . CMTC OCCS, RDMS and Sincgars Infrastructure | Multiple | Various | 0 | 300 | 1-4Q | 325 | 1-4Q | 0 | | 0 | 625 | 625 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604715A - Non-System Training Devices - Eng Dev**

PROJECT
**241**

| II. Support Cost (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| k . HITS | Multiple | Various | 0 | 0 | | 275 | 1-4Q | 0 | | 0 | 275 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 16635 | 4222 | | 4529 | | 4051 | | Continue | Continue | Continue |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . CBS Test Support | Various | Multiple | 59 | 75 | 1Q | 135 | 1Q | 130 | 1Q | Continue | 399 | Continue |
| b . TACSIM Accreditation Testing | Various | Multiple | 0 | 0 | | 80 | 1-3Q | 85 | 1-3Q | Continue | 165 | Continue |
| c . CSS/TSS VV&A | TBD | TBD | 0 | 0 | | 60 | 2Q | 45 | 2Q | Continue | 105 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 59 | 75 | | 275 | | 260 | | Continue | 669 | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604715A - Non-System Training Devices - Eng Dev**

PROJECT
**241**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . CBS Program Management | Various | PEO STRI/NAVAIR, Orlando, FL | 313 | 215 | 1Q | 250 | 1Q | 270 | 1Q | Continue | 1048 | Continue |
| b . SPTT Program Management | MIPR | PEO STRI/NAVAIR, Orlando, FL | 0 | 0 | | 50 | | 386 | 1Q | 0 | 436 | 0 |
| c . TACSIM Program Management | Various | PEO STRI/NAVAIR, Orlando, FL | 0 | 0 | | 165 | 1Q | 172 | 1Q | Continue | 337 | Continue |
| d . CSS/TSS Program Management | Various | PEO STRI/NAVAIR, Orlando, FL | 0 | 0 | | 145 | 1Q | 65 | 1Q | Continue | 210 | Continue |
| e . AMMT Program Management | MIPR | PEO STRI/NAVAIR, Orlando, FL | 0 | 0 | | 150 | 1Q | 386 | 1Q | 0 | 536 | 0 |
| f . BEMT program Management | MIPR | PEO STRI/NAVAIR, Orlando, FL | 0 | 0 | | 125 | 1Q | 0 | | 0 | 125 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 313 | 215 | | 885 | | 1279 | | Continue | 2692 | Continue |
| Project Total Cost: | | | 93841 | 56002 | | 71616 | | 62634 | | Continue | Continue | Continue |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604715A - Non-System Training Devices - Eng Dev**

PROJECT
**241**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| CBS Contract Award | 1Q | 1Q | 1Q | 1Q | 1Q | | | |
| NTC OIS MS B | | 2Q | | | | | | |
| NTC OIS Block 1 Review | | | | 1Q | | | | |
| ABCS Integration Completion | 4Q | | | | | | | |
| NGATS Contract Award | 2Q | 1Q | 1Q | 1Q | | | | |
| CTIA MS B | 2Q | | | | | | | |
| CTIA Development Contract Award | | 2Q | 2Q | 2Q | | | | |
| CMTC OCCS, RDMS & SINCGARS Cont Awd | | 1Q | 1Q | 1Q | | | | |
| One TESS Contract Award | | 2Q | 2Q | 1Q | | | | |
| BEMT Equipment Delivery | | | 3Q | | | | | |
| SPTT and AMMT Contract Award | | | | 1Q | | | | |
| Deliver SPTT and AMMT Development Suites | | | | | 2Q | | | |
| TACSIM Enhancement Development Contract Award | | | 2Q | 1Q | | | | |
| CSS/TSS Upgrade Development Contract Award | | | 2Q | 1Q | | | | |
| HITS Contract Award | | | 2Q | | | | | |
| VERTS Contract Award | 3Q | | | | | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604715A - Non-System Training Devices - Eng Dev** | **573** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 573 STRICOM/NAWCTSD SUPPORT | 1380 | 1026 | 1592 | 2368 | 1328 | 1373 | 1386 | 1419 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** In support of Non-System Training Devices (NSTD), this project funds the US Army Program Executive Officer Simulation, Training and Instrumentation (PEO STRI) core operations supporting development of training devices and simulations by PEO STRI project managers (PM TRADE, PM ITTS, PM CATT and PM WARSIM). FYs 02-09 project funds labor in support of command operations.

| Accomplishments/Planned Program | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| PEO STRI labor in support of project managers PM TRADE, PM ITTS and PM CATT and PM WARSIM. | 1380 | 1026 | 1592 | 2368 |
| Totals | 1380 | 1026 | 1592 | 2368 |

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

**C. Acquisition Strategy:** Not Applicable.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604716A - TERRAIN INFORMATION - ENG DEV** | **579** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 579 FIELD ARMY MAP SYS ED | 7779 | 8096 | 6977 | 5965 | 5792 | 5777 | 6704 | 5748 | 0 | 59382 |

**A. Mission Description and Budget Item Justification:** This Project funds development of the DTSS-L (HMMWV), DTSS-H (5-ton), DTSS-D (COTS, Transportable), DTSS-B (COTS, Garrison) and HVMP. The current terrain analysis, topographic and reproduction support provided by Army Engineer Terrain Teams is a slow, labor intensive process that does not meet the needs of the digital battlefield on which the commander must have the ability to rapidly obtain terrain information and topographic products. The DTSS will provide digital maps and updates to commanders and weapons platforms in support of mission planning (e.g., imagery exploitation, Cover and Concealment, other IPB), rehearsal (e.g., 3D fly through, simulations) and execution (e.g., Common Tactical Picture, route planning). The DTSS automates terrain analysis and visualization, data base development/update/management/distribution, and graphics reproduction. The Combat Terrain Information Systems (CTIS) Modernization Plan emphasizes the development of a combined, integrated, tactically deployable, fully autonomous terrain analysis and graphics reproduction capability. These capabilities are being provided in 5-ton (DTSS-H) and HMMWV (DTSS-L) configurations. Fielding of the DTSS-H was completed in Dec 99. The DTSS-H systems will eventually be replaced by DTSS-Ls as part of a HQDA approved technology refreshment program. The DTSS-L is highly mobile and capable of supporting a full range of military operations, as well as peacetime stability and support operations. Both the DTSS-L and DTSS-H have been Type Classified-Standard. The DTSS-D provides a Commercial Off the Shelf (COTS) configuration that is capable of operating all of the terrain analysis software. The DTSS-D consists of transportable workstations and peripherals that can be set up to augment the tactical configurations. The DTSS-D does not include tactically deployable shelters and vehicles or tactical communications. The DTSS-D has been Type Classified-Standard. The DTSS-B was procured in response to a USAEUR initiative to develop the capability to generate terrain information over sparsely mapped areas to support training, mission rehearsal and contingency operations. The DTSS-B is designed to augment NIMA capabilities at the EAC level by providing quick response, special purpose mapping, terrain analysis and data base generation. The DTSS-B currently includes a Top Secret - SCI component that is capable of handling national technical means information in a secure environment. The DTSS-B has been Type Classified-Standard. The HVMP will provide a tactical capability to rapidly reproduce large volumes of topographic materiel. HVMP will be capable of reproducing information from a variety of digital and hardcopy sources via direct digital interfaces. CTIS systems will be deployed from Brigade through EAC. Additionally, an institutional training classroom environment has been developed and delivered to the National Geospatial/Intelligence School (NGS)(formerly Defense Mapping School). NGS provides critical MOS specific training on the operation and use of CTIS developed systems. Products developed as part of the CTIS RDT&E program (e.g., improved Army Battle Command Systems (ABCS) interoperability, migration to Joint Technical Architecture - Army (JTA-A) and Common Operating Environment (COE), improved data base management and distribution, automated feature extraction, improved tactical decision aid functionality, rapid terrain visualization, battlefield terrain reasoning, improved graphics reproduction) will be incorporated into all of the DTSS hardware and software architectures. Additionally, the Topographic Support System (TSS) is outdated and must be modernized to keep pace with Army digitization. The modernization initiatives associated with the TSS include updating the Operations, Distribution and Photomechanical Sections with computer workstations, copiers and printers. The Survey section will be downsized to a HMMWV configuration and the Drafting section will be updated to include digital cartographic equipment. This system supports the Legacy-to-Objective transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Continue P3I development for DTSS - TDA enhancements (integrated weather and mobility, terrain reasoning), terrain data model development, map server/data dissemination improvements | 6179 | 0 | 0 | 0 |
| Continue P3I development for DTSS - TDA enhancements (route/region LOS, terrain reasoning, mobility enhancements), map server/data dissemination improvements, semi-automated feature extraction, metadata standardization | 0 | 7406 | 0 | 0 |
| Continue System Design and Demonstration (SDD) of HVMP | 1600 | 0 | 0 | 0 |
| ABCS Systems Engineering & Integration (SE&I) | 0 | 140 | 0 | 0 |
| Complete SDD for HVMP | 0 | 250 | 0 | 0 |
| Initiate upgrade analysis for DTSS-L | 0 | 300 | 0 | 0 |
| Continue P3I development for DTSS - Enhanced 3-D terrain visualization, semi-automated feature extraction, data conflation, TDA enhancements (hydrology, Battlefield Terrain Reasoning and Assessment (BTRA) enhancements) improved data base design (seamless enterprise database) | 0 | 0 | 5477 | 0 |
| Initiate development of DTSS-Survey (S) | 0 | 0 | 1500 | 0 |
| Continue P3I development for DTSS - Semi-automated feature extraction, TDA/data quality assessments, web-based applications, TDA enhancements (urban/MOUT TDAs, new Mobility Models, temporal information) | 0 | 0 | 0 | 3965 |
| Continue development of DTSS-Survey | 0 | 0 | 0 | 2000 |
| Totals | 7779 | 8096 | 6977 | 5965 |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604716A - TERRAIN INFORMATION - ENG DEV** | **579** |

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 8766 | 8232 | 7094 | 6066 |
| Current Budget (FY 2004/2005 PB) | 7779 | 8096 | 6977 | 5965 |
| Total Adjustments | -987 | -136 | -117 | -101 |
| Congressional program reductions | | | | |
| Congressional rescissions | | -90 | | |
| Congressional increases | | | | |
| Reprogrammings | -987 | -46 | | |
| SBIR/STTR Transfer | | | | |
| Adjustments to Budget Years | | | -117 | -101 |

FY02 - (-987K) below threshold reprogamming to support higher Army priorities.

| **C. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| OPA - KA2550 - DTSS | 19889 | 13708 | 13003 | 9442 | 6562 | 21997 | 21467 | 19997 | Continue | Continue |

**D. Acquisition Strategy:** The Acquisition Strategy for the DTSS - Light EMD phase was to utilize Army standard equipment and the Common Hardware/Software (CHS) computer workstations in conjunction with non-development item (NDI) components to develop an integrated baseline hardware configuration. The previous Combat Terrain Information Systems (CTIS) System Engineering and Integration (SE&I) contractor (Lockheed Martin Corp) executed the EMD phase, performing system integration, and provided units for formal test and evaluation. Milestone III for the DTSS-L was successfully completed in Jan 98. Production of the DTSS-L commenced in February 1999. Previously existing DTSS units have been upgraded to a 5-ton ISO 20-foot shelter configuration (DTSS-H). Funding to support technology refreshment of the DTSS-H (DTSS-H will be replaced by DTSS-L in FY02/03 timeframe) and DTSS-L has been programmed on a 5-yr. cycle. Acquisition of the DTSS-D and DTSS-B was completed in FY 1995 and FY 1996, respectively. Based upon CINC, TRADOC and PEO C3S User Evaluation approvals, the DTSS-D was Type Classified - Standard and added to the gaining unit's Table of Organization and Equipment. Funding to support a 5-yr. technology refreshment program for the DTSS-D commenced in FY 2000 and for the DTSS-B commenced in FY 2002. The DTSS-B has also been Type Classified-Standard. The acquisition of the DTSS-D and DTSS-B relied upon existing contracts and commercial-off-the-shelf to the fullest extent possible. The Project Office will continue with this strategy for all technology refreshment programs. The Acquisition Strategy for the HVMP is to utilize COTS and NDI components integrated with Army standard hardware (e.g., trucks, shelters, power equipment) to develop an integrated baseline. The pre-planned product improvement program (P3I) will be executed with the current SE&I contractor (Northrup Grumman, Inc.). The contracting strategy for the DTSS-Light program was to execute the EMD phase through the previous SE&I contractor, Lockheed Martin Corporation. A Competitive Cost Plus Fixed Fee (CPFF) contract was awarded for both the previous and existing CTIS SE&I contracts. A competitively awarded, Firm Fixed Price (FFP) contract was awarded to Sechan Electronics, Inc. for the Full Rate Production of the DTSS-Light. Production of the DTSS-H was accomplished through FFP production contracts with Lockheed Martin Corporation and SFA Inc. The contracting strategy for the HVMP is to execute the System Design and Demonstration (SDD) phase through the current SE&I contractor. A competitively awarded FFP contract is anticipated for the Full Rate Production of the HVMP. The computer workstations for CTIS programs are being procured through the project manager for CHS.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604716A - TERRAIN INFORMATION - ENG DEV**

PROJECT
**579**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Primary Hardware Development | C/CPFF<br>C/CPFF | Loral Corp, OH<br>Lockheed Martin, PA | 23280 | 0 | | 0 | | 0 | | 0 | 23280 | 23280 |
| b . Primary Hardware Development | C/CPFF | Northrup Grumman, Chantilly, VA | 3295 | 700 | 1Q | 2383 | 1-2Q | 1899 | 1-2Q | Continue | Continue | Continue |
| c . ABCS SE&I | MIPR | PEO C3S, Ft. Monmouth, NJ | 150 | 140 | 1Q | 0 | | 0 | | 0 | 290 | 290 |
| | | | | | | | | | | | | |
| Subtotal: | | | 26725 | 840 | | 2383 | | 1899 | | Continue | Continue | Continue |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Software Development | C/CPFF | Loral Corp, OH<br>Lockheed Martin, PA | 34919 | 0 | | 0 | | 0 | | 0 | 34919 | 34919 |
| b . Software Development | C/CPFF | Northrup Grumman, Chantilly, VA | 14070 | 4367 | | 0 | | 0 | | 0 | 18437 | 18461 |
| c . Software Development | C/CPFF | TBS | 0 | 1500 | 3Q | 3200 | 1-2Q | 2591 | 1-2Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604716A - TERRAIN INFORMATION - ENG DEV**

PROJECT
**579**

| II. Support Cost (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Subtotal: | | | 48989 | 5867 | | 3200 | | 2591 | | Continue | Continue | Continue |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Acceptance Testing | MIPR | TECOM | 755 | 0 | | 0 | | 100 | 2Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 755 | 0 | | 0 | | 100 | | Continue | Continue | Continue |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Contractor Eng Support | MIPR | MITRE, McLean, VA | 5217 | 0 | 1Q | 0 | | 0 | | Continue | Continue | Continue |
| b . Government Eng Support | MIPR | Various | 16728 | 100 | 1Q | 100 | 1Q | 100 | 1Q | Continue | Continue | Continue |
| c . Program Mgmt Support* | Delivery Orders | Various | 2855 | 171 | 1Q | 175 | 1Q | 175 | 1Q | Continue | Continue | Continue |
| d . Program Mgmt Personnel | MIPR | TEC, Ft. Belvoir, VA | 11780 | 1118 | 1-4Q | 1119 | 1-4Q | 1100 | 1-4Q | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604716A - TERRAIN INFORMATION - ENG DEV**

PROJECT
**579**

| IV. Management Services (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 36580 | 1389 | | 1394 | | 1375 | | Continue | Continue | Continue |

Remarks: *This category primarily covers Office Automation

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 113049 | 8096 | | 6977 | | 5965 | | Continue | Continue | Continue |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604716A - TERRAIN INFORMATION - ENG DEV**

PROJECT
**579**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Award DTSS-L Production Contract/Options | 2Q | 1Q | | | | | | |
| DTSS-L Production | 1-4Q | 1-4Q | | | | | | |
| Continue DTSS P3I Program | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Field DTSS-L | 1-4Q | 1-4Q | 1-4Q | | | | | |
| Technology Refreshment and Fielding of DTSS-D | | | | 3-4Q | 1-2Q | | | |
| Field DTSS Build 7.0 Software | 2Q | | | | | | | |
| Technology Refreshment and Fielding of DTSS-B | 1-3Q | | | | | 1-3Q | | |
| Continue EMD for HVMP (initiated in FY01) | 1-4Q | 1Q | | | | | | |
| Milestone III for HVMP | | 2Q | | | | | | |
| Production of HVMP | | 2-4Q | 1-4Q | | | | | |
| Field DTSS Build 8.0 Software | | 2Q | | | | | | |
| Field DTSS Build X.X Software | | | 2Q | 2Q | 2Q | 2Q | 2Q | 2Q |
| Technology Refreshment of DTSS-L | | | 2-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Conduct Technology Refreshment of Institutional Training Classroom | 1-2Q | | | | | 1-3Q | | |
| Technology Refreshment of HVMP | | | | | | | 1-4Q | 1-4Q |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604726A - Integrated Meteorological Support System** | **D85** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| D85 IMETS (TIARA) | 1899 | 3361 | 3309 | 3300 | 2902 | 2796 | 4545 | 4709 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** The Integrated Meteorological System (IMETS) RDTE program element funds the development of evolving upgrades to the fielded system. It provides the battlefield commander at all echelons with accurate, high resolution, near real time weather data to conduct intelligence preparation of the battlefield (IPB). The IMETS is a mobile tactical automated weather data receiving, processing, and dissemination system designed to provide timely weather and environmental effects, forecasts, observations, and decision aid support to the Army. The IMETS is an Army-furnished system, which is operated by Air Force weather personnel and maintained within Army support channels. IMETS provides weather information overlays for the Common Tactical Picture (CTP), meteorological messages and other tailored products. IMETS provides direct client access to the IMETS meteorological database and to the database of weather impacts on friendly and threat systems. Three different configurations are tailored to the needs of the echelon supported; 1) command post configuration (CPC) for fixed facilities at echelon above corps (EAC) level where the IMETS is permanently integrated into the local area network; 2) vehicle mounted configuration (VMC) for tactical operations where the supported echelon moves frequently; and 3) light configuration (LC) for a small task force, where lightweight, easily deployed core weather functions can be performed without having its own vehicle, shelter, and power source. This system supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP). IMETS received $8M DERF in FY02 of which $3.073M on RDTE efforts to accellerate requested technology enhancements with the remainder spent in procurement of the requested systems for SOF.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Improve the IMETS NOWCAST capability to ingest and fuse non-conventional battlefield observations such as UAV and mobile meteorological sensors and additional conventional observations such as Meteorological Satellite imagery and data. Along with the Navy and the Air Force, design, develop, and integrate a joint DOD standard 4-D weather database and common application interfaces to support current and future C4ISR systems. Integrate automated mission inputs into IWEDA from ABCS digital OP-ORD information from the JCDB or other sources. Complete integration of IMETS Weather Analysis into GCCS. Port the entire IMETS baseline software from UNIX to Intel Processor which is the objective IMETS Light processor. | 537 | 3061 | 0 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Improve the Weather Feature application on the Common Tactical Picture (CTP). Continue enhancements to TAWS-A. Implement optimization ingest of artillery-met observations into IMETS forecasts. Develop and integrate improved IWEDA military weather effects database that can provide significantly improved weather support capability for Operation Enduring Freedom. The new IWEDA Rules cover: US Army and Air Force aviation systems and operational concepts, Special Operations Forces systems and operational concepts, Army Logistics/Combat Service Support systems and operations, as well as Afghan/Taliban threat systems. Implement automated mission inputs into IWEDA from ABCS digital OP-ORD information archived in the JCDB or other databases. Modify IMETS IWEDA and Contours client applications. Improve the ability for joint sharing of common meteorological forecasts, weather hazards/warnings and weather impact decision aids. Develop new prototype model for weather effects on illumination. | 927 | 300 | 0 | 0 |
| Conduct Security and JITC testing, combined DT/OT and Milestone C activities on Interim IMETS Light Configuration (LC). | 435 | 0 | 0 | 0 |
| Conduct Operational and Developmental testing on IMETS Light Objective and Command Post configurations. Conduct Intra-Army Interoperability and Joint Interoperability Test Command Certification testing; continue test and evaluation support to ABCS 7.0. | 0 | 0 | 1445 | 0 |
| Integrate and test required enhancements to the IMETS Weather Analysis Tool software in GCCS. This will include improving the GCCS tools to include EDAs capable of accessing NOWCAST databases hosted either on IMETS and/or Navy/AF weather centers. | 0 | 0 | 400 | 300 |
| Complete porting and integration of IMETS software to a laptop configuration with a PC (Intel) processor. | 0 | 0 | 700 | 0 |
| Complete development, integration and testing of the intitial IMETS NOWCAST capabilitywith the capability to ingest and fuse both conventional and non conventional battlefield observations and increase temporal /spatial resolution. Continue work to enhance the IMETS NOWCAST capability to ingest and fuse non-conventional battlefield observations (UAV/Mobile met sensors) and to increase temporal/spatial resolution. Integrate NOWCAST processing into IMETS Tactical Decision Aid client applications effectively creating a new class of decison aids called Execution Decison Aids (EDAs) in support of FCS Units of Action. Integrate a Joint Meteorological Standard 4-D database and common application interfaces to support surrent and future C4ISR systems. | 0 | 0 | 764 | 0 |
| DT/OT Continuous Evaluation testing of latest IMETS software baseline Conduct Intra-Army Interoperability and Joint Interoperability Test Command Certification testing; continue test and evaulation support to DCGS-A & FCS | 0 | 0 | 0 | 256 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Develop the capability to utilize high bandwidth Global Information Grid and the WIN-T communication technology to "reachback" into weather databases maintained at AF Operational Weather Squadrons and AF/Navy Weather Centers. The objective is to utilize emerging wide bandwidth tactical communications networks to relay battlefield observations to the rear in order to update tactical databases used to drive weather effects EDAs and TDAs. | 0 | 0 | 0 | 500 |
| Investigate and implement new remote sensing technologies and capabilities. Implement soil moisture, and snow cover overlays on the COP to support trafficability predictions. Investigate new sensing technologies to provide real-time film loops depicting the formation and the movement of fog and/or smoke and dust plumes over the battlefield. | 0 | 0 | 0 | 600 |
| Develop improvements to the Target Acquisition Weather software to include handling aerosols relevant to Army scenarios such as smoke and dust; improve handling of horizontal path scenarios; and increasing wavelength resolution in the visible to .5um. | 0 | 0 | 0 | 600 |
| Test the viability of implementing EDAs at the soldier level by utilizing wireless LAN technology and PDA type processors to "alert" the soldier when changing weather conditions are likely to impact the execution of their missions. The IMETS "Mission Watch" applications would monitor the IMETS NOWCAST database and immediately broadcast appropriate warnings to the soldier when significant changes occur. | 0 | 0 | 0 | 444 |
| Integrate and test the new standard meterological model (WRF) that the AF has mandated for use by the Army. The WRF model will replace the current AF standard meterological model (MM5) used in IMETS. | 0 | 0 | 0 | 600 |
| Totals | 1899 | 3361 | 3309 | 3300 |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604726A - Integrated Meteorological Support System** | **D85** |

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 1896 | 3417 | 3364 | 3356 |
| Current Budget (FY 2004/2005 PB) | 1899 | 3361 | 3309 | 3300 |
| Total Adjustments | 3 | -56 | -55 | -56 |
| Congressional program reductions | | | | |
| Congressional rescissions | | -37 | | |
| Congressional increases | | | | |
| Reprogrammings | 3 | -19 | | |
| SBIR/STTR Transfer | | | | |
| Adjustments to Budget Years | | | -55 | -56 |

| **C. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| OPA 2 - SSN: BW0021-IMETS | 2458 | 7034 | 9080 | 4831 | 4821 | 13189 | 8016 | 9331 | Continue | Continue |

**D. Acquisition Strategy:** The IMETS development program integrates efforts from the Air Force, Army, and OSD DII COE. It is consistent with the development of the C4I Joint Technical Architecture-Army. The IMETS Non Developmental Item acquisition strategy proved successful in the fielding of Block I IMETS and this strategy is being continued with the Block II program. Current improvement efforts are to incorporate new numerical weather prediction forecasts and products communicated from centralized Air Force Hubs to the individual IMETS. Weather tactical decision aid upgrades and updated forecaster aids are developed to include products from Air Force initiatives. IMETS data and applications are being made accessible to Battlefield Functional Area C4I systems as clients through weather database services within the IMETS; hosted on the ABCS Information Server (AIS) and/or through the Joint Common Data Base (JCDB). Application modules from the Army Research Laboratory will be integrated and fielded as an upgrade to the current software baseline. These include: improvements in generation and display of higher time resolution and higher spatially resolved weather forecast and effects information; inclusion of physics-based weather decision aids and models; development of more versatile weather databases that support a variety of service and allied weather forecast models and environmental databases; development of weather applications consistent with joint METOC data standards; development of weather remote-sensing products from meteorological satellites; and ingest of battlefield sensor data to augment initializing mesoscale forecasts. IMETS functionality has been ported to a laptop computer to respond to requirements for a lighter more flexible IMETS for the highly mobile units. Fielding decision for these Interim IMETS Lights was accomplished in 3QFY02.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604726A - Integrated Meteorological Support System**

PROJECT
**D85**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Product Integration Efforts | GSA Task Order | NGIT, Lakewood, Washington | 11403 | 1159 | 1-4Q | 909 | 1-4Q | 1900 | 1-4Q | Continue | Continue | 0 |
| b . Weather Applications SW Development and Integration | MIPR | ARL, White Sands Missile Range, NM | 5138 | 1643 | 1-4Q | 500 | 1-4Q | 700 | 1-4Q | Continue | Continue | 0 |
| c . ABCS SE&I | MIPR | PEOC3T, Fort Monmouth, NJ | 0 | 59 | 1Q | 0 | | 0 | | 0 | 59 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 16541 | 2861 | | 1409 | | 2600 | | Continue | Continue | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Documentation Coordination | MIPR | CECOM, Fort Monnouth, NJ | 1050 | 200 | 1Q | 200 | 1Q | 200 | 1Q | Continue | Continue | 0 |
| b . Program Management Support | MIPR | PMO Intel Fusion, Fort Belvoir, VA | 1292 | 200 | 1Q | 200 | 1Q | 200 | 1Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 2342 | 400 | | 400 | | 400 | | Continue | Continue | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604726A - Integrated Meteorological Support System**

PROJECT
**D85**

Remarks: MIPRs are used to pay for work by other government organizations and are issued incrementally contiguous with the fiscal year.

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Test and Evaluation Support to ABCS | MIPR | EPG, Ft. Huachuca, AZ | 639 | 100 | 1Q | 500 | 1Q | 300 | 1Q | Continue | Continue | 0 |
| b . Operational Testing | MIPR | ATEC, VA | 852 | 0 | | 700 | 1Q | 0 | | Continue | Continue | 0 |
| c . JITC and Intra-Army Interoperability Certification | MIPR | JITC/ Ft Huachuca, AZ and CTSF/Ft Hood, TX | 0 | 0 | | 300 | 1Q | 0 | | 0 | 300 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1491 | 100 | | 1500 | | 300 | | Continue | Continue | 0 |

Remarks: MIPRs are used to pay for work by other government organizations and are issued incrementally contiguous with the fiscal year.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604726A - Integrated Meteorological Support System**

PROJECT
**D85**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

Remarks: No management services are purchased.

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 20374 | 3361 | | 3309 | | 3300 | | Continue | Continue | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604726A - Integrated Meteorological Support System**

PROJECT
**D85**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Conduct development, integration and testing of enhanced weather applications into IMETS baseline | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Improve the Weather Feature Application on Common Tactical Picture (CTP). Enhancements to TAWS-A | 1-4Q | 1-4Q | | | | | | |
| Porting and integration of IMETS to a laptop configuration with a PC (Intel) processor | | | 1-4Q | | | | | |
| OT, DT, JITC, Intraoperability Testing on Objective IMETS Light and Command Post. Spt ABCS T&E | | | 1-4Q | | | | | |
| Integrate and test required enhancements to IMETS Weather Analysis Tool software in GCCS | | | 1-4Q | | | | | |
| Objective IMETS Light and Command Post Configurations MS C | | | 4Q | | | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604738A - JSIMS Core Program** | **J11** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| J11 | ALLIANCE EXECUTIVE DEVELOPMENT & INTEGRATION | 29758 | 19213 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 48971 |

**A. Mission Description and Budget Item Justification:** Joint Simulation System (JSIMS) was considered to be the next generation Modeling and Simulation tool to support training for Combatant Commanders, their components, Joint Task Force staffs, other Joint organizations, DoD agencies, and the Services. JSIMS and all partner programs have been revised to discontinue development in FY03.

| Accomplishments/Planned Program | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Initiated Software Development for the JSIMS Joint Models and C4I adaptor by the Joint Development Agent. | 6631 | 2613 | 0 | 0 |
| Initiated Test and Evaluation Activity Support. | 428 | 1625 | 0 | 0 |
| Initiated Research and development support services for JSIMS Integration. | 6134 | 4683 | 0 | 0 |
| Initiated Government engineering support services for JSIMS Integration. | 3200 | 4429 | 0 | 0 |
| Initiated Common Component Development as a functional component of JSIMS used by multiple JSIMS federates in order to accomplish individual Service and Joint training objectives. | 13365 | 5863 | 0 | 0 |
| Totals | 29758 | 19213 | 0 | 0 |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604738A - JSIMS Core Program** | **J11** |

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 30727 | 24230 | 27382 | 24033 |
| Current Budget (FY 2004/2005 PB) | 29758 | 19213 | 0 | 0 |
| Total Adjustments | -969 | -5017 | -27382 | -24033 |
| Congressional program reductions | | -4413 | | |
| Congressional rescissions | | -110 | | |
| Congressional increases | | | | |
| Reprogrammings | -151 | | | |
| SBIR/STTR Transfer | -818 | -494 | | |
| Adjustments to Budget Years | | | -27382 | -24033 |

JSIMS and all partner programs have been revised to discontinue development in FY03.

| **C. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| OMA - Joint Models and C4I Adaptor Maintenance for JSIMS by the Joint Development Agent. | 685 | 1260 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1945 |
| OMA - Common Component Maintenance for JSIMS software support. | 2151 | 3170 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5321 |
| OMA - Alliance Software Support Facility for Baseline Integration/Upgrades. | 4062 | 3861 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7923 |

**D. Acquisition Strategy:** Initiate an orderly close out of the program and determine any associated close out cost.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604738A - JSIMS Core Program**

PROJECT
**J11**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Software Development | CPAF | TRW, Orlando, FL | 6631 | 2613 | 1-4Q | 0 | | 0 | | 0 | 9244 | 9244 |
| b . Common Component Development | MIPR | Various | 13365 | 5863 | 1-3Q | 0 | | 0 | | 0 | 19228 | 20396 |
| | | | | | | | | | | | | |
| Subtotal: | | | 19996 | 8476 | | 0 | | 0 | | 0 | 28472 | 29640 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Systems R&D Development Support | IDIQ/T&M | Nations, Inc./BTG, Orlando, FL | 849 | 849 | 1Q | 0 | | 0 | | 0 | 1698 | 1698 |
| b . Systems R&D Development Support | FFRDC/CPFF | Mitre Corp., McLean, VA | 2915 | 2212 | 1Q | 0 | | 0 | | 0 | 5127 | 5127 |
| c . Government Engineering Support | MIPR | Various | 2469 | 2804 | 1-2Q | 0 | | 0 | | 0 | 5273 | 5273 |
| | | | | | | | | | | | | |
| Subtotal: | | | 6233 | 5865 | | 0 | | 0 | | 0 | 12098 | 12098 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604738A - JSIMS Core Program**

PROJECT
**J11**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Test & Evaluation | MIPR | OPTEVFOR, Norfolk, VA | 428 | 1625 | 1-4Q | 0 | | 0 | | 0 | 2053 | 2053 |
| | | | | | | | | | | | | |
| Subtotal: | | | 428 | 1625 | | 0 | | 0 | | 0 | 2053 | 2053 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Program Management Support | MIPR | Various | 2225 | 2432 | 1-4Q | 0 | | 0 | | 0 | 4657 | 4657 |
| b . Travel/Utilities/Misc. | MIPR | Navy, Orlando, FL | 876 | 815 | 1-4Q | 0 | | 0 | | 0 | 1691 | 1691 |
| | | | | | | | | | | | | |
| Subtotal: | | | 3101 | 3247 | | 0 | | 0 | | 0 | 6348 | 6348 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 29758 | 19213 | | 0 | | 0 | | 0 | 48971 | 50139 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604738A - JSIMS Core Program** | **J11** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Block 1 | | | | | | | | |
| Federation Integration Event 4 | 3Q | | | | | | | |
| Federation Integration Event 5 | 3-4Q | 1Q | | | | | | |
| Systems Test and Verison Release Milestone (version 1.0) | | 1Q | | | | | | |
| System Functional Assessment | 1Q | | | | | | | |
| DT/OT | 3-4Q | 1-4Q | | | | | | |

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

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604741A - Air Defense Command, Control and Intel - Eng**

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Program Element (PE) Cost | | 16669 | 27262 | 29297 | 32415 | 28035 | 21788 | 19786 | 20061 | 0 | 211170 |
| 126 | FAAD C2 ED | 5967 | 11520 | 15528 | 14230 | 16069 | 9962 | 7657 | 7760 | 0 | 96573 |
| 146 | AIR & MSL DEFENSE PLANNING CONTROL SYS (AMC PCS) | 10702 | 15742 | 13769 | 18185 | 11966 | 11826 | 12129 | 12301 | 0 | 114597 |

**A. Mission Description and Budget Item Justification:** The Air and Missile Defense Planning and Control System (AMDPCS) is the backbone of Army Air Defense through the Battle Management Command, Control, Communications, Computers and Intelligence (BM/C4I) capability it provides to Air Defense Artillery (ADA) Brigades at corps and echelons above corps (EAC), the Army Air and Missile Defense Command (AAMDC) headquarters, and joint force command and control elements, such as the Battlefield Coordination Detachment (BCD). The AMDPCS provides ADA Brigades with a fire control system via the Air Defense System Integrator (ADSI) for monitoring and controlling air battle engagement operations by subordinate battalions. ADSI will also provide the AAMDCs and the STRYKER Brigade Combat Teams (SBCTs) with an effective fire control system to display a single integrated air picture (SIAP) as part of the common operating picture (COP). The AMDPCS provides a common air and missile defense staff planning and battlespace situational awareness tool via the Air and Missile Defense Workstation (AMDWS) to achieve the common tactical and operational air picture. The AMDWS will be fielded to air and missile defense units at all echelons of command, battery through theater. AMDWS supports the Surface Launched Advanced Medium Range Air-to-Air Missile (SLAMRAAM) air defense system by providing an automated defense planning capability for deployed units. The Galaxy program (AMDWS derivative) has demonstrated the ability to support Homeland Defense Initiatives through the integration and coordination of civilian and military air traffic control data. The AMDPCS provides the Army Battle Command System (ABCS) architecture and the Army AMD Task Force (AMDTF) with Joint BM/C4I capability and the Army component of interoperable Joint Theater Air and Missile Defense (JTAMD) BM/C4I. The AMDPCS provides the netted and distributed architecture to enable units to execute Active Defense Operations, Passive Defense Operations, and Attack Operations among all levels of air defense units, to include operations with Army, joint and multinational forces. The AMDPCS supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

The Forward Area Air Defense Command, Control, and Intelligence (FAAD C2I) System provides continuously tailored situational awareness and situational understanding of the battlespace [including data on threat aircraft, cruise missiles and unmanned aerial vehicles (UAVs)] to support the planning and decision process at various levels of command. The mission is to collect, digitally process and disseminate real time target cueing and tracking information, common tactical air picture, and C2I information to all Short Range Air Defense (SHORAD) weapons [Avenger, Bradley Linebacker, Manportable Air Defense System (MANPADS), joint and combined arms]. Unique FAAD C2 software will provide this mission capability by integrating FAAD C2 engagement operations software with the Joint Digital Radio (JDR), Single Channel Ground and Airborne Radio System (SINCGARS), Enhanced Position Location Reporting System (EPLRS), Global Positioning System (GPS), Airborne Warning and Control System (AWACS), Sentinel and the Army Battle Command System (ABCS) architecture. Provides joint C2 interoperability and horizontal integration with PATRIOT, THAAD, MEADS, JLENS and SHORAD weapon systems by fusing sensor data to create a scalable and filterable single integrated air picture (SIAP) and common operating picture (COP) at Army

divisions and below. System software will provide target data and engagement commands/status to the Surface Launched Advanced Medium Range Air-to-Air Missile (SLAMRAAM) air defense system. FAAD C2 is the first system to digitize for Army Transformation in the First Digitized Division (FDD), III (Digitized) Corps, the Joint Contingency Force (JCF) and the STRYKER Brigade Combat Teams (SBCTs). The FAAD C2 netted and distributed system architecture has been briefed as the basis for a potential BM/C4I Future Combat System (FCS). The FAAD C2 system supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 17088 | 26978 | 26672 | 30812 |
| Current Budget (FY 2004/2005 PB) | 16669 | 27262 | 29297 | 32415 |
| Total Adjustments | -419 | 284 | 2625 | 1603 |
| Congressional program reductions | | | | |
| Congressional rescissions | | -497 | | |
| Congressional increases | | 1700 | | |
| Reprogrammings | 21 | -156 | | |
| SBIR/STTR Transfer | -440 | -763 | | |
| Adjustments to Budget Years | | | 2625 | 1603 |

FY04 and FY05 increases ($2.625M and $1.603M) attributed to additional developmental and test requirements for both Block III and AMDWS software.

| Schedule Profile Detail (R-4a Exhibit) | February 2003 |
|---|---|

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604741A - Air Defense Command, Control and Intel - Eng** | **0604741A** |

**Schedule Detail:** Not applicable for this item.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604741A - Air Defense Command, Control and Intel - Eng** | **126** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 126 FAAD C2 ED | 5967 | 11520 | 15528 | 14230 | 16069 | 9962 | 7657 | 7760 | 0 | 96573 |

**A. Mission Description and Budget Item Justification:** The Forward Area Air Defense Command, Control, and Intelligence (FAAD C2I) System provides continuously tailored situational awareness and situational understanding of the battlespace [including data on threat aircraft, cruise missiles and unmanned aerial vehicles (UAVs)] to support the planning and decision process at various levels of command. The mission is to collect, digitally process and disseminate real time target cueing and tracking information, common tactical air picture, and C2I information to all Short Range Air Defense (SHORAD) weapons [Avenger, Bradley Linebacker, Manportable Air Defense System (MANPADS), joint and combined arms]. Unique FAAD C2 software will provide this mission capability by integrating FAAD C2 engagement operations software with the Joint Digital Radio (JDR), Single Channel Ground and Airborne Radio System (SINCGARS), Enhanced Position Location Reporting System (EPLRS), Global Positioning System (GPS), Airborne Warning and Control System (AWACS), Sentinel and the Army Battle Command System (ABCS) architecture. Provides joint C2 interoperability and horizontal integration with PATRIOT, THAAD, MEADS, JLENS and SHORAD weapon systems by fusing sensor data to create a scalable and filterable single integrated air picture (SIAP) and common operating picture (COP) at Army divisions and below. System software will provide target data and engagement commands/status to the Surface Launched Advanced Medium Range Air-to-Air Missile (SLAMRAAM) air defense system. FAAD C2 is the first system to digitize for Army Transformation in the First Digitized Division (FDD), III (Digitized) Corps, the Joint Contingency Force (JCF) and the STRYKER Brigade Combat Teams (SBCTs). The FAAD C2 netted and distributed system architecture has been briefed as the basis for a potential BM/C4I Future Combat System (FCS). The FAAD C2 system supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Continue Block III software engineering and development for FDD DCX2, III (Digitized) Corps, SBCTs and SDD. | 4527 | 7636 | 9436 | 8531 |
| Continue ABCS, FBCB2 and Common Hardware/Software (CHS) integration and testing for Active and Reserve Army requirements; continue digitization integration for FDD, III (Digitized) Corps, Second Digitized Division (SDD) and SBCTs in support of Army Transformation and SW security accreditation. | 1440 | 3734 | 6092 | 5699 |
| Army Battle Command Systems (ABCS) SE&I | 0 | 150 | 0 | 0 |
| Totals | 5967 | 11520 | 15528 | 14230 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| OPA 2, AD5050 - FAAD C2 | 8823 | 24109 | 19474 | 12971 | 11210 | 15828 | 12687 | 14926 | Continuing | Continuing |
| Spares (BS9702) - FAAD C2 | 411 | 543 | 736 | 748 | 878 | 895 | 0 | 0 | Continuing | Continuing |

**C. Acquisition Strategy:** The acquisition strategy relies heavily on non-development items (NDI) and evolutionary software development to rapidly meet the demands of air defense battle management/command, control, communications, computers, and intelligence (BM/C4I) requirements, and to keep pace with automated information technologies. The concept of evolutionary software development is being followed and will be accomplished in Blocks I, II, III and IV. Blocks I and II have been completed. FAAD C2 Block III is currently being developed for both the Army's Active and Reserve components.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TIT LE
**0604741A - Air Defense Command, Control and Intel - Eng**

PROJECT
**126**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . TRW, BLK I | C/CPIF | Dominquez Hills, CA | 176461 | 0 | | 0 | | 0 | | 0 | 176461 | 0 |
| b . TRW, BLK II | SS/CPIF | Dominquez Hills, CA | 32206 | 0 | | 0 | | 0 | | 0 | 32206 | 0 |
| c . TRW, BLK III | SS/CPIF | Dominquez Hills, CA | 62230 | 7998 | 1Q | 10913 | 1Q | 9908 | 1Q | Continue | Continue | 0 |
| d . TRW | SS/T&M | Dominquez Hills, CA | 6891 | 310 | 1Q | 316 | 1Q | 321 | 1Q | Continue | Continue | 0 |
| e . Matrix | MIPR | Various | 9163 | 1611 | 2Q | 1643 | 2Q | 1675 | 2Q | Continue | Continue | 0 |
| f . Sentinel GBS | MIPR | Huntsville, AL | 3791 | 0 | | 0 | | 0 | | 0 | 3791 | 0 |
| g . JTIDS | MIPR | Ft. Monmouth, NJ | 6000 | 0 | | 0 | | 0 | | Continue | Continue | 0 |
| h . In-house/Govt Spt | Various | Various | 13505 | 566 | 2Q | 731 | 2Q | 745 | 2Q | Continue | Continue | 0 |
| i . ABCS SE&I | MIPR | Ft Monmouth, NJ | 196 | 150 | 1Q | 0 | | 0 | | 0 | 346 | 0 |
| j . Software Engineering | Various | Various | 11419 | 645 | 1-4Q | 1735 | 1-4Q | 1294 | 1-4Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 321862 | 11280 | | 15338 | | 13943 | | Continue | Continue | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604741A - Air Defense Command, Control and Intel - Eng**

PROJECT
**126**

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . ADATD | MIPR | Ft Bliss, TX | 10091 | 25 | 2Q | 50 | | 91 | | Continue | Continue | 0 |
| b . RTTC | MIPR | WSMR, NM | 2355 | 215 | 2Q | 140 | | 196 | | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 12446 | 240 | | 190 | | 287 | | Continue | Continue | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604741A - Air Defense Command, Control and Intel - Eng**

PROJECT
**126**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| Remarks: Not Applicable | | | | | | | | | | | | |
| Project Total Cost: | | | 334308 | 11520 | | 15528 | | 14230 | | Continue | Continue | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604741A - Air Defense Command, Control and Intel - Eng**

PROJECT
**126**

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Preliminary/Critical Design Review | | 1Q | | 3Q | | | | |
| System Certification Test | | 3Q | | | 4Q | | | |
| First Unit Equipped - Objective System | | | | | 3Q | | | |
| Contract Award, BLK IV | | | | | | 3Q | | |
| Preliminary/Critical Design Review, BLK IV | | | | | | | 3Q | 4Q |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604741A - Air Defense Command, Control and Intel - Eng** | **146** |

| | COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 146 | AIR & MSL DEFENSE PLANNING CONTROL SYS (AMC PCS) | 10702 | 15742 | 13769 | 18185 | 11966 | 11826 | 12129 | 12301 | 0 | 114597 |

**A. Mission Description and Budget Item Justification:** The Air and Missile Defense Planning and Control System (AMDPCS) is the backbone of Army Air Defense through the Battle Management Command, Control, Communications, Computers and Intelligence (BM/C4I) capability it provides to Air Defense Artillery Brigades at corps and echelons above corps (EAC), the Army Air and Missile Defense Command (AAMDC) headquarters, and joint force command and control elements, such as the Battlefield Coordination Detachment (BCD). The AMDPCS provides ADA Brigades with a fire control system via the Air Defense System Integrator (ADSI) for monitoring and controlling air battle engagement operations by subordinate battalions. ADSI will also provide the AAMDCs and the Stryker Brigade Combat Teams (SBCTs) with an effective fire control system to display a single integrated air picture (SIAP) as part of the common operating picture (COP). The AMDPCS provides a common air and missile defense staff planning and battlespace situational awareness tool via the Air and Missile Defense Workstation (AMDWS) to achieve the common tactical and operational air picture. The AMDWS will be fielded to air and missile defense units at all echelons of command, battery through theater. AMDWS supports the Surface Launched Advanced Medium Range Air-to-Air Missile (SLAMRAAM) air defense system by providing an automated defense planning capability for deployed units. The Galaxy program (AMDWS derivative) has demonstrated the ability to support Homeland Defense Initiatives through the integration and coordination of civilian and military air traffic control data. The AMDPCS provides the Army Battle Command System (ABCS) architecture and the Army AMD Task Force (AMDTF) with Joint BM/C4I capability and the Army component of interoperable Joint Theater Air and Missile Defense (JTAMD) BM/C4I. The AMDPCS provides the netted and distributed architecture to enable units to execute Active Defense Operations, Passive Defense Operations, and Attack Operations among all levels of air defense units, to include operations with Army, joint and multinational forces. The AMDPCS supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Continue AMDWS software engineering and development for FDD, III (Digitized) Corps, SDD, AMD family of systems, JTAMD family of systems (FOS), JTAMD FOS integration and development of AMDPCS Brigade Sheltered Subsystems for III Corps. | 5177 | 9290 | 8309 | 10970 |
| Continue ADSI software engineering and development for III (Digitized) Corps, SDD, AMD FOS, JTAMD FOS integration | 2395 | 2080 | 1820 | 2405 |
| Continue software systems certification testing; continue Army and Joint integration and interoperability assessments | 772 | 805 | 980 | 1295 |
| Continue AMDPCS sheltered subsystems configuration engineering, development, test and evaluation; SIAP concept and re-engineering. | 2151 | 3302 | 2660 | 3515 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| ABCS SE&I | 207 | 265 | 0 | 0 |
| Totals | 10702 | 15742 | 13769 | 18185 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| OPA, AD 5070 - AMDPCS | 10216 | 9487 | 8996 | 2918 | 3704 | 7383 | 10873 | 8275 | Continuing | Continuing |

**C. Acquisition Strategy:** The acquisition strategy relies on non-development items (NDI) and evolutionary software development to rapidly meet the demands of air defense battle management command, control, communications, computers, and intelligence (BM/C4I) requirements and to keep pace with automated information technologies. The concept of evolutionary software development will be accomplished in a series of AMDWS and ADSI Block releases and upgrades. AMDPCS is being developed for both the Army's Active and Reserve components.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604741A - Air Defense Command, Control and Intel - Eng**

PROJECT
**146**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . TRW | SS/CPIF | Huntsville, AL | 12588 | 8057 | 1Q | 7329 | 1Q | 10485 | 1Q | Continue | 38459 | 0 |
| b . APC, ADSI | SS/CPIF | Austin, TX | 2870 | 956 | 2Q | 800 | 1Q | 500 | 1Q | Continue | Continue | 0 |
| c . In-house Government Support | Various | Various | 3053 | 2037 | 2Q | 2011 | 2Q | 2654 | 2Q | Continue | Continue | 0 |
| d . MATRIX | MIPR | Various | 3476 | 2316 | 2Q | 1986 | 2Q | 2621 | 1Q | Continue | Continue | 0 |
| e . ABCS SE&I | MIPR | Ft Monmouth, NJ | 354 | 265 | 1Q | 0 | | 0 | | 0 | 619 | 0 |
| f . Software Engineering | Various | Various | 0 | 1877 | 2-3Q | 1444 | 2-3Q | 1662 | 2-3Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 22341 | 15508 | | 13570 | | 17922 | | Continue | Continue | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604741A - Air Defense Command, Control and Intel - Eng**

PROJECT
**146**

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Certification | MIPR | JITC, Ft Huachuca, AZ | 293 | 75 | 1Q | 64 | 1Q | 85 | 1Q | Continue | Continue | 0 |
| b . Interoperability Assessment | MIPR | Various | 324 | 159 | 1Q | 135 | 1Q | 178 | 1Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 617 | 234 | | 199 | | 263 | | Continue | Continue | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604741A - Air Defense Command, Control and Intel - Eng**

PROJECT
**146**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

Remarks: Not Applicable

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 22958 | 15742 | | 13769 | | 18185 | | Continue | Continue | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604741A - Air Defense Command, Control and Intel - Eng** | **146** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Systems Certification Testing - AMDWS/ADSI/AMDPCS | 4Q | 4Q | 4Q | | | 4Q | | 4Q |
| AMDWS Software Release | 3Q | 3Q | | 4Q | | 4Q | | 4Q |
| AMDWS Software Certification | 3-4Q | 3-4Q | | | 2-4Q | | | 2-4Q |
| ADSI Software Release | 3Q | | 3Q | | 3Q | | 3Q | |
| ADSI Software Certification | | 1-3Q | | 1-3Q | 3Q | 1-3Q | | 1-3Q |
| AMDPCS System-First Unit Equipped (ADA Brigade) | | 4Q | | | | | | |
| AMDPCS System -First Unit Equipped (AAMDC) | | | 4Q | | | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE |
|---|---|
| **5 - System Development and Demonstration** | **0604742A - CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| Total Program Element (PE) Cost | 64279 | 43813 | 16994 | 1155 | 1193 | 1180 | 1226 | 1252 | Continuing | 131092 |
| 361 INTELLIGENCE SIMULATION SYSTEMS | 4144 | 7152 | 2274 | 1155 | 1193 | 1180 | 1226 | 1252 | Continuing | 19576 |
| 362 WARFIGHTER SIMULATION | 60135 | 36661 | 14720 | 0 | 0 | 0 | 0 | 0 | 0 | 111516 |

**A. Mission Description and Budget Item Justification:** This program element funds the development of constructive and wargame simulations used to realistically train commanders and their battlestaffs on today's complex battlefield conditions. Project 361 funds the development of systems to train Army military intelligence analysts. In FY04/05, the funding continues and completes the initial operational capability development and test of the Intelligence Electronic Warfare Tactical Proficiency Trainer (IEWTPT), which will provide Battle Command training by creating a realistic intelligence information environment that is exploited and reported by Military Intelligence (MI) soldiers to battle commanders and staff. Project 362, Warfighters' Simulation (WARSIM) develops the Army's premier wargame simulation for training leaders and battlestaffs at Brigade, Division, Corps, and echelons above Corps. It also developed the Land component for the Joint Simulation System (JSIMS). WARSIM will provide functionality not currently available (digital operations, stability and support operations, information ops), link to unit organizational Command, Control, Communications, Computers and Integration (C4I) equipment, improve exercise generation and after-action reporting, and significantly reduce the number of role players required to support training exercises, thus reducing operational costs.

This system supports the Objective path of the Transformation Campaign Plan (TCP). These projects transferred in FY02 from PE 604715A, Projects 241 and 396.

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 65613 | 53294 | 31297 | 10691 |
| Current Budget (FY 2004/2005 PB) | 64279 | 43813 | 16994 | 1155 |
| Total Adjustments | -1334 | -9481 | -14303 | -9536 |
| Congressional program reductions | -9 | -8108 | | |
| Congressional rescissions | -321 | -252 | | |
| Congressional increases | | | | |
| Reprogrammings | 590 | | | |
| SBIR/STTR Transfer | -1594 | -1121 | | |
| Adjustments to Budget Years | | | -14303 | -9536 |

This Program Element was established and the program funding transferred from PE 0604715A, Projects 241 and 396 in FY02.

FY04/05: WARSIM funding after FY04 was realigned to higher Army priority objectives. The FY04 funding continues Army battlestaff training system development to provide effective, Title 10 compliant, training to improve readiness.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604742A - CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT** | **361** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 361 | INTELLIGENCE SIMULATION SYSTEMS | 4144 | 7152 | 2274 | 1155 | 1193 | 1180 | 1226 | 1252 | Continuing | 19576 |

**A. Mission Description and Budget Item Justification:** This project funds the development of systems to realistically train Army military intelligence analysts. The FY04/05 funding continues, completes development and tests the initial operational capability of the Intelligence Electronic Warfare Tactical Proficiency Trainer (IEWTPT). IEWTPT will provide Battle Command training by creating a realistic intelligence information environment that is exploited and reported by Military Intelligence (MI) soldiers to battle commanders and staff.

This system supports the Objective transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Continued development of IEWTPT. | 3198 | 5943 | 600 | 508 |
| Continues IEWTPT Program Management support | 487 | 667 | 512 | 302 |
| Continues IEWTPT Test planning and execution. | 261 | 318 | 922 | 200 |
| Continues IEWTPT Systems engineering, documentation, and Security accreditation and certification.IEWTPT Engineering Change Proposals. | 198 | 224 | 240 | 145 |
| Totals | 4144 | 7152 | 2274 | 1155 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| OPA3, Appropriation NA0100, Training Devices, Nonsystem | 118965 | 156434 | 165254 | 220612 | 152338 | 164005 | 178507 | 189803 | Continuing | Continuing |

**C. Acquisition Strategy:** Competitive development based on performance specifications.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604742A - CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT**

PROJECT
**361**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . IEWTPT System Dev & Demo | CPIF | Gen Dynamics Decision Systems, Orlando, FL | 6983 | 5943 | 1-3Q | 777 | 1-3Q | 652 | 1Q | Continue | 14355 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 6983 | 5943 | | 777 | | 652 | | Continue | 14355 | Continue |

Remarks: This program transferred from PE 604715A, Project D241 in FY02.

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . IEWTPT Engineering & Technical Support | Multiple | Various | 587 | 580 | 1-4Q | 227 | 1-4Q | 157 | 1-4Q | Continue | 1551 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 587 | 580 | | 227 | | 157 | | Continue | 1551 | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604742A - CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT**

PROJECT
**361**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . IEWTPT Development Test | Various | Multiple | 90 | 75 | 1Q | 130 | 1Q | 35 | 1Q | Continue | 330 | Continue |
| b . IEWTPT Operational Test | MIPR | ATEC | 87 | 125 | 2Q | 792 | 3Q | 165 | 2Q | 0 | 1169 | 0 |
| c . Test Engineering Support | MIPR | NAVAIR Orlando (was NAWC-TSD) | 84 | 118 | 1Q | 0 | | 0 | | 0 | 202 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 261 | 318 | | 922 | | 200 | | Continue | 1701 | Continue |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . IEWTPT Program Management | Various | Multiple | 413 | 311 | 1Q | 348 | 1Q | 146 | 1Q | Continue | 1218 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 413 | 311 | | 348 | | 146 | | Continue | 1218 | Continue |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 8244 | 7152 | | 2274 | | 1155 | | Continue | 18825 | Continue |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604742A - CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT**

PROJECT
**361**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| IEWTPT CONTRACT AWARD | 1Q | 1-3Q | 1Q | 1Q | 1Q | 1Q | | |
| IEWTPT Operational Test | | | 3Q | | | | | |
| IEWTPT Milestone C | | | 4Q | | | | | |
| IEWTPT Material Release | | | | 1Q | | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604742A - CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT** | **362** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 362 WARFIGHTER SIMULATION | 60135 | 36661 | 14720 | 0 | 0 | 0 | 0 | 0 | 0 | 111516 |

**A. Mission Description and Budget Item Justification:** This Project funds the development of Warfighter Simulation (WARSIM), the Army's premier wargaming simulation for training leaders and battlestaffs at Division, Corps, and echelons above Corps. WARSIM will interoperate with OneSAF and other simulations, so that a warfighter training exercise can represent in simulation all Army echelons. It also developed the Land component for the Joint Simulation System (JSIMS) and the Joint Tactical Intelligence Model for JSIMS Version 1. WARSIM will provide functionality not currently available (digital operations, stability and support operations, information ops), link to unit organic C4I equipment, improve exercise generation and after-action reporting. The FY04 funding continues the development of the Army training system, integration and system evaluation.

This system supports the Objective transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Completed the software development and integration of WARSIM to provide Joint training capability for JSIMS Version 1.0 and support of JSIMS user demonstration. Includes prime contract closeout activities. | 15493 | 10855 | 0 | 0 |
| Completes software development and integration of Joint Tactical Intelligence Model (JTIM) within JSIMS. | 6823 | 5382 | 0 | 0 |
| Verify and Validate software models | 378 | 823 | 535 | 0 |
| Develop and integrate JSIMS Common Component Work Station (CCWS) and system Technical Control improvements. | 6152 | 1560 | 0 | 0 |
| Continue the software development, integration and test of functionality to provide Army warfighter training capability. | 31289 | 13554 | 8765 | 0 |
| Develope user interface enhancements for Army training applications. | 0 | 2450 | 2710 | 0 |
| Develope and evaluate system performance and conduct system test events | 0 | 2037 | 2710 | 0 |
| Totals | 60135 | 36661 | 14720 | 0 |

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

**C. Acquisition Strategy:** Competitive development based on performance specifications.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604742A - CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT**

PROJECT
**362**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . JSIMS Land Component Systems Development | C/CPAF | Lockheed Martin Info Sys, Orlando FL | 35668 | 8920 | 1-3Q | 0 | | 0 | | 0 | 44588 | 0 |
| b . JTIM Systems Development | C/CPAF | Veridian Sys Solutions, Orlando FL | 6723 | 5696 | 1-3Q | 0 | | 0 | | 0 | 12419 | 0 |
| c . JSIMS CCWS and Tech Control | C/CPAF | Lockheed Martin Info Sys, Orlando | 7338 | 1256 | 1Q | 0 | | 0 | | 0 | 8594 | 0 |
| d . WARSIM Development of Army Training System | C/CPAF | Lcokheed Martin Info Sys, Orlando FL | 0 | 9320 | 2-3Q | 7443 | 1-3Q | 0 | | 0 | 16763 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 49729 | 25192 | | 7443 | | 0 | | 0 | 82364 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604742A - CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT**

PROJECT
**362**

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Engineering & Tech Spt | Multiple | Various | 2394 | 2714 | 1-4Q | 820 | 1-4Q | 0 | | 0 | 5928 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 2394 | 2714 | | 820 | | 0 | | 0 | 5928 | 0 |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Verification, Validation and Accreditation | Multiple | Various | 928 | 991 | 1-3Q | 480 | 1-3Q | 0 | | 0 | 2399 | Continue |
| b . WARSIM System Evaluation and Test | Multiple | Various | 2606 | 3472 | 1-2Q | 2342 | 1-3Q | 0 | | 0 | 8420 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 3534 | 4463 | | 2822 | | 0 | | 0 | 10819 | Continue |

Remarks: System evaluation and test includes WARSIM developmental and operational testing and support to JSIMS operational test and includes both government and contractor costs.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604742A - CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT**

PROJECT
**362**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Program Management | Multiple | Various | 4308 | 4048 | 1Q | 3470 | 1-4Q | 0 | | 0 | 11826 | 0 |
| b . Cost Analysis Support | T&M | Northrup Grumman-TASC, Orlando FL | 170 | 244 | 2-3Q | 165 | 2-3Q | 0 | | 0 | 579 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 4478 | 4292 | | 3635 | | 0 | | 0 | 12405 | 0 |
| Project Total Cost: | | | 60135 | 36661 | | 14720 | | 0 | | 0 | 111516 | Continue |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604742A - CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT** | **362** |

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Award WARSIM System Development Contract | 1-4Q | 1-3Q | 1-3Q | | | | | |
| Award JTIM System Development Contract | 1-3Q | 1-4Q | | | | | | |
| JSIMS Version 1.0 Release | | 1Q | | | | | | |
| Closeout JTIM Contract | | 4Q | | | | | | |
| WARSIM /JSIM joint functional assessment | 3Q | | | | | | | |

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

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604746A - Automatic Test Equipment Development**

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Program Element (PE) Cost | | 12751 | 12899 | 4634 | 4707 | 7540 | 7918 | 11101 | 11329 | Continuing | Continuing |
| L59 | DIAGNOST/EXPERT SYS DE | 4065 | 5220 | 3582 | 3564 | 5038 | 5295 | 7765 | 7925 | 0 | 44135 |
| L65 | TEST EQUIPMENT DEVELOPMENT | 940 | 936 | 1052 | 1143 | 2502 | 2623 | 3336 | 3404 | Continuing | Continuing |
| L66 | EMBEDDED DIAGNOSTICS/PROGNOSTICS DEVELOPMENT | 7746 | 6743 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20749 |

**A. Mission Description and Budget Item Justification:** This program element (PE) provides for the development and testing of calibration equipment, general-purpose test equipment, off-platform diagnostic/prognostic equipment, and embedded diagnostics technology and software to support the increasingly complex electronic weapon systems. The PE focuses on commercial state-of-the-art test technologies common to multiple weapon platforms; thereby, minimizing the cost of troubleshooting and maintenance in the field. The program also provides for the development and evolution of general-purpose automatic test/diagnostic equipment; the enhancements required to overcome existing deficiencies and voids in organic test and diagnostic capabilities which ensure the operational readiness, accuracy, and effectiveness of combat support systems.

This program also provides for the Army's participation in development of a Joint Service Automatic Test System (ATS) architecture (NxTest). The Joint Service system will preclude proliferation of Service-specific ATSs in a theater. The goal of NxTest is to reduce Department of Defense equipment, personnel, and funding burdens by allowing all Services' test program sets to execute on common test system architecture. The Next Generation Automatic Test System; i.e., Base Shop Test Facility(BSTF) (V) 6. The BSTF (V) 6 being developed will provide test capabilities for the current, interim, and future combat systems.

This program element further provides for the development of modular, reconfigurable automatic and semi-automatic systems to satisfy weapon system requirements, calibration and repair requirements for general-purpose test, measurement, and diagnostic equipment. The development of a rapidly deployable calibration set with emphasis on digital electronics and tailored to support Army field units is provided within this PE. The calibration set will alleviate deployability and survivability shortfalls in the current systems, and will with preplanned product improvement upgrade capabilities.

Also included in this PE are systems and artificial intelligence applications for the Army Diagnostics Improvement Program (ADIP) to support the horizontal technology integration of self-diagnostic technology in Army weapon systems. The goal of embedded diagnostics is to reduce the logistical burden and improve readiness through minimizing the need for external testers and to improve the troubleshooting abilities of soldiers in the field. This program is terminated in FY03.

These projects support the Legacy-to-Objective transition path of the Transformation Campaign Plan (TCP).

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 13174 | 11839 | 12274 | 10253 |
| Current Budget (FY 2004/2005 PB) | 12751 | 12899 | 4634 | 4707 |
| Total Adjustments | -423 | 1060 | -7640 | -5546 |
| Congressional program reductions | -4 | -209 | | |
| Congressional rescissions | | -73 | | |
| Congressional increases | | 1700 | | |
| Reprogrammings | -65 | | | |
| SBIR/STTR Transfer | -354 | -358 | | |
| Adjustments to Budget Years | | | -7640 | -5546 |

Funding reduced in FY04 and FY05 in project L66, Embedded Diagnostics/Prognostics Development supports other higher Army requirements.

FY03 funds reflect a Congressional Plus-Up of $1.7M for Project L59 to support Electro-Optic Test Facility (EOTF).

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604746A - Automatic Test Equipment Development** | **L59** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| L59 DIAGNOST/EXPERT SYS DE | 4065 | 5220 | 3582 | 3564 | 5038 | 5295 | 7765 | 7925 | 0 | 44135 |

**A. Mission Description and Budget Item Justification:** This project funds development of general-purpose automatic test/diagnostic equipment and system enhancements. These systems and equipment are required to overcome existing deficiencies and voids in organic test and diagnostic capabilities and to ensure operational readiness, accuracy, and effectiveness for weapon and combat support systems. Currently being developed is the Next Generation Automatic Test System; i.e., Base Shop Test Facility (BSTF) (V) 6. The BSTF (V) 6 which will provide test capabilities for the current, interim, and future combat systems. This project provides: 1) the improvement of general-purpose automatic test equipment to meet the new Army systems' testing and technological requirements; 2) market surveys of commercially available test equipment, methods, and procedures to determine applicability to Army requirements; 3) the development and validation of test and diagnostic software; and 4) the Army's participation in the Joint Services NxTest Technical Working Group.

The project supports the Legacy-to-Objective transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Evaluated hardware enhancements for Electro-Optic Test Facility (EOTF). | 525 | 0 | 0 | 0 |
| Evaluate new electro-optic technologies for the Integrated Family of Test Equipment (IFTE). | 474 | 303 | 200 | 207 |
| Develop and evaluate new software applications for the IFTE. | 874 | 689 | 605 | 625 |
| Provide prototype development of a more rapidly deployable automatic test system. | 762 | 4228 | 0 | 0 |
| Conduct Next Generation Automatic Test System testing. | 0 | 0 | 2777 | 2732 |
| Conducted Electro-Optics Test Facility Customer Test. | 1430 | 0 | 0 | 0 |
| Totals | 4065 | 5220 | 3582 | 3564 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| OPA3, MB4000, Integrated Family of Test Equipment (IFTE) | 64970 | 66254 | 27952 | 22477 | 41956 | 57204 | 115155 | 132101 | Continuing | Continuing |

**C. Acquisition Strategy:** When the necessary expertise and capability are available within the Department of Defense (DoD), services required for the individual developmental projects are ordered from the government source; otherwise, commercial contracts are used. Equipment required for developmental projects is obtained by contract from the commercial supplier. Developmental efforts for Electro-Optics Test Facility preplanned product improvement are being completed under a sole source contract awarded to the prime contractor for the system. This developmental effort consists of cooperative in-house and competitive contractual action.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604746A - Automatic Test Equipment Development**

PROJECT
**L59**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Systems Engineering - ADIP Electro Optic Test Fac (EOTS) | SS/CPFF | Northrop Grumman, Rolling Meadows, IL | 4365 | 4229 | 2-3Q | 2963 | 1-2Q | 2932 | 2Q | Continue | Continue | 0 |
| b . Software Development ADIP - EOTS | SS/CPFF | Northrop Grumman, Rolling Meadows, IL | 2147 | 0 | | 0 | | 0 | | 0 | 2147 | 0 |
| c . Systems Engineering ADIP - EOTS | Various | Various | 37067 | 0 | | 0 | | 0 | | 0 | 37067 | 0 |
| d . Software Development - ADIP - EOTS | Various | Various | 24923 | 0 | | 0 | | 0 | | 0 | 24923 | 0 |
| e . Government Engineering - ADIP - EOTS | Various | Various | 7966 | 597 | 2Q | 225 | 1-2Q | 227 | 1-3Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 76468 | 4826 | | 3188 | | 3159 | | Continue | Continue | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604746A - Automatic Test Equipment Development**

PROJECT
**L59**

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Contractor Technical Services - EOTS | Various | Various | 1167 | 105 | 1-2Q | 112 | 1-2Q | 116 | 1-2Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1167 | 105 | | 112 | | 116 | | Continue | Continue | 0 |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Electro-Optic Test Facility Customer Test | Various | Various | 1430 | 0 | | 0 | | 0 | | 0 | 1430 | 0 |
| b . Next Generation Automatic Test System Test | Various | Various | 481 | 0 | | 0 | | 0 | | 0 | 481 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1911 | 0 | | 0 | | 0 | | 0 | 1911 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604746A - Automatic Test Equipment Development**

PROJECT
**L59**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Program Management Personnel | Various | Various | 7565 | 289 | 1-4Q | 282 | 1-4Q | 289 | 1-4Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 7565 | 289 | | 282 | | 289 | | Continue | Continue | 0 |
| Project Total Cost: | | | 87111 | 5220 | | 3582 | | 3564 | | Continue | Continue | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604746A - Automatic Test Equipment Development** | **L59** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Complete Electro-Optic Test Facility (EOTF) Customer Test | 3-4Q | | | | | | | |
| EOTF Type Classification-Standard/Materiel Release Approval | | 4Q | | | | | | |
| EOTF Initial Operational Capability | | | 1-3Q | | | | | |
| Next Generation Automatic Test System Prototype Development | 4Q | 1-4Q | 2-3Q | 1-4Q | 1-4Q | | | |
| Next Generation Automatic Test System Tesing | | | | | 3-4Q | | | |
| Next Generation Automatic Test System Milestone C | | | | | | 4Q | | |
| Software Development and evaluation for Next Generation Electro-Optic Test Set | | | | | | | 1-4Q | 1-4Q |

NOTE: The Base Shop Test Facility (BSTF) (V)6 will replace Direct Support Electrical System Test Set (DSESTS) and BSTF (V) 3.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604746A - Automatic Test Equipment Development** | **L65** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| L65 TEST EQUIPMENT DEVELOPMENT | 940 | 936 | 1052 | 1143 | 2502 | 2623 | 3336 | 3404 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This project funds development and demostration of the next generation calibration equipment and Calibration Set 2000 (CALSET 2000)system enhancements. The CALSET 2000 rapidly deployable calibration set is required to overcome existing deficiencies and voids in organic calibration and repair capabilities and to ensure the operational readiness, accuracy, and effectiveness of the weapon and combat support systems. The CALSET 2000 and the preplanned product improvements (P3I) developed under this project will employ reconfigurable open electronics architecture and computer-based calibration instrumentation wherever feasible, and will be housed in transport configurations to allow airlift via C-141/C-130 aircraft. This project also supports: studies, market research, inventory analyses, bid sample testing, prototyping, test measurement, and diagnostic equipment (TMDE) and calibration standards acquisitions. The project provides 1) improvement of the CALSET 2000 performance envelope via P3I to meet systems testing and technological requirements; 2) the development and validation of calibration software; 3) evaluation of commercial and nondevelopmental TMDE with potential to meet weapon system maintenance requirements; and 4) evaluate higher reliability, open architecture electronics test and calibration equipment.

This project supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Continued development and testing of laser torque calibrator prototype. | 100 | 0 | 0 | 0 |
| Develop hardware via preplanned product improvements for the CALSET 2000 to enhance performance envelope. | 574 | 488 | 310 | 323 |
| Test hardware developed for the preplanned product improvements for the CALSET 2000. | 80 | 98 | 115 | 115 |
| Integrate hardware developed via preplanned product improvements into the CALSET 2000. | 0 | 100 | 100 | 100 |
| Initiate study and development of enhanced diagnostic repair capability, build prototype, test, and integration of the Echelon Above Corp Calibration Set. | 0 | 50 | 150 | 190 |
| Develop and evaluate calibration software. | 56 | 70 | 72 | 50 |
| Develop prototype of Gas Mask Calibration system. | 0 | 0 | 155 | 175 |
| Perform market research and evaluation of commercial equipment and develop performance specifications for acquisitions. | 130 | 130 | 150 | 190 |
| Totals | 940 | 936 | 1052 | 1143 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| OPA3, N10000, Calibration Sets Equipment | 15819 | 15924 | 18304 | 18163 | 19588 | 20099 | 19487 | 19760 | Continuing | Continuing |
| OPA3, N11000, Test Equipment Modernization | 15387 | 16328 | 14718 | 15105 | 14380 | 20488 | 21598 | 21577 | Continuing | Continuing |

**C. Acquisition Strategy:** Projects are focused on use of commercial and nondevelopmental item technologies. When expertise and capability are available within the Department of Defense, services required for the individual development projects are ordered from the government source; otherwise, commercial contracts are used. Equipment required for development projects is obtained from the commercial supplier. Candidate commercial equipment and nondevelopmental items are identified and evaluated through market research and government testing and evaluation.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604746A - Automatic Test Equipment Development**

PROJECT
**L65**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Systems Engineering - Calibration Sets Eq, (CAL Sets) | Various | Various | 4632 | 411 | 1-2Q | 502 | 1-2Q | 605 | 1-2Q | Continue | Continue | 0 |
| b . Software Development and Evaluation - Calibration Sets Eq, (CAL Sets) | Various | Various | 1738 | 70 | 2Q | 72 | 2Q | 50 | 1-3Q | Continue | Continue | 0 |
| c . Government Engineering - Calibration Sets Eq, (CAL Sets) | Various | Various | 912 | 128 | 1-4Q | 130 | 1-4Q | 133 | 1-4Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 7282 | 609 | | 704 | | 788 | | Continue | Continue | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604746A - Automatic Test Equipment Development**

PROJECT
**L65**

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Technical Support Services | Various | Various | 438 | 100 | 2Q | 103 | 2Q | 107 | 2Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 438 | 100 | | 103 | | 107 | | Continue | Continue | 0 |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Testing | Various | Various | 662 | 98 | 1-2Q | 115 | 1-2Q | 115 | 1-2Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 662 | 98 | | 115 | | 115 | | Continue | Continue | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604746A - Automatic Test Equipment Development**

PROJECT
**L65**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Program Management Personnel | Various | Various | 125 | 129 | 1-4Q | 130 | 1-4Q | 133 | 1-4Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 125 | 129 | | 130 | | 133 | | Continue | Continue | 0 |
| Project Total Cost: | | | 8507 | 936 | | 1052 | | 1143 | | Continue | Continue | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604746A - Automatic Test Equipment Development** | **L65** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| CALSET 2000 Initial Operational Capability | | 1Q | | | | | | |
| CALSET 2000 Preplanned Product Improvements - Development | 2-3Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| CALSET 2000 Preplanned Product Improvements - Testing | 3Q | 1-2Q | 1-3Q | 1-3Q | 1-3Q | 1-3Q | 1-3Q | 1-3Q |
| CALSET 2000 Preplanned Product Improvements - Integration | | 3-4Q | 3-4Q | 3-4Q | 3-4Q | 3-4Q | 3-4Q | 3-4Q |
| Echelon Above Corps Cal Set - begin development | | 3Q | | | | | | |
| Echelon Above Corps Cal Set - Testing | | | | | 1Q | | | |
| Echelon Above Corps - Milestone C | | | | | | 2Q | | |
| Echelon Above Corps - Initial Operational Capability | | | | | | | 2Q | |
| Reference Level Gas Mask Calibration System - Development Completed | | | | 4Q | | | | |
| Reference Level Gas Mask Calibration System - Testing | | | | | 1Q | | | |
| Market research and evaluation of commercial equipment, development of performance specifications | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |

This is a continuing program of developmental activities to provide a means for satisfying test and diagnostic support requirements of Army weapons and support systems. It consists of a number of similar and related efforts, many of which do not entail distinct major milestones. Major milestones for the CALSET 2000 Calibration Set, Echelon Above Corps Calibration Set, and Gas Mask Calibration System being developed under this project are shown in the table above.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604746A - Automatic Test Equipment Development** | **L66** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| L66 | EMBEDDED DIAGNOSTICS/PROGNOSTICS DEVELOPMENT | 7746 | 6743 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20749 |

**A. Mission Description and Budget Item Justification:** This project funds the development and demostration efforts of the Army Diagnostics Improvement Program (ADIP). The ADIP has two main thrusts: 1) support embedded diagnostics for interim and objective force Army platforms, 2) and develop a prognostic capability through an anticipatory maintenance system. ADIP develops and tests common procedures, software applications, and hardware devices that can be embedded in weapon systems. Included in this effort is a common Health and Usage Monitoring System (HUMS) for Army helicopters. A similar system is being explored for ground-based systems. The ADIP system will be terminated ending in FY03.

This project supports the Legacy-to-Objective transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Completed Health and Usage Monitoring System (HUMS) software functional integration test | 1310 | 0 | 0 | 0 |
| Tested UH-60L engine HUMS software and complete UH-60L environmental testing. | 70 | 0 | 0 | 0 |
| Begin and continue demonstration of Digital Source Collector (DSC) on UH-60L and CH-47D. | 2809 | 2903 | 0 | 0 |
| Adapt and test the ADIP (embedded) diagnostics for Paladin. | 130 | 0 | 0 | 0 |
| Continue evaluation of predictive maintenance operating capability for Brigade Combat Team ground vehicles. | 2142 | 2213 | 0 | 0 |
| Continue helicopter-based anticipatory data collection and data analysis. | 990 | 1327 | 0 | 0 |
| Continue investigation ADIP of (new embedded diagnostics technologies) and their application to Army systems. | 295 | 300 | 0 | 0 |
| Totals | 7746 | 6743 | 0 | 0 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| OPA3, N11400, Army Diagnostics Improvement Program | 15447 | 7766 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23213 |

**C. Acquisition Strategy:** When the necessary expertise and capability are available within the Department of Defense, services required for the individual initiatives under this project will be ordered from the government source; otherwise, existing or new commercial contracts will be used. Equipment required for developmental projects will be obtained by contract from the commercial supplier. Candidate equipment and maintenance methods will be identified and evaluated through market research and government testing and evaluation.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604746A - Automatic Test Equipment Development**

PROJECT
**L66**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Systems Engineering | Various | Various | 3982 | 1939 | 1-2Q | 0 | | 0 | | 0 | 5921 | 0 |
| b . Software Development/ Engineering | Various | Various | 5160 | 1968 | 1-2Q | 0 | | 0 | | 0 | 7128 | 0 |
| c . Government Engineering | Various | Various | 989 | 402 | 1-2Q | 0 | | 0 | | 0 | 1391 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 10131 | 4309 | | 0 | | 0 | | 0 | 14440 | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Contractor Technical Services | Various | Various | 292 | 425 | 1-4Q | 0 | | 0 | | 0 | 717 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 292 | 425 | | 0 | | 0 | | 0 | 717 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604746A - Automatic Test Equipment Development**

PROJECT
**L66**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Digital Source Collector Demonstration | Various | Various | 1197 | 1652 | 2-4Q | 0 | | 0 | | 0 | 2849 | 0 |
| b . Paladin Embedded Diagnostics Test | Various | Various | 130 | 0 | | 0 | | 0 | | 0 | 130 | 0 |
| c . Health and Usage Monitoring System Test | Various | Various | 1530 | 0 | | 0 | | 0 | | 0 | 1530 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 2857 | 1652 | | 0 | | 0 | | 0 | 4509 | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Program Management Personnel & Support | Various | Various | 630 | 357 | 1-4Q | 0 | | 0 | | 0 | 987 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 630 | 357 | | 0 | | 0 | | 0 | 987 | 0 |
| Project Total Cost: | | | 13910 | 6743 | | 0 | | 0 | | 0 | 20653 | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604746A - Automatic Test Equipment Development** | **L66** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Digital Source Collector UH-60L and CH-47D Demonstrations | | 3-4Q | | | | | | |
| ADIP - Paladin Embedded Diagnostics Test | | 4Q | | | | | | |

Stryker Brigade Combat Team (SBCT) platforms, Stryker, Family of Medium Tactical Vehicles (FMTV), Heavy Expanded Mobility Tactical Truck(HEMTT), and High Mobility Multipurpose Wheeled Vehicle (HMMWV), plan to utilize ADIP embedded diagnostics software and prototype hardware as part of an demonstration effort which will begin in FY03.

Persue helicoper-based anticipatory data collection and data analysis to fine-tune the functionality and efficiencies of the Digital Source Collector Health and Usage Monitoring System (DSC HUMS) for the FY03 UH-60L and CH-47D demonstrations.

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

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604760A - Distributive Interactive Simulations (DIS) - Engin**

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Program Element (PE) Cost | | 21333 | 18128 | 26358 | 20567 | 24421 | 22951 | 24444 | 22264 | Continuing | Continuing |
| C73 | SYNTHETIC THEATER OF WAR | 1765 | 1834 | 1344 | 1499 | 1548 | 1597 | 1810 | 1996 | 0 | 14468 |
| C74 | DEVEL SIMULATION TECH | 2383 | 185 | 5248 | 5344 | 5074 | 5141 | 5251 | 5762 | 0 | 37602 |
| C77 | INTERACTIVE SIMULATION | 3162 | 0 | 0 | 0 | 1147 | 230 | 1148 | 1129 | Continuing | Continuing |
| C78 | COMPUTER GENERATED FORCES | 14023 | 16109 | 19766 | 13724 | 16652 | 15983 | 16235 | 13377 | 0 | 140481 |

**A. Mission Description and Budget Item Justification:** This program element supports the Army's Advanced Simulation Program to enable operational readiness and support the development of concepts and systems for Objective and Interim Force through the application of new simulation technology and techniques. This development and application of simulation technology will provide the tools to electronically link all subcomponents together in a manner that is transparent to the user. The synthetic environment is used to verify the scenarios, tactics/techniques and procedures, train testers on new hardware/software and conduct trial test runs before costly live field tests. The tools developed are available for reuse by developers and users of simulations throughout the Army. Project C73, Synthetic Theater of War-Army (STOW-A), provides innovative applications of legacy systems (live, virtual and constructive, Command, Control, Communications, Computers and Integration (C4I) Surveillance and Reconnaissance) to meet the urgent training requirements until availability of the next generation systems. STOW-A provides direct support to the Training, Exercises and Military Operations (TEMO) domain and the Advanced Concepts Requirements (ACR) domain. TEMO support derives from the demonstrated, low cost training capabilities that are provided by the toolkit. ACR support derives from the demonstrated capability of the kit to support battle lab and Army Warfighting Experiments (AWE) exercises and the development of Tactics, Techniques and Procedures (TTP) to support digital operations. Project C74 provides the resources necessary to perform the formally chartered mission of the Army's Simulation to C4ISR Interoperability Overarching Integrated Product Team (SIMCI OIPT). Project C77, Interactive Simulation, focuses on development of advanced simulation technology and tools to provide a reusable synthetic environment. This program will benefit the Army and DOD by providing standards for interoperability and software. The project also develops and enhances reconfigurable simulators which are used as Advanced Concepts Research Tools (ACRT) that will allow the battlelabs to accomplish their mission in support of the ACR, Research, Development and Acquisition (RDA), and TEMO domains. Project C78 develops the One Semi-Automated Forces (OneSAF) program that will combine and improve the functionality and improve behaviors of several current semi-automated forces to provide a single SAF for Army use in simulations.

The FY04/05 STOW-A, C73 project line will continue the development of the software to link entity-based simulations and simulators to live tactical command and control systems and incorporate live simulations through the instrumented operating systems at the Combat Training Centers (CTCs). The FY04/05, Developmental Simulation Technology, C74 Project line provides for Simulation-to-C4I interoperability (SIMCI) effort between the models and simulations and tactical C4I Systems. The FY04/05 Computer Generated Forces, C78 Project funding will continue development of the software to provide OneSAF initial operational capability functionality for Army evaluation and test.

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

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604760A - Distributive Interactive Simulations (DIS) - Engin**

This program line supports the Interim, Objective and Legacy-to-Objective transition paths of the Transformation Campaign Plan (TCP).

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 20975 | 21487 | 21190 | 14808 |
| Current Budget (FY 2004/2005 PB) | 21333 | 18128 | 26358 | 20567 |
| Total Adjustments | 358 | -3359 | 5168 | 5759 |
| Congressional program reductions | | -2769 | | |
| Congressional rescissions | | -105 | | |
| Congressional increases | | | | |
| Reprogrammings | 919 | | | |
| SBIR/STTR Transfer | -561 | -485 | | |
| Adjustments to Budget Years | | | 5168 | 5759 |

FY04/05 funding increases to project DC74 provide for Simulation-to-C4I interoperability (SIMCI) effort between the models and simulations and tactical C4I Systems.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604760A - Distributive Interactive Simulations (DIS) - Engin** | **C73** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| C73 SYNTHETIC THEATER OF WAR | 1765 | 1834 | 1344 | 1499 | 1548 | 1597 | 1810 | 1996 | 0 | 14468 |

**A. Mission Description and Budget Item Justification:** This program supports development and integration activities for the Synthetic Theater Of War-Army (STOW-A) Digital Sustainment Training (DST) software baseline that includes integration of fielded simulations and simulators with C4ISR systems. The development and integration to be accomplished will result in the capability to provide a seamless synthetic environment which will support digital training, test and mission rehearsal requirements. Specific efforts will include integration of a ground maneuver simulation into the Fire Support Simulation Tools (FSST) architecture and enhancement of the extant intelligence capability of FSST. Additionally, better representation and fidelity of other battlefield operating systems functionality will be gained. Development focuses on leveraging existing and emerging technology in a manner that produces substantial and continual improvements in combat readiness through the use of full spectrum, high fidelity, distributed simulation capability to support a large scale user-based exercise/experiment for JOINT VENTURE training and analytical needs. The Digital Battlefield Sustainment Trainer (DBST) program is a strategic agility program designed to meet the Operational Needs and other critical initiatives from the field. It will do this through the application of available legacy and emerging technologies. This project develops innovative applications of legacy systems (live, virtual, constructive, C4ISR) to meet urgent needs across the domains (e.g., training shortfalls) until the next-generation systems are available. The FY04/05 funding will continue development of software and hardware interfaces to provide the required digital training capability to the field, helping to overcome unique digital training challenges that currently exist in the U.S. Army at the brigade level. This project supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Develop the software to link entity-based simulations and simulators to live tactical command and control systems. | 648 | 564 | 551 | 366 |
| Incorporated live simulations through the instrumented operating systems at the Combat Training Centers (CTCs). | 513 | 0 | 0 | 0 |
| Develop software to support Joint Venture and Joint Contingency Force Simulation - Simulation Integration. | 159 | 294 | 291 | 294 |
| Continue development and integrations of High Level Architecture(HLA) protocols. | 393 | 0 | 0 | 0 |
| Verification and validation of software integration to include DOD Information Technology Security Certification and Accreditation Process (DITSCAP). | 52 | 260 | 100 | 100 |
| Design, develop and install system linkages between live simulations through the instrumented operating systems at the Homestations. | 0 | 716 | 0 | 0 |
| Installation/Fielding and integration of the Stryker Brigade Combat Team(SBCT) M&S architecture at all transforming brigade sites. | 0 | 0 | 402 | 739 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Totals | 1765 | 1834 | 1344 | 1499 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| OPA3, KA6000, Reconfig Simulators | 363 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 363 |
| OMA, 121014 | 1070 | 1130 | 1938 | 2919 | 2570 | 2594 | 2619 | 2645 | Continuing | Continuing |

**C. Acquisition Strategy:** Development is accomplished through delivery orders to competitively selected contractors based on performance specifications via STRICOM Ominbus Contract (STOC) and General Services Administration (GSA) contracts.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604760A - Distributive Interactive Simulations (DIS) - Engin**

PROJECT
**C73**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Enhanced Tactical Simulation Interface Unit(ETSIU)/Enhanced Protocal Interface Unit(EPIU) Interface | C/CPFF | AEGIS, Orlando, FL | 2603 | 276 | 1-2Q | 263 | 1-2Q | 258 | 1-2Q | Continue | 3400 | Continue |
| b . STOW-A/DBST Software Development | Various | Multiple | 6487 | 303 | 1Q | 264 | 1-2Q | 228 | 1-2Q | Continue | 7282 | Continue |
| c . Architecture Development | C/CPIF | Multiple | 511 | 247 | 1Q | 210 | 1-2Q | 208 | 1-2Q | Continue | 1176 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 9601 | 826 | | 737 | | 694 | | Continue | 11858 | Continue |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Engr & Technical Support | Various | Multiple | 1744 | 260 | 1Q | 165 | 1Q | 209 | 1Q | Continue | 2378 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 1744 | 260 | | 165 | | 209 | | Continue | 2378 | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604760A - Distributive Interactive Simulations (DIS) - Engin**

PROJECT
**C73**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . DBST Integration, evaluation and test | C/CPFF | Multiple | 1164 | 353 | 1-3Q | 143 | 1-3Q | 297 | 1-3Q | Continue | 1957 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 1164 | 353 | | 143 | | 297 | | Continue | 1957 | Continue |

Remarks: Required for evaluation of annual version release. There are system tasks that are peformed as part of the annual version release.

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Program Management | Various | Multiple | 2825 | 395 | 1-4Q | 299 | 1-4Q | 299 | 1-4Q | Continue | 3818 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 2825 | 395 | | 299 | | 299 | | Continue | 3818 | Continue |
| Project Total Cost: | | | 15334 | 1834 | | 1344 | | 1499 | | Continue | 20011 | Continue |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604760A - Distributive Interactive Simulations (DIS) - Engin** | **C73** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Award Engineering & Technical Support | 1Q | 1-2Q | 1-2Q | 1-2Q | 1-2Q | 1-2Q | 1-2Q | 1-2Q |
| Annual SW Version Release | 3Q | 3Q | 3Q | 3Q | 3Q | 3Q | 3Q | 3Q |
| Award Architecture Development contract | 2Q | | | | | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604760A - Distributive Interactive Simulations (DIS) - Engin** | **C74** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C74 | DEVEL SIMULATION TECH | 2383 | 185 | 5248 | 5344 | 5074 | 5141 | 5251 | 5762 | 0 | 37602 |

**A. Mission Description and Budget Item Justification:** This funding in this project line will support Simulation to C4I Interoperability's (SIMCI) mission to improve interoperability (horizontally and vertically) between model and simulation and C4I systems to provide Objective Force capability while reducing the cost and burden associated with the production and maintenance of traditional interfaces simulation/stimulation interfaces to Tactical Command and Control. The mission is to enable Modeling and Simulation to support Future Combat System (FCS) Milestone B and Milestone C, Army Knowledge Enterprise Architecture (AKEA) requirements, and provide adequate resources to support Software Blocking.

Interoperability is the ability of systems, units, or forces to provide data, information, materiel, and services to and accept the same from other systems, units, or forces, and to use the data, information, materiel, and services that are exchanged to enable them to operate effectively together.

SIMCI's requirement is to tie interoperability and top level warfighter tasks to the Objective Force to enable the soldier to train while at the institution, at homestation, at the Combat Training Centers, or at a deployed location with a fully integrated and interoperable training environment. To do this requires the development and distribution of SIMCI solutions for design and utilization of common components for the Army Battle Command System (ABCS) which is essential for Army Transformation.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Develop and manage the Simulation-to-C4I interoperability (SIMCI) initiatives between the models and simulations (M&S) and tactical C4I Systems. Conducts studies to align the Army's operational, systems, and technical architectures to define and enable interoperable solutions between the M&S and the C4I community. Provide Army level synchronization of SIMCI-related initiatives (development, configuration, management, certification, and distribution). Developed an M&S data model to align the Army's integrated core data model. Provided recommendations on DA level policy to improve interoperability between M&S and tactical C4I systems. Managed the SIMCI efforts between the M&S and tactical C4I systems (2 work years FY 03, 3 work years each FY 04/05). Provided ABCS Software License management to all SIMCI related programs. Provided architectural support and effective liaison to PM Future Combat Systems (FCS), DMSO, DISA and other Services. Collaborated on the stand up of a fully enabled and feature rich SIMCI Requirements Synchronization & Assessment Enterprise Tool Set (RS&A ETS). | 2383 | 185 | 319 | 328 |
| Provides SIMCI support of the OIPT's approach to interoperability which includes architecture alignment, data model alignment, promotion of common standards & the development, baseline control & distribution of common interoperability. Objectives are: to develop components for existing C4ISR simulation systems in developing interfaces with the Joint Common Database (JCDB), conduct experimentation with Battle Management Language (BML) Prototype, develop specification for a standard interface to facilitate interoperability between communications effects simulations and C4I systems, develop a SIMCI Component Architecture to provide seamless interoperability between ABCS and Army M&S components, facilitate a Defense Information Infrastructure – Common Operating Environment (DII COE) capability suitable for ABCS C4I and Embedded Simulation Systems, and align with Software Blocking Policy. | 0 | 0 | 4929 | 5016 |
| Totals | 2383 | 185 | 5248 | 5344 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| OPA3, KA6000, Reconfigurable Simulators | 363 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 363 |
| OMA,121014, C4I Simulation Interoperability | 2071 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Continuing | Continuing |

**C. Acquisition Strategy:** Resources are allocated to execute approved functions and projects. SIMCI OIPT resources are leveraged against other program funding to encourage or enable the funded program to implement the approved SIMCI initiative or capability.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604760A - Distributive Interactive Simulations (DIS) - Engin**

PROJECT
**C74**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . C4I Interoperability - Tng in the System of Systems Architecture (TSOSA) | C/CPAF | MITRE, CECOM, Ft Mamouth, NJ | 230 | 0 | | 660 | 1-3Q | 660 | 1-3Q | Continue | 1550 | 0 |
| b . C4I Interoperability - Digital Integration Lab (DIL) | T&M | COLSA Corporation, Huntsville, AL | 486 | 0 | | 3207 | 1-3Q | 3216 | 1-3Q | Continue | 6909 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 716 | 0 | | 3867 | | 3876 | | Continue | 8459 | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Facility Support for Digital Integration Lab (DIL) | In-House | PEO STRI (formerly STRICOM), Orlando, FL | 60 | 0 | | 0 | | 0 | | 0 | 60 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 60 | 0 | | 0 | | 0 | | 0 | 60 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604760A - Distributive Interactive Simulations (DIS) - Engin**

PROJECT
**C74**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Program Management | Multiple | Various | 1790 | 185 | 1-4Q | 1381 | 1-4Q | 1468 | 1-4Q | Continue | 4824 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1790 | 185 | | 1381 | | 1468 | | Continue | 4824 | 0 |
| Project Total Cost: | | | 2566 | 185 | | 5248 | | 5344 | | Continue | 13343 | 0 |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604760A - Distributive Interactive Simulations (DIS) - Engin** | **C78** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C78 | COMPUTER GENERATED FORCES | 14023 | 16109 | 19766 | 13724 | 16652 | 15983 | 16235 | 13377 | 0 | 140481 |

**A. Mission Description and Budget Item Justification:** This project develops and demostrates software systems to realistically represent activities of units and forces in simulation. This representation is used to support the concept evaluation, experimentation, materiel acquisition and training communities. Initiatives include the systems engineering and design for development and evolution of the architecture and software tools for a universal Army computer generated forces system, One Semi-Automated Forces (OneSAF). OneSAF is a next generation Brigade and below SAF that will represent a full range of operations, systems and control processes in support of standalone and embedded training and research, development and acquisition simulation applications. OneSAF will be fully interoperable with the Army's emerging virtual, live and division and above constructive simulations and will provide next generation simulation products. OneSAF will replace a variety of existing and legacy simulations currently used within the Army to support analytic and training simulation activities.

The FY 04/05 program will continue the development of the software required to provide OneSAF initial operational capability for Army evaluation and test.

This project supports the Interim and Objective transition paths of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Develop functionality to provide architectural services, components, synthetic environment and infrastructure capable of supporting initial model development. | 7956 | 6907 | 6267 | 3838 |
| Develop life cycle applications and infrastructure enhancements for OneSAF IOC Version 1.0. | 1030 | 990 | 994 | 962 |
| Develop functionality to represent behaviors, physical models, and communication models for OneSAF. | 4129 | 7204 | 11136 | 7668 |
| Verification & Validation of newly developed and integrated software. | 908 | 1008 | 1369 | 1256 |
| Totals | 14023 | 16109 | 19766 | 13724 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| OMA, 121014 | 1561 | 2025 | 2283 | 2025 | 2387 | 2538 | 3062 | 6160 | Continuing | Continuing |

OMA funding provides for OneSAF Testbed life cycle software maintenance and existing software.

**C. Acquisition Strategy:** Development based on performance specifications via multiple Task Orders on competitively selected contracts.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604760A - Distributive Interactive Simulations (DIS) - Engin**

PROJECT
**C78**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Architecture Dev & System Integration | CPFF | Science Applications International Corp, Orlando, FL | 12159 | 6897 | 1-3Q | 9445 | 1Q | 6298 | 1-2Q | Continue | 34799 | 19269 |
| b . Integrated Environment Dev | CPFF | Advanced Systems Technology, Inc., Orlando FL | 3537 | 1116 | 1-3Q | 998 | 1Q | 1030 | 1-2Q | Continue | 6681 | Continue |
| c . Synthetic Environment Dev | CPFF | Science Applications International Corp, Orlando, FL | 2196 | 1018 | 1-3Q | 1562 | 1-2Q | 577 | 1-2Q | Continue | 5353 | Continue |
| d . Knowledge Acquisition/Knowledge Engineering | CPFF | Aegis Technologies Group, Huntsville, AL | 2025 | 867 | 1-3Q | 1227 | 1-2Q | 573 | 1-2Q | Continue | 4692 | 3025 |
| e . OneSAF System Development | CPFF | Various | 3136 | 1076 | 1-3Q | 1243 | 1-2Q | 744 | 1-2Q | Continue | 6199 | Continue |
| f . Model Development | CPFF | Various | 111 | 2001 | 1-2Q | 1679 | 1Q | 1596 | 1-2Q | Continue | 5387 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 23164 | 12975 | | 16154 | | 10818 | | Continue | 63111 | Continue |

Remarks: Each contract award is a Delivery Order on a competitively selected contract.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604760A - Distributive Interactive Simulations (DIS) - Engin**

PROJECT
**C78**

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . System Analysis | Various | Multiple | 1829 | 610 | 1Q | 743 | 1Q | 401 | 1-2Q | Continue | 3583 | Continue |
| b . Domain Analysis | Various | Multiple | 1730 | 600 | 1Q | 594 | 1Q | 371 | 1-2Q | Continue | 3295 | Continue |
| c . Architecture Engr & Tech Spt | C/CPFF | MITRE FFRDC | 1194 | 250 | 1Q | 292 | 1Q | 0 | | Continue | 1736 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 4753 | 1460 | | 1629 | | 772 | | Continue | 8614 | Continue |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . OneSAF integration, evaluation and test | C/CPAF | TBD | 507 | 345 | 2Q | 403 | 1-3Q | 487 | 1-3Q | Continue | 1742 | Continue |
| b . OneSAF Verification, Validation & Accreditation | Various | Multiple | 589 | 452 | 1-3Q | 682 | 1-3Q | 698 | 1-3Q | Continue | 2421 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 1096 | 797 | | 1085 | | 1185 | | Continue | 4163 | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604760A - Distributive Interactive Simulations (DIS) - Engin**

PROJECT
**C78**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Program management | Various | Multiple | 2853 | 877 | 1-4Q | 898 | 1-4Q | 949 | 1-4Q | Continue | 5577 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 2853 | 877 | | 898 | | 949 | | Continue | 5577 | Continue |
| Project Total Cost: | | | 31866 | 16109 | | 19766 | | 13724 | | Continue | 81465 | Continue |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604760A - Distributive Interactive Simulations (DIS) - Engin** | **C78** |

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Award OneSAF Development Task Orders for individual components to meet block requirement | 1Q | 1Q | 1Q | 1Q | 1Q | 1Q | | |
| OneSAF IOC (Version 1.0) | | | | | 1Q | | | |

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

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604766A - Tactical Exploitation System/DCGS (TIARA)**

| | COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Program Element (PE) Cost | 59668 | 57255 | 19695 | 16 | 0 | 0 | 0 | 0 | 0 | 193820 |
| 909 | TACTICAL SURVEILLANCE SYSTEMS-ENG DEV (TIARA) | 0 | 1770 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 44176 |
| 957 | TACTICAL EXPLOITATION SYSTEM (TES)/DCGS-A (TIARA) | 59668 | 55485 | 19695 | 16 | 0 | 0 | 0 | 0 | 0 | 149644 |

**A. Mission Description and Budget Item Justification:** This project supports the engineering development/enhancement of the Tactical Exploitation System (TES), Division TES (DTES), TES Light Variant (TES-L), Distributed Common Ground Station-Army (DCGS-A). TES and DCGS-A will incorporate the standards and protocols dictated by the Common Imagery Ground/Surface System (CIG/SS) program. TES brings all of the Legacy Advanced Electronic Processing Dissemination System (AEPDS), Modernized Imagery Exploitation System (MIES) and Enhanced Tactical Radar Correlator (ETRAC) into an integrated common baseline that is downsized, modular and scaleable to meet a wide range of contingency requirements. TES interfaces with numerous satellite and aircraft tactical sensors and processes to exploit their data, imagery, and information. TES provides the commander with maximum flexibility to satisfy intelligence needs under a wide range of operational scenarios. TES operators can perform multiple imagery Intelligence (IMINT), Signal Intelligence (SIGINT), cross-intelligence, or dissemination functions from any workstation. TES provides extensive communication capabilities, including UHF, S,X,C and Ku radio frequency band communications. TES interfaces with and serves as the preprocessor for the All Source Analysis (ASAS), Common Ground Station (CGS), Guardrail Information Node (GRIFN), and the Digital Topographical Support System (DTSS). TENCAP Common Baseline addresses common subsystems, planned improvements, key activities and ongoing/planned initiatives determined to have potential application to multiple TENCAP systems. DCGS-A will incorporate the capabilities of TES, Guardrail/Information Node (GR/IFN), and Common Ground Station (CGS). TES and DCGS-A will incorporate emerging theater and national Intelligence, Surveillance, and Reconnaissance (ISR) capabilities. Specific details for TES are provided in the Tactical Intelligence and Related Activities (TIARA) Congressional Budget Justification Book and the Joint Military Intelligence Programs (JMIP) Congressional Budget Justification Book. These systems support the Legacy to Objective transition path of the Transformation Campaign Plan. This program is designated as a DOD Space Program.

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 68205 | 56556 | 60183 | 49024 |
| Current Budget (FY 2004/2005 PB) | 59668 | 57255 | 19695 | 16 |
| Total Adjustments | -8537 | 699 | -40488 | -49008 |
| Congressional program reductions | -8000 | | | |
| Congressional rescissions | -38 | | | |
| Congressional increases | | 639 | | |
| Reprogrammings | -499 | 60 | | |
| SBIR/STTR Transfer | | | | |
| Adjustments to Budget Years | | | -40488 | -49008 |

Program Change Summary:
FY 2002 Funds realigned ($8.0M) to Tactical Exploitation System (TES) procurement Congressional directed.
FY 2003 Received Congressional plus up of $1.8M for Broadband Intelligence Training System (BITS)
FY 2004 Funds realigned ($40,157M) to higher priority requirements.
FY 2005 Funds realigned ($49,008M) to higher priority requirements.

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604766A - Tactical Exploitation System/DCGS (TIARA)** | **0604766A** |

**Schedule Detail:** Not applicable for this item.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604766A - Tactical Exploitation System/DCGS (TIARA)** | **957** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 957 | TACTICAL EXPLOITATION SYSTEM (TES)/DCGS-A (TIARA) | 59668 | 55485 | 19695 | 16 | 0 | 0 | 0 | 0 | 0 | 149644 |

**A. Mission Description and Budget Item Justification:** This project supports the engineering development/enhancement of the Tactical Exploitation System (TES), Division TES (DTES), and the related Distributed Common Ground Station-Army (DCGS-A) capability. TES brings a common inter-service capability together for the first time, enabling theater commanders to better use assigned ISR assets in support operations. TES interfaces with numerous satellite and aircraft tactical sensors and processes to exploit their data, imagery, and information. TES provides commanders with maximum flexibility to satisfy intelligence needs under a wide range of operational scenarios. TES operators can perform multiple imagery intelligence (IMINT), signal intelligence (SIGINT), cross-intelligence, or dissemination functions from any workstation. TES provides extensive communication capabilities, including UHF, S,X,C and Ku radio frequency band communications. TES interfaces with and serves as the preprocessor for the All Source Analysis (ASAS), Common Ground Station (CGS), and the Digital Topographical Support System (DTSS). TES incorporates the standards and protocols dictated by the Common Imagery Ground/Surface System (CIG/SS) program. TES brings all of the existing and emerging capabilities of the Advanced Electronic Processing Dissemination System (AEPDS), Modernized Imagery Exploitation System (MIES) and Enhanced Tactical Radar Correlator (ETRAC) into an integrated common baseline that is downsized, modular and scaleable to meet a wide range of contingency requirements. DCGS-A should incorporate the capabilities of TES, Guardrail/Information Node (GR/IFN), and Common Ground Station (CGS). TES and DCGS-A should to continue to incorporate emerging theater and national intelligence, surveillance, and reconnaissance (ISR) capabilities. These systems support the Legacy to Objective transition path of the Transformation Campaign Plan. CIG/SS portion of TES are funded under 0305208A. Specific details are provided in the Tactical Intelligence and Related Activities (TIARA) Congressional Budget Justification Book and the Joint Military Intelligence Programs (JMIP) Congressional Budget Justification Book.

ASPO program management support costs for these efforts are funded under PE 0603766 Project 907 in FY02 and out.

ASPO was provided Defense Emergency Response Fund (DERF) supplemental funding as a non-add, for FY02 in the amount of $6.0M to improve and procure 400 Grenadier BRAT Blue Force Tracking systems for fielding to units directly supporting Operation Enduring Freedom.

| Accomplishments/Planned Program | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Completed engineering development of TES #3 Forward and Main, including integration of existing reusable components (i.e. MIDAS, DE, CIP, and MIST) and the purchase and integration of COTs/GOTs GFE. This effort was funded under Project 909 in FY 02. | 9572 | 0 | 0 | 0 |
| Intiated engineering development of TES #5, including integration of existing reusable components (i.e. MIDAS) and the purchase and integration of COTs/GOTs GFE. (NOTE: Post rebaselining zeroed initiative) | 2691 | 0 | 0 | 0 |
| Initiated engineering development of TES #6 Forward (-), including integration of existing reusable components (i.e. MIDAS) and the purchase and integration of COTs/GOTs GFE. (NOTE: Post rebaselining zeroed initiative) | 4876 | 0 | 0 | 0 |
| TES-Light variant development. (NOTE: Post rebaselining zeroed initiative.) | 2306 | 0 | 0 | 0 |
| TES Forward and MAIN Interop and Upgrade Spirals. Starting in FY-04 covered under PE 0305208 Project 956. | 10626 | 11250 | 0 | 0 |
| Objective Architecture Software Spirals - Development Engineering Builds. | 9501 | 6749 | 0 | 0 |
| Field Motivated Fixes, Baseline Builds, and Configuration Control Board. Starting in FY 04 funding supplemented within PE 0305208, Project 956. | 0 | 5071 | 5768 | 16 |
| DTES Production and Interop and Upgrade Spirals. Starting in FY-04 covered under PE 0305208 Project 956. | 0 | 10136 | 0 | 0 |
| Advance Planning and Engineering for Future Requirements and Studies to include DCGS transformation, Future Combat Systems (FCS), and National Imagery projects. | 0 | 4311 | 2327 | 0 |
| Continued TES/DCGS-A development through Army Topographic Engineering Center (TEC) and FFRDC (Aerospace). | 3746 | 3346 | 3465 | 0 |
| System Engineering and Technical Assistance, IPT Participation across programs and Services, Roadmaps, and DCGS Transformation Plans. | 0 | 7053 | 6234 | 0 |
| Ensures Interoperability across the Services and other programs for evolving Sensors, data links, platform integration, COMMS, and Multilevel Security Engineering Efforts. | 11850 | 7130 | 1901 | 0 |
| SAIP prototype single vehicle development, fielding, integration, and evaluation. Starting in FY-03 shared coverage with PE 0305208 Project 956 and in FY-04 covered in PE 0305208 Project 056. | 4500 | 439 | 0 | 0 |
| Totals | 59668 | 55485 | 19695 | 16 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| PE 0603766A Project 907 | 16225 | 16107 | 17068 | 16079 | 15928 | 16544 | 17223 | 19841 | Continuing | Continuing |
| PE 0604766A TENCAP Project 909 (TIARA) | 0 | 1770 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1770 |
| PE 0305208A Project 956 (JMIP) | 71836 | 44823 | 8306 | 18167 | 43471 | 42361 | 46342 | 50380 | Continuing | Continuing |
| BZ7316 CIG/SS (JMIP) | 2277 | 11303 | 2687 | 2654 | 6780 | 11514 | 10456 | 13551 | Continuing | Continuing |
| BZ7317 Tactical Surveillance System (TIARA) | 34134 | 17100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 51234 |

**C. Acquisition Strategy:** As pioneers in streamlined acquisition, ASPO's success in delivering systems as those described above to warfighters is directly attributed to an environment emphasizing space funding, low density acquisition, minimal use of MILSPECS, and managed competition. By tailoring existing technology, leveraging the best commercial practices and using commercial and government-off the shelf software, ASPO minimizes risk while maximizing efficiency and accelerated system production cycles. Government and contractor personnel and facilities accomplish dedicated cradle to grave Integrated Logistics Support (ILS) for all systems through a coordinated effort.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604766A - Tactical Exploitation System/DCGS (TIARA)**

PROJECT
**957**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . TES #2 EDM * | SS/CPAF | Northrop Grumman, Linthicum, MD | 2544 | 0 | | 0 | | 0 | | 0 | 2544 | 2544 |
| b . TES #3 EDM * | SS/CPAF | Northrop Grumman, Linthicum, MD | 18698 | 0 | | 0 | | 0 | | 0 | 18698 | 18698 |
| c . TES #4 EDM * | SS/CPAF | Northrop Grumman, Linthicum, MD | 10626 | 0 | | 0 | | 0 | | 0 | 10626 | 19000 |
| d . TES DTES | SS/CPAF | Northrop Grumman, Linthicum, MD | 7182 | 10136 | | 0 | | 0 | | 0 | 17318 | 13208 |
| e . Software upgrades and enhancements of TES baseline. | SS/CPAF | Northrop Grumman, Linthicum, MD | 12192 | 11820 | 1Q | 5768 | | 16 | | 0 | 29796 | 18947 |
| f . SAIP Prototype | SS/CPAF | Northrop Grumman, Linthicum, MD | 6860 | 439 | | 0 | | 0 | | 0 | 7299 | 7520 |
| g . TES joint interoperability with current and future sensors. | SS/CPAF | Northrop Grumman, Linthicum, MD | 11850 | 7130 | 1Q | 1901 | | 0 | | 0 | 20881 | 20850 |
| h . TES Fwd and Main Sustainability/Interoperability Retrofits | SS/CPAF | Northrop Grumman, Linthicum, MD | 0 | 11250 | 1Q | 0 | | 0 | | 0 | 11250 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604766A - Tactical Exploitation System/DCGS (TIARA)**

PROJECT
**957**

| I. Product Development (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| i . Advance Planning, System Engineering, Future Requirements, Eng Transformation Plans | SS/CPAF | Northrop Grumman, Linthicum, MD | 0 | 11364 | | 8561 | | 0 | | 0 | 19925 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 69952 | 52139 | | 16230 | | 16 | | 0 | 138337 | 100767 |

Remarks: * Effort funded in project D909 prior to FY01.

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . System Engineering (Government) | N/A | TEC, Alexandria, VA | 2541 | 1741 | 1Q | 1745 | 1Q | 0 | | Continue | Continue | Continue |
| b . Contractor | C/FFP | Northrop Grumman Info Tech/TASC | 700 | 350 | 2Q | 350 | 2Q | 0 | | Continue | Continue | Continue |
| c . FFRDC | OGA | Aerospace Corp, Chantilly, VA | 1255 | 1255 | 1Q | 1370 | 1Q | 0 | | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 4496 | 3346 | | 3465 | | 0 | | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604766A - Tactical Exploitation System/DCGS (TIARA)**

PROJECT
**957**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Not applicable | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

Remarks: Not Applicable

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Not applicable | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

Remarks: Not Applicable

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 74448 | 55485 | | 19695 | | 16 | | Continue | Continue | Continue |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604766A - Tactical Exploitation System/DCGS (TIARA)** | **957** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Complete development of TES Forward #1 and MAIN #1 (Done Previous Years) | | | | | | | | |
| Complete development of TES DTES #1 (Done Previous Years) | | | | | | | | |
| Complete development of TES FWD #2 and MAIN #2 (Done Previous Years) | | | | | | | | |
| Complete development of TES FWD #3 (Done Previous Years) | | | | | | | | |
| Complete development of TES Main #3 (Done Previous Years) | | | | | | | | |
| Complete development of TES FWD #4* | | 2-3Q | | | | | | |
| Complete development, upgrades, and fielding of DTES #s 2 - 10 | | 3-4Q | 2-4Q | 1Q | | | | |
| Complete development of MAIN #4 | | | 2Q | | | | | |

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

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604768A - Brilliant Anti-Armor Submunition (BAT)**

| | COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Program Element (PE) Cost | 106860 | 42942 | 55075 | 9836 | 2 | 0 | 0 | 0 | 0 | 594413 |
| 2NT | BAT OPERATIONAL TEST | 69 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 842 |
| 687 | BAT P3I | 102792 | 0 | 0 | 3 | 2 | 0 | 0 | 0 | 0 | 170360 |
| 688 | ATACMS BLK II | 3999 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 315361 |
| MD6 | ARMY TACTICAL MISSILE SYSTEM - PENETRATOR | 0 | 0 | 55075 | 9833 | 0 | 0 | 0 | 0 | 0 | 64908 |
| P01 | MULTI - MODE SEEKER DEVELOPMENT AND TEST | 0 | 42942 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 42942 |

**A. Mission Description and Budget Item Justification:** This Program Element (PE) provides funding for the BAT P3I and related BAT Operational Test, Army Tactical Missile System (ATACMS) Block II, Multi-Mode Seeker and the ATACMS Penetrator (ATACMS-P) Programs.

The BAT P3I program provided a new sensor suite (millimeter wave and imaging infrared) to the basic BATs acoustic and infrared capacity, which greatly improved inclement weather capability and effectiveness against countermeasures. The BAT P3I submunition attacked time critical, high priority targets, including cold, stationary, armored targets, Surface-to-Surface Missile (SSM) Transporter Erector Launchers (TELs), and Heavy Multiple Rocket Launchers (MRLs). The BAT/BAT P3I have the capability to be dispensed from alternate carriers which provides the Objective Force with additional capability with low collateral damage.

The ATACMS Block II missile is a version of the currently fielded and combat-proven Army TACMS Block I missile and is designed to carry 13 BAT or BAT P3I submunitions. The ATACMS Block II (loaded with BAT or P3I submunitions) provides a deep strike capability to delay, disrupt, neutralize, or destroy armored combat vehicles/organization. The ATACMS Block II missile is fired from the M270A1 launcher and the High Mobility Artillery Rocket System (HIMARS).

The ATACMS-P is a standoff ballistic-missile-delivered penetrator weapon for use against fixed hard and deeply buried operational and tactical targets. ATACMS-P will complement current ATACMS Family of Munitions (AFOM) operational capabilities by adding that of attacking and destroying Hardened and/or Deeply Buried Targets (HDBT) with a penetrator payload/warhead. These targets are considered High Value Targets (HVTs) posing a considerable threat to U.S. and coalition forces.

The Muti-Mode Seeker (MMS) Program will complete the development, assembly, and test of a Multi-Mode Tactical Seeker. This seeker will search, detect, acquire, and track stationary and moving TELs, MRLs, and armored vehicles. The seeker, which uses millimeter wave and imaging infrared, will permit modern weapon systems to be operational in near all-weather conditions. MMS funding is also required to support an urgent need for a Semi-Active Laser (SAL) BAT/Unmanned Aerial Vehicle (UAV)-BAT capability in order to conduct missions in various locations with differing terrain to support the ongoing war on terrorism. The submunition's ability to maneuver coupled with the SAL seeker will give the warfighter precise targeting capability with a reduced probability of collateral damage.

These programs support the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

The ATACMS BLK II and BAT P3I programs have been terminated after FY03 in order to fund Transformation and other higher priority Army programs.

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 122868 | 190293 | 110615 | 34723 |
| Current Budget (FY 2004/2005 PB) | 106860 | 42942 | 55075 | 9836 |
| Total Adjustments | -16008 | -147351 | -55540 | -24887 |
| Congressional program reductions | | -145293 | | |
| Congressional rescissions | | -598 | | |
| Congressional increases | | | | |
| Reprogrammings | -12613 | -246 | | |
| SBIR/STTR Transfer | -3395 | -1214 | | |
| Adjustments to Budget Years | | | -55540 | -24887 |

FY04/FY05 decreases due to the termination of the ATACMS BAT P3I program after FY03 in order to support Transformation and other higher priority Army programs.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604768A - Brilliant Anti-Armor Submunition (BAT)** | **MD6** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MD6 | ARMY TACTICAL MISSILE SYSTEM - PENETRATOR | 0 | 0 | 55075 | 9833 | 0 | 0 | 0 | 0 | 0 | 64908 |

**A. Mission Description and Budget Item Justification:** The Army Tactical Missile System-Penetrator (ATACMS-P) is a standoff ballistic-missile-delivered penetrator weapon for use against fixed hard and deeply buried operational and tactical targets. ATACMS-P will complement current ATACMS Family of Munitions (AFOM) operational capabilities by adding the capability to attack and destroy Hardened and/or Deeply Buried Targets (HDBT) with a penetrator payload/warhead. These targets, considered High Value Targets (HVT), pose a considerable threat to U.S. and coalition forces. The ATACMS-P missile provides the theater joint forces commander with all weather capability to defeat HDBTs with a standoff weapons system that eliminates the risk to aircrews required by existing (and currently planned) air dropped penetrating weapons. Due to missile speed, the ATACMS-P provides time critical response in disrupting or neutralizing high value targets in support of the joint forces commanders maneuver warfare plans. ATACMS-P provides the land component commander a system that also meets or exceeds the penetration capability of existing air dropped weapons.

The program covered by this exhibit represents the start of a program that makes use of the concept of spiral development. This budget exhibit supports 1) the completion of development spiral one which provides theater commanders with an ATACMS Penetrator system which is operationally and logistically supportable and 2) the fundamental building block of development spiral two, the development of an extended range solid rocket motor which will provide additional range to the spiral one warhead system while also improving the overall ability of the system to penetrate harder fixed targets.

The ATACMS Penetrator system spiral development program will incorporate performance upgrades which augment the capability to engage weapons of mass destruction. This system supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Initiate System Development and Demonstration (SDD) Program | 0 | 0 | 30154 | 6113 |
| Procure Handmade Fuzes | 0 | 0 | 2593 | 0 |
| Conduct Fuze and Penetrator Qualification for AFSB requirements and qualify industrial suppliers for full scale production of Penetrator and Fuze | 0 | 0 | 3007 | 0 |
| Procure, Fabricate and Assemble Flight Test Assets (2 Missiles) | 0 | 0 | 2846 | 0 |
| Flight test support and data acquisition including preparation, repair and modificaitons to existing test hard targets | 0 | 0 | 1807 | 2006 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Initiate extended range solid rocket motor development | 0 | 0 | 14668 | 1714 |
| Totals | 0 | 0 | 55075 | 9833 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| ATACMS Penetrator (CA6111) | 0 | 0 | 0 | 68493 | 87924 | 99553 | 99447 | 4871 | 0 | 360288 |

**C. Acquisition Strategy:** The ATACMS-P Acquisition Strategy is to leverage technology from the on-going ATACMS-P Advance Technology Demonstration (ACTD). The Army will pursue a Sole Source contract with Lockheed Martin, Dallas the ACTD Prime Contractor to mitigate risk. We will execute the program in a Spiral Block approach. Block I will meet our threshold requirement (Standard Range). ATACMS-P Block II will meet our objective requirement (Extended Range) variant. Milestone C is scheduled for FY06.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604768A - Brilliant Anti-Armor Submunition (BAT)**

PROJECT
**MD6**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . LMMCF-D | SS/CPIF | LMMFCS-TX | 0 | 0 | | 49971 | 2Q | 4383 | 1Q | 0 | 54354 | 0 |
| b . CECOM C4I | N/A | CECOM, NJ | 0 | 0 | | 1227 | 1Q | 772 | 1Q | 0 | 1999 | 0 |
| c . Government Support | N/A | AMCOM,RSA | 0 | 0 | | 389 | 1Q | 112 | 1Q | 0 | 501 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 51587 | | 5267 | | 0 | 56854 | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604768A - Brilliant Anti-Armor Submunition (BAT)**

PROJECT
**MD6**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Test Support | N/A | WSMR/RTTC | 0 | 0 | | 1397 | 1Q | 1994 | 1Q | 0 | 3391 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 1397 | | 1994 | | 0 | 3391 | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . In-House Support | N/A | PFRMS Proj Ofc, RSA | 0 | 0 | | 2091 | 1Q | 2572 | 1Q | 0 | 4663 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 2091 | | 2572 | | 0 | 4663 | 0 |
| Project Total Cost: | | | 0 | 0 | | 55075 | | 9833 | | 0 | 64908 | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604768A - Brilliant Anti-Armor Submunition (BAT)** | **MD6** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Award Design Contract | | | 1Q | | | | | |
| Program Decision Review (PDR) | | | 2Q | | | | | |
| Critical Decision Review (CDR) | | | 4Q | | | | | |
| Hardware Qualification | | | | 1Q | | | | |
| Production Qualification Flight Test (PQT) | | | | 4Q | | | | |
| MIlestone C IPR | | | | | 1Q | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604770A - Joint Surveillance/Target Attack Radar System** | **202** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 202 | ARMY COMMON GROUND STATION (CGS) (TIARA) | 7485 | 4511 | 4705 | 0 | 0 | 0 | 0 | 0 | 0 | 44834 |

**A. Mission Description and Budget Item Justification:** The long-term objective capability is to migrate CGS with Army ISR Ground Processing capabilities into DCGS-A, a modular/scalable network centric design utilizing objective hardware that integrates signal, imagery, and other intelligence processing into a common ground station. The Common Ground Station (CGS) is a rapidly deployable and mobile tactical sensor data processing and dissemination center mounted on two High Mobility Multi-Wheeled Vehicles (HMMWVs) that supports interim functionality DCGS as part of Future Combat System. As part of the Stryker Brigade Combat Team (SBCT), and the Counter Attack Corps, CGS provides a key interface between intelligence and command and control systems by concurrently providing timely intelligence data and receiving the Common Tactical Picture (CTP) via the Tactical Operations Center (TOC) Local Area Network (LAN). CGS integrates imagery and signals Intelligence, Surveillance and Reconnaissance (ISR) data products into a single visual presentation of the battlefield, providing commanders at Echelons Above Corps (EAC), Corps, Divisions and Brigades with Near Real Time (NRT) situational awareness, enhanced battle management and targeting capabilities. CGS initially served as the ground station for the Joint Surveillance Target Attack Radar System (Joint STARS), but has evolved into a multi-sensor ground station that receives, processes and displays sensor data from Predator, Tactical UAV (TUAV), Airborne Reconnaissance Low (ARL), U2, Guardrail/Common Sensor (GRCS) and Integrated Broadcast Service (IBS) while preserving a small tactical footprint. This system supports the interim transition path and also develops advanced capabilities for incorporation into Distributed Common Ground System-Army (DCGS-A) in support of the Objective Force. CGS is the Army's premier radar Moving Target Indicator (MTI) ground station, receiving MTI data from Joint STARS, ARL and U2 sensors. Additionally, CGS receives, processes and cross cues data to include SAR, EO/IR, video and Signals Intelligence (SIGINT). CGS disseminates timely targeting and battlefield surveillance data to Army Battle Command System (ABCS) nodes such as the All Source Analysis System (ASAS) and Advanced Field Artillery Tactical Data System (AFATDS). A robust, self-contained communications suite ensures connectivity with both sensors and command and control nodes under a wide range of battlefield scenarios and conditions. CGS contains a robust modeling and simulation capability that supports linkage to sensor simulations, system-of-systems training and participation in a wide range of exercises on a worldwide basis. The Joint Services Workstation (JSWS) is a single operator, transportable, reduced footprint, dismounted workstation variant of the CGS that uses the same hardware and software and provides the same functionality as the CGS. The CGS/JSWS fulfills an urgent air-land battlefield requirement by providing an Army/Air Force sensor and attack control capability to locate, track, classify and assist in attacking moving and stationary targets beyond the Forward Line of Troops (FLOT). This project will provide architecture upgrades facilitating dissemination of CGS products to command and control systems located across multiple echelons and expanding modeling and simulation capabilities in support of unit and staff training. This system supports the Interim transition path of the Transformation Campaign Plan (TCP).

FY04 funds Modeling and Simulation (M&S) capabilities to support unit and staff training via a network environment and enhancement of existing CGS tools and applications to support migration to DCGS-A.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604770A - Joint Surveillance/Target Attack Radar System** | **202** |

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Conduct/continue/complete enhancement of existing CGS applications to support RTIP, ACS and other sensors and integrate and enhance CGS collaboration/data sharing with other tactical processing nodes across battlefield echelons to support migration to DCGS-A architecture. | 1786 | 1040 | 1574 | 0 |
| Expand Modeling & Simulation (M&S) capabilities to support unit and staff training via network environment. | 1805 | 1571 | 1881 | 0 |
| Engineering support to migrate CGS functionality into Distributed Common Ground System-Army (DCGS-A) Block I and develop documentation for Objective DCGS architecture. | 3384 | 1300 | 900 | 0 |
| Coalition Aerial Surveillance and Reconnaissance (CAESAR) Support. | 510 | 600 | 350 | 0 |
| Totals | 7485 | 4511 | 4705 | 0 |

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 8026 | 4740 | 4939 | 6267 |
| Current Budget (FY 2004/2005 PB) | 7485 | 4511 | 4705 | 0 |
| Total Adjustments | -541 | -229 | -234 | -6267 |
| Congressional program reductions | -41 | -229 | | |
| Congressional rescissions | | | | |
| Congressional increases | | | | |
| Reprogrammings | -500 | | | |
| SBIR/STTR Transfer | | | | |
| Adjustments to Budget Years | | | -234 | -6267 |

FY2005 - Funds realigned to Distributed Common Ground System - Army requirements.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604770A - Joint Surveillance/Target Attack Radar System** | **202** |

| **C. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| BA1080 Joint STARS (TIARA) | 21156 | 8387 | 8261 | 0 | 0 | 0 | 0 | 0 | 0 | 37804 |
| BS9724 Joint STARS Spares | 3849 | 3176 | 295 | 0 | 0 | 0 | 0 | 0 | 0 | 7320 |
| 1001018A NATO AGS C35 | 0 | 503 | 503 | 601 | 598 | 696 | 682 | 706 | Continue | Continue |
| 0305208A Distributed Common Ground System (JMIP) | 71836 | 44823 | 32292 | 42377 | 86579 | 110095 | 111148 | 115624 | Continue | Continue |
| BZ7316 Distributed Common Ground System (JMIP) | 0 | 0 | 0 | 6840 | 3105 | 12810 | 22526 | 20111 | Continue | Continue |
| BZ7317 TES (TIARA) | 33434 | 17576 | 0 | 0 | 0 | 0 | 0 | 0 | Continue | Continue |
| AZ2000 GUARDRAIL MODS (TIARA) (DCGS-A GRIFN Only) | 0 | 0 | 3176 | 2201 | 0 | 0 | 0 | 0 | 0 | 5377 |
| PE 0603750D CAESAR ACTD (OSD AS&C) | 1200 | 800 | 400 | 0 | 0 | 0 | 0 | 0 | 0 | 2400 |
| PE 0603923D8Z CAESAR ACTD (OSD AT&L-CMO) | 2700 | 700 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3400 |
| PE 063789F/27581F Air Force AFRL/SAFAQID | 1940 | 370 | 300 | 3610 | 0 | 0 | 0 | 0 | 0 | 6220 |
| PE 65126J JSTAMDO | 500 | 400 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 900 |

**D. Acquisition Strategy:** The Milestone C approval for Common Ground Station (CGS) was granted by the Defense Acquisition Board in August 2000. The baseline CGS is being enhanced via block approach to migrate the CGS functionality into the objective Distributed Common Ground System (DCGS). The enhancements were awarded sole source the General Dynamics.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604770A - Joint Surveillance/Target Attack Radar System**

PROJECT
**202**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . TCDL | CPFF | General Dynamics, Scottsdale, AZ | 1645 | 0 | | 0 | | 0 | | 0 | 1645 | 1645 |
| b . SCDL/JSWB Data Link Improvement | C/FP | Cubic Corp, San Diego, CA | 15641 | 0 | | 0 | | 0 | | 0 | 15641 | 15641 |
| c . Enhanced Sensor Exploitation & Operator Tools/P3I Development | C/FP | General Dynamics, Scottsdale, AZ | 11900 | 0 | | 0 | | 0 | | 0 | 11900 | 11937 |
| d . Modeling & Simulation | C/FP | General Dynamics, Scottsdale, AZ | 1956 | 400 | 1Q | 350 | 1Q | 0 | | 0 | 2706 | 2706 |
| e . JSWS Battle Lab Hardware Support | FFP | General Dynamics, Scottsdale, AZ | 2836 | 0 | | 0 | | 0 | | 0 | 2836 | 2836 |
| f . Field Support | T&M | General Dynamics, Scottsdale, AZ | 6450 | 0 | | 0 | | 0 | | 0 | 6450 | 6882 |
| g . Technology Insertion | FFP | General Dynamics, Scottsdale, AZ | 7000 | 0 | | 0 | | 0 | | 0 | 7000 | 7000 |
| h . SATCOM Interface | T&M | General Dynamics, Scottsdale, AZ | 1733 | 0 | | 0 | | 0 | | 0 | 1733 | 0 |
| i . CAESAR Support | C/FP | General Dynamics, Scottsdale, AZ | 1260 | 500 | 1Q | 250 | 1Q | 0 | | 0 | 2010 | 2010 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604770A - Joint Surveillance/Target Attack Radar System**

PROJECT
**202**

| I. Product Development (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| j . CGS Collaboration/Data Sharing | C/FP | General Dynamics, Scottsdale, AZ | 4687 | 830 | 1Q | 2774 | 1Q | 0 | | 0 | 8291 | 8966 |
| | | | | | | | | | | | | |
| Subtotal: | | | 55108 | 1730 | | 3374 | | 0 | | 0 | 60212 | 59623 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Matrix Support | MIPR | CECOM, Fort Monmouth NJ | 1892 | 55 | 1Q | 85 | 1Q | 0 | | 0 | 2032 | 0 |
| b . Joint Test Force Support | MIPR | CECOM, Fort Monmouth NJ | 575 | 55 | 1Q | 55 | 1Q | 0 | | 0 | 685 | 0 |
| c . Engineering Support | | Booze-Allen Hamilton, Eatontown NJ | 2420 | 1795 | 1Q | 695 | 1Q | 0 | | 0 | 4910 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 4887 | 1905 | | 835 | | 0 | | 0 | 7627 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604770A - Joint Surveillance/Target Attack Radar System**

PROJECT
**202**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Operational Reliability Demonstration Test (ORDT) | MIPR | TEXCOM/OEC | 6770 | 0 | | 0 | | 0 | | 0 | 6770 | 0 |
| b . ORDT | C/T&M | General Dynamics, Scottsdale, AZ | 5387 | 0 | | 0 | | 0 | | 0 | 5387 | 5387 |
| c . Block 10 Operational Assessment | T&M | General Dynamics, Scottsdale, AZ | 1269 | 0 | | 0 | | 0 | | 0 | 1269 | 5586 |
| d . Division Capstone Exercise I & II | CPFF | General Dynamics, Scottsdale, AZ | 3203 | 0 | | 0 | | 0 | | 0 | 3203 | 4838 |
| e . Spiral Developmental / Interoperability Testing | T&M | General Dynamics, Scottsdale, AZ | 592 | 0 | | 0 | | 0 | | 0 | 592 | 0 |
| f . DT/OT | MIPR | Multiple | 0 | 400 | 2Q | 0 | | 0 | | 0 | 400 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 17221 | 400 | | 0 | | 0 | | 0 | 17621 | 15811 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604770A - Joint Surveillance/Target Attack Radar System**

PROJECT
**202**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Project Management | In House Support | PM, DCGS-A Fort Monmouth NJ | 3289 | 476 | 1Q | 496 | 1Q | 0 | | 0 | 4261 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 3289 | 476 | | 496 | | 0 | | 0 | 4261 | 0 |
| Project Total Cost: | | | 80505 | 4511 | | 4705 | | 0 | | 0 | 89721 | 75434 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604770A - Joint Surveillance/Target Attack Radar System** | **202** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Participate in Desert Pivot Exercises thru Modeling and Simulation | 1-4Q | 1-4Q | | | | | | |
| Field DCGS-A at XVIII Abn Corps | | | 2Q | | | | | |
| Demonstrations at Division Capstone Exercises I and II | 1Q | | | | | | | |
| Migration into DCGS-A (FCS UA) | | 3Q | | | | | | |
| Migration into DCGS-A (FCS UE) | | | 1Q | | | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604778A - Positioning Systems Development (SPACE)** | **168** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 168 NAVSTAR GPS EQUIP | 0 | 0 | 1574 | 2065 | 2254 | 0 | 0 | 0 | 0 | 8220 |

**A. Mission Description and Budget Item Justification:** The Navstar Global Positioning System (Navstar GPS) is a passive, space-based, radio positioning and navigation system providing precise, three dimensional position, navigation, velocity and timing information to warfighters. The Navstar GPS program is designated as a DoD Space Program and the United States Air Force (USAF) is the executive agent. The USAF develops GPS User Equipment (PE 35164F) at the GPS Joint Program Office (JPO) with Army participation. NAVSTAR GPS is composed of three segments: Space, Control, and User Equipment. Project 168 provides for initial and sustained participation in the research and development of Army unique requirements that enhance the Position Navigation capabilities of Army weapons systems and platforms. These funds will be used to increase the functionality and performance of GPS receivers.

This is a Legacy-to-Objective capability supporting all axes of the Army Transformation Campaign.

FY04/FY05 funding provides for the development, demonstration and transition of Urban Situational Awareness elements. These elements will allow the Defense Advanced GPS Receiver (DAGR) to provide more secure and more reliable position and navigation data for the Objective Force.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Leverage, demonstrate, and transition of Urban Situational Awareness improvements and solutions into Defense Advanced GPS Receiver (DAGR) functionality. | 0 | 0 | 1574 | 2065 |
| Totals | 0 | 0 | 1574 | 2065 |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604778A - Positioning Systems Development (SPACE)** | **168** |

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 0 | 0 | 0 | 0 |
| Current Budget (FY 2004/2005 PB) | 0 | 0 | 1574 | 2065 |
| Total Adjustments | 0 | 0 | 1574 | 2065 |
| Congressional program reductions | | | | |
| Congressional rescissions | | | | |
| Congressional increases | | | | |
| Reprogrammings | | | | |
| SBIR/STTR Transfer | | | | |
| Adjustments to Budget Years | | | 1574 | 2065 |

Change Summary Explanation:
FY-04 +$1.6M Funds realigned to support Army Unique GPS Requirements for Urban Situational Awareness efforts.
FY-05 +$2.1M Funds realigned to support Army Unique GPS Requirements for Urban Situational Awareness efforts.

| **C. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| K47800, Other Procurement, Army, NAVSTAR GPS DAGR | 19661 | 26767 | 44290 | 39616 | 42334 | 37919 | 25019 | 26969 | 264000 | 526575 |

**D. Acquisition Strategy:** Leverage commercial technology investments and Research, Development, and Engineering Center (RDEC) initiatives that will improve and enhance DAGR functionality to include unique Army requirements for time of arrival augmentation, GPS reception in a low signal environment, and providing GPS referenced position data deep inside buildings, tunnels and caves. This leveraging will be accomplished by using the selected DAGR contractor to transition software data into the desired platform. This contractor is being selected on a competitive basis.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604778A - Positioning Systems Development (SPACE)**

PROJECT
**168**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Develop P-Code algorithms to support Urban Situational Awareness | MIPR | RDEC, Fort Monmouth, NJ | 0 | 0 | | 300 | 1Q | 300 | 1Q | Continue | 600 | 0 |
| b . Integrate P-Code algorithms into DAGR product line | TBS | TBS | 0 | 0 | | 874 | 1Q | 1765 | 1Q | 0 | 2639 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 1174 | | 2065 | | Continue | 3239 | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Field/integrate new capabilities | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604778A - Positioning Systems Development (SPACE)**

PROJECT
**168**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Test/integrate new capabilities | MIPR | RDEC, Fort Monmouth, NJ | 0 | 0 | | 400 | 2Q | 0 | | 0 | 400 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 400 | | 0 | | 0 | 400 | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| Project Total Cost: | | | 0 | 0 | | 1574 | | 2065 | | Continue | 3639 | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604778A - Positioning Systems Development (SPACE)**

PROJECT
**168**

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Adapt commmercial technology | | | 3Q | | | | | |
| Demonstrate concept interface | | | 3Q | | | | | |
| Qualification/Reliability Test | | | 3-4Q | | | | | |
| Develop prototype | | | | 3Q | | | | |
| Demonstrate prototype | | | | 4Q | | | | |
| System Integration | | | | | 2Q | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE |
|---|---|
| **5 - System Development and Demonstration** | **0604780A - COMBINED ARMS TACTICAL TRAINER (CATT)** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Program Element (PE) Cost | | 11799 | 8247 | 3998 | 5596 | 5585 | 10041 | 11964 | 12423 | Continuing | Continuing |
| 571 | CLOSE CBT TACT TRAINER | 4510 | 4845 | 3998 | 5596 | 5585 | 5397 | 0 | 0 | 0 | 36550 |
| 582 | SYNTHETIC ENVIR CORE | 7289 | 3402 | 0 | 0 | 0 | 4644 | 11964 | 12423 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** The Combined Arms Tactical Trainer (CATT) is a family of combined arms simulation systems designed to support the Army's simulation-based Combined Arms Training Strategy. The initial CATT system is the Close Combat Tactical Trainer (CCTT), which provides the underlying baseline (architecture, terrain databases, After Action Review [AAR], Semi-Automated Forces [SAF], and models/algorithms) for future CATT expansions, pre-planned product improvements and system enhancements. Synthetic Environment Core provides for the expansion of the Synthetic Environment baseline to include enhanced Aviation, Engineer, Fire Support, and Air Defense capabilities needed to support integration of hardware/simulators funded by System Program Managers. The first synthetic environment to be expanded is the Aviation Combined Arms Tactical Trainer - Aviation Reconfigurable Manned Simulator (AVCATT-A) for both active and reserve component. CATT enables units, from crew to the battalion task force level, to conduct a wide variety of combat tasks on a realistic, interactive synthetic battlefield. CATT's combination of manned simulators and staff officer workstations enables units to train as a combined arms team in a cost effective manner. CATT reinforces the successes and corrects the shortcomings of the Simulator Network (SIMNET) and Aviation Network (AIRNET) demonstration programs executed by the Defense Advanced Research Projects Agency (DARPA). By practicing skills in CATT, units are able to make more effective use of scarce resources and costly live fire and maneuver exercises as well as train tasks deemed too hazardous to conduct in the field. Fielded in both fixed site and mobile/transportable versions, CATT enables both Active and Reserve component units to prepare for real world contingency missions. By being able to process a wide array of terrain databases and modify the behavior of the computer generated opposing forces, CATT offers a virtually unlimited array of training options to support the Army's many regional contingency missions. The combination of tough field and live fire training and realistic simulation training in CATT is the catalyst to prepare soldiers and their leaders for the uncertainties they will face in an unpredictable world.

This system supports the Objective and Legacy-to-Objective transition paths of the Transformation Campaign Plan (TCP).

FY04/05 funging complete enhancements to the reconfigurable High Mobilty Multipurpose Wheeled Vehicle (HMMWV), the field artillery digital connectivity, provide nonsystem weapons concurrency upgrades and continues close air support improvements. These efforts further support Legacy to Objective Force transition paths and improve readiness by providing more realistic collective training that will prepare the soldiers for the U.S. Army missions.

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 13531 | 7579 | 4775 | 6413 |
| Current Budget (FY 2004/2005 PB) | 11799 | 8247 | 3998 | 5596 |
| Total Adjustments | -1732 | 668 | -777 | -817 |
| Congressional program reductions | | -95 | | |
| Congressional rescissions | | -48 | | |
| Congressional increases | | 1050 | | |
| Reprogrammings | -1356 | | | |
| SBIR/STTR Transfer | -376 | -239 | | |
| Adjustments to Budget Years | | | -777 | -817 |

FY02 includes reprogramming to project D241 to support Corps Battle Simulation (CBS) Effort at Jet Propulsion Laboratory ($766K) and reprogramming to project D362 to support WARSIM efforts for ($590K). FY04/05 funding was realigned to higher Army priority.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604780A - COMBINED ARMS TACTICAL TRAINER (CATT)** | **571** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 571 | CLOSE CBT TACT TRAINER | 4510 | 4845 | 3998 | 5596 | 5585 | 5397 | 0 | 0 | 0 | 36550 |

**A. Mission Description and Budget Item Justification:** This program provides for System Development and Demonstration (SDD) and Pre-Planned Product Improvements (P3I) for the Close Combat Tactical Trainer (CCTT), which will enhance readiness for both active and reserve component forces. The program develops a networked system of interactive computer driven simulators, emulators and semi-automated forces that replicate combat vehicles and weapon systems, combat support systems, combat service support systems, and command and control systems to create a fully integrated real-time collective task training environment. This trainer will allow soldiers to practice, repetitively, tactics, techniques and procedures that, if performed on real equipment, would be too hazardous, time-consuming and expensive. These trainers enhance realism and allow soldiers and units to learn tactical combat lessons on maneuver, command and control, and improved teamwork for increased survivability. The pre-planned product improvements provide CCTT an opportunity to enhance its capabilities as a tactical trainer and maintain concurrency with the structural changes that today's battle force is experiencing. These improvements will provide the interoperability with AVCATT-A, Force XXI Battle Command Brigade and Below (FBCB2), Army Tactical Command and Control System (ATCCS) and other simulation systems.

The FY04/05 funding for Close Combat Tactical Trainer will provide the U.S. Army with enhancements to field artillery digital connectivity, non system weapons concurrency upgrades, reconfigurable HMMWV, and continue Close Air Support improvements. These improvements allow CCTT the opportunity to enchance capabilities as a tactical trainer and maintain concurrency with the structural changes that today's battle force is experiencing.

This system supports the Legacy-to-Objective transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Developed product improvements for Dismounted Infantry (DI) module, After Action Review (AAR), Bradley Fire Support Team (BFIST), Army Tactical Command and Control System (ATCCS), and other prioritized items. Completed development for conversion to Linux operating system; produced Synthetic Environment Data Representation and Interchange Specification (SEDRIS) transmittal for CCTT databases. FY03 funding continues development of the Enhanced Dismounted Infantry Manned Module (E-DIMM) and interoperability of ATCCS and begins close air support improvements. | 3749 | 4331 | 0 | 0 |
| Provide government program management, engineering, technical, contract and continuous operational evaluation support. | 761 | 514 | 511 | 515 |
| Complete enhancements to the Field Artillery Digital connectivity, nonsystem weapons concurrency upgrades, reconfigurable HMMWV, and continue Close Air Support improvements. | 0 | 0 | 3487 | 5081 |
| Totals | 4510 | 4845 | 3998 | 5596 |

| B. Other Program Funding Summary | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| OPA3, Appropriation NA0170 SIMNET/CCTT | 36527 | 51053 | 71692 | 61189 | 63816 | 18802 | 30892 | 44030 | Continuing | Continuing |
| Operation and Maintenance, Appro. 122015 (CCTT Portion) | 26143 | 28885 | 30804 | 33549 | 39496 | 40050 | 40535 | 42449 | Continuing | Continuing |

**C. Acquisition Strategy:** Competitive cost plus award fee contract for SDD phase.

Competitive procurement against performance specifications as part of basic contract.

ECP's were Sole Source, Cost Plus Fixed Fee

FY04-05 procurement awards will be either Firm Fixed Price or Cost Plus Fixed Fee and executed thru PEO STRI Omnibus Contract (STOC) based on competitive selection.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604780A - COMBINED ARMS TACTICAL TRAINER (CATT)**

PROJECT
**571**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . CCTT SDD | C/CPAF/T&M/FFP | Lockheed/Martin Orlando, FL | 206891 | 0 | | 0 | | 0 | | 0 | 206891 | 206891 |
| b . DIMM, AAR, ATCCS | C/CPFF | Lockheed/Martin Orlando, FL | 29204 | 2918 | 1-2Q | 0 | | 0 | | 0 | 32122 | 32057 |
| c . Database Development | BAA/CPFF | SAIC, Orlando, FL | 4415 | 0 | | 0 | | 0 | | 0 | 4415 | 4415 |
| d . SEDRIS DATABASES | C/CPFF | SAIC, Orlando, FL | 500 | 0 | | 0 | | 0 | | 0 | 500 | 500 |
| e . CCTT Pre Planned Product Improvements (P3I) | C/TBS | TBS | 0 | 1413 | 2Q | 3487 | 1Q | 5081 | 1Q | 9382 | 19363 | 22259 |
| | | | | | | | | | | | | |
| Subtotal: | | | 241010 | 4331 | | 3487 | | 5081 | | 9382 | 263291 | 266122 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604780A - COMBINED ARMS TACTICAL TRAINER (CATT)**

PROJECT
**571**

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Engineering and Technical Support | MIPRs/T&M | Various activities | 32062 | 0 | | 0 | | 0 | | 0 | 32062 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 32062 | 0 | | 0 | | 0 | | 0 | 32062 | 0 |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

Remarks: Not Applicable

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604780A - COMBINED ARMS TACTICAL TRAINER (CATT)**

PROJECT
**571**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Project Office Support | MIPR | PEO STRI/NAVAIR, Orlando, FL | 13425 | 514 | 1-3Q | 511 | 1-3Q | 515 | 1-3Q | 1600 | 16565 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 13425 | 514 | | 511 | | 515 | | 1600 | 16565 | 0 |
| Project Total Cost: | | | 286497 | 4845 | | 3998 | | 5596 | | 10982 | 311918 | 266122 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604780A - COMBINED ARMS TACTICAL TRAINER (CATT)** | **571** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| P3I Software/Hardware Insertions Delivery | 4Q | 4Q | 4Q | 4Q | 4Q | 4Q | | |
| BFIST Delivery | 2Q | | | | | | | |
| LINUX Delivery | 3Q | | | | | | | |
| DI Product Improvement Prototype Delivery | 3Q | | | | | | | |
| AAR Product Improvement Prototype Delivery | 2Q | | | | | | | |
| SEDRIS Databases Delivery | | 2Q | | | | | | |
| ATCCS Integration | | 3Q | | | | | | |
| Enhanced DI Production Ready Delivery | | 3Q | | | | | | |
| AAR Production Ready Delivery | | 3Q | | | | | | |

Fiscal Year 2002 Milestones Are Complete.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604780A - COMBINED ARMS TACTICAL TRAINER (CATT)** | **582** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 582 SYNTHETIC ENVIR CORE | 7289 | 3402 | 0 | 0 | 0 | 4644 | 11964 | 12423 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** Synthetic Environment Core (SE Core) enables the Army's common virtual environment (CVE) that links system and nonsystem virtual training simulations into an integrated and interoperable training system with fair fight capability for Legacy, Interim, and Objective Forces; enables linkage of the CVE to the live and constructive environments for an integrated Synthetic Training Environment (STE) to support Army transformation and Combined Arms Training Strategy (CATS). These are System Development and Demonstration (SSD) enhancements to the Synthetic Environment baseline for virtual training in a Combined Arms Collective environment. The SSD will transform the current heavy force environment to support the transformation to light and medium force for virtual training. The program will provide terrain databases, aviation behaviors, Air Defense capabilities, environmental effects (e.g., wind, fog) that enable the Army, specifically the aviation community, to conduct collective training and aviation combined arms training in the virtual environment. SE Core will provide the Semi-Automated Forces (SAF) behaviors via OneSAF to represent the evolving structure, tactics, and procedures of the Army's digitized battlefield. SE Core will provide the additional aviation models to support aviation collective training, and will provide for extended environments to simulate the aviation weapon systems and communication particular to the aviation community. The program will provide for scenario development to support aviation combined arms and collective training and After Action Review (AAR) of an exercise.

Supports Aviation Functional Area Assessment (FAA), providing collective, combined arms training. This system supports the Objective transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Continued development of aviation terrain database, interoperability between aviation and ground simulations, and mission planning and controls for the Aviation Combined Arms Tactical Trainer-Aviation (AVCATT-A) system. Functional capabilities of the system were tested during Builds 3 and 4 and will be completed during System Combined Test (SCT). Work continues on the SAF, Battlemaster Control Console, AAR and visual model upgrades for the Comanche development and Longbow reconfigurable configuration. All contractual requirements are obligated. | 5513 | 0 | 0 | 0 |
| Provide government program management, engineering, technical, contract, and test support for SE Core refinements. | 263 | 53 | 0 | 0 |
| Maintain support services and government agency support to program office. | 1513 | 889 | 0 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Initiate Engineering Change Proposals (ECPs) to include visual, SAF, interoperability and manned modules. Correction of deficiencies identified in the Deficiency Report (DRs) prior to testing. Continue the aviation refinements of SE Core architecture. | 0 | 2460 | 0 | 0 |
| Totals | 7289 | 3402 | 0 | 0 |

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

**C. Acquisition Strategy:** System Development and Demonstration (SDD) competitive contract against performance specification.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604780A - COMBINED ARMS TACTICAL TRAINER (CATT)**

PROJECT
**582**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . SE Core | C/CPAF/FPIF/FFP | L-3Com (Raytheon Systems Co.) Arlington, TX | 21913 | 2460 | 2-3Q | 0 | | 0 | | 0 | 24373 | 0 |
| b . SE Core | SS/FFP | Kaiser Electro-Optics, Inc. | 53 | 0 | | 0 | | 0 | | 0 | 53 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 21966 | 2460 | | 0 | | 0 | | 0 | 24426 | 0 |

Remarks: Raytheon Systems Co. has sold this part of their company to L-3Com.

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Engineering Services & Technical Support | C/FFP/T&M | Madison Research Orlando, FL | 504 | 53 | 2Q | 0 | | 0 | | 0 | 557 | 0 |
| b . Engineering Services & Technical Support | C/FFP/T&M | AST, Inc., Orlando, FL | 124 | 0 | | 0 | | 0 | | 0 | 124 | 0 |
| c . Program Support | FFP | Strategic Performance Institute, Laguna Hills, CA | 11 | 0 | | 0 | | 0 | | 0 | 11 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 639 | 53 | | 0 | | 0 | | 0 | 692 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604780A - COMBINED ARMS TACTICAL TRAINER (CATT)**

PROJECT
**582**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . IOT&E | MIPR | Operational Test Command, Ft. Hood, TX | 443 | 0 | | 0 | | 0 | | 0 | 443 | 0 |
| b . Software Testing | MIPR | DCMDW, Carson, CA | 12 | 0 | | 0 | | 0 | | 0 | 12 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 455 | 0 | | 0 | | 0 | | 0 | 455 | 0 |

Remarks: Not Applicable

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Project Office Support | MIPR | PEO STRI/NAVAIR Orlando TSD | 1852 | 889 | 1Q | 0 | | 0 | | Continue | 2741 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1852 | 889 | | 0 | | 0 | | Continue | 2741 | 0 |
| Project Total Cost: | | | 24912 | 3402 | | 0 | | 0 | | Continue | 28314 | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604780A - COMBINED ARMS TACTICAL TRAINER (CATT)**

PROJECT
**582**

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Software Build 3(A & B) Test | 1Q | | | | | | | |
| Software Build 3(C) Test | 2Q | | | | | | | |
| Software Build 4 Test | | 1Q | | | | | | |
| System Combined Test (SCT) | | 2Q | | | | | | |
| Mission Planning | | 4Q | | | | | | |
| SAF Interoperability (other Aviation Sims.) | | 4Q | | | | | | |
| Visual and Manned Modules | | | 1Q | | | | | |

Fiscal Year 2002 Milestones Are Complete.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604783A - JOINT NETWORK MANAGEMENT SYSTEM** | **363** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 363 | JOINT NETWORK MANAGEMENT SYSTEM | 21225 | 7677 | 9437 | 10811 | 5386 | 5372 | 3000 | 2936 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** The Joint Network Management System (JNMS) is a Combatant Commander and Commander, Joint Task Forces (CJTF), joint communications planning and management tool. JNMS is an automated software system. It will provide communication planners with a common set of tools to conduct high level planning (war planning), detailed planning and engineering, monitoring, control and reconfiguration, spectrum planning and management, and security of communications and data systems used to support a Joint Task Force (JTF). These systems include circuit switches, data switches, message switches, single channel networks, transmission systems and satellite systems. It will promote force level situational awareness; provide enhanced flexibility to support the commander's intent; improve management of scarce spectrum resources; and provide increased security of these critical systems and networks.

This system supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP) and the Warfighter Information Network-Tactical (WIN-T).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Concept Requirement and Analysis for Combined Build Key Performance Parameters (KPP) Threshold and Threshold Baseline. | 5594 | 0 | 0 | 0 |
| System Design for Combined Build Baseline | 4582 | 991 | 0 | 0 |
| Software Integration for the Combined Build Baseline | 6199 | 1329 | 0 | 0 |
| Plan and Conduct Initial Operational Test and Evaluation (IOT&E) | 1350 | 3231 | 609 | 0 |
| Tactical Operations Center, Comm systems Platform for USAIC Command Information Center | 3500 | 0 | 0 | 0 |
| Functional Qualification Test (FQT) for the Combined Build Baseline | 0 | 2126 | 0 | 0 |
| Concept Requirement and Analysis for Objective Baseline # 1 | 0 | 0 | 1704 | 0 |
| System Design for Objective Baseline # 1 | 0 | 0 | 1830 | 0 |
| Software Integration for Objective Baseline # 1 | 0 | 0 | 2114 | 0 |
| FQT for Objective Baseline # 1 | 0 | 0 | 2038 | 0 |
| Develop/Maintain Software Upgrades | 0 | 0 | 1142 | 1860 |
| Concept Requirement and Analysis for Objective Baseline #2 | 0 | 0 | 0 | 1899 |
| System Design for Objective Baseline #2 | 0 | 0 | 0 | 2205 |
| Software Integration for Objective Baseline #2 | 0 | 0 | 0 | 3565 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| FQT for Objective Baseline #2 | 0 | 0 | 0 | 1282 |
| Totals | 21225 | 7677 | 9437 | 10811 |

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 25912 | 8028 | 8009 | 6996 |
| Current Budget (FY 2004/2005 PB) | 21225 | 7677 | 9437 | 10811 |
| Total Adjustments | -4687 | -351 | 1428 | 3815 |
| Congressional program reductions | | | | |
| Congressional rescissions | | -89 | | |
| Congressional increases | | | | |
| Reprogrammings | -3998 | -44 | | |
| SBIR/STTR Transfer | -721 | -218 | | |
| Adjustments to Budget Years | | | 1428 | 3815 |

FY02 - IAW Army priorities, funds reprogrammed to another high priority program.
FY04/05 - Funds increased to support emerging requirements.

| C. Other Program Funding Summary | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| B95700 JOINT NETWORK MGT SYSTEM | 0 | 6682 | 9452 | 7682 | 3199 | 5223 | 974 | 973 | Continue | Continue |

**D. Acquisition Strategy:** TRADOC approved Revision 2 to the JNMS Operational Requirements Document (ORD). MS A/B approval led to a development contract award 14 May 2001. Development contract provides the vehicle for the phased development of the JNMS operational baselines, combined build Key Performance Parameter (KPP) Threshold Baselines, Threshold Baselines and subsequent Objective Baselines.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604783A - JOINT NETWORK MANAGEMENT SYSTEM**

PROJECT
**363**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . JNMS Development | CPFF/T&M/ FFP | SAIC - San Diego, CA | 14859 | 4894 | 3Q | 6450 | 3Q | 8205 | 3Q | Continue | 34408 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 14859 | 4894 | | 6450 | | 8205 | | Continue | 34408 | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604783A - JOINT NETWORK MANAGEMENT SYSTEM**

PROJECT
**363**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Test Support | MIPR | Various | 1621 | 1120 | 2Q | 957 | 2Q | 305 | 2Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1621 | 1120 | | 957 | | 305 | | Continue | Continue | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Contractor Engineering | Various | Various | 1171 | 269 | 2Q | 590 | 2Q | 660 | 2Q | Continue | Continue | 0 |
| b . Government Engineering | MIPR | Various | 2805 | 1021 | 2Q | 1065 | 2Q | 1216 | 2Q | Continue | Continue | 0 |
| c . PM Support-Core | MIPR | Various | 769 | 373 | 2Q | 375 | 2Q | 425 | 2Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 4745 | 1663 | | 2030 | | 2301 | | Continue | Continue | 0 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 21225 | 7677 | | 9437 | | 10811 | | Continue | Continue | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604783A - JOINT NETWORK MANAGEMENT SYSTEM**

PROJECT
**363**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Software Development for the Combined Build Baseline | 1-4Q | 1-3Q | | | | | | |
| Functional Qualification Testing on Combined build Baseline | | 3Q | | | | | | |
| Begin Development of Objective Baseline #1 | | | 1Q | | | | | |
| Operational Test | | 4Q | 1Q | | | | | |
| Milestone C Decision | | | 3Q | | | | | |
| Material Release | | | 3Q | | | | | |
| Functional Qualification Testing for Objective Baseline #1 | | | 4Q | | | | | |
| Begin Development of Objective Baseline #2 | | | | 1Q | | | | |
| Software Release for Objective baseline #1 | | | | | 1Q | | | |
| Functional Qualification Testing for Objective baseline #2 | | | | 4Q | | | | |
| Begin Development of Objective baseline #3 | | | | | 1Q | | | |
| Software Release for Objective Baseline #2 | | | | | | 1Q | | |
| Functional Qualification Testing for Objective Baseline #3 | | | | | 4Q | | | |
| Begin Development Of Objective Baseline #4 | | | | | | 1Q | | |
| Software Release for Objective Baseline #3 | | | | | | | 1Q | |
| Functional Qualification Testing for Objective Baseline #4 | | | | | | 4Q | | |
| Begin Development of Objective Baseline #5 | | | | | | | 1Q | |
| Software Release for Objective Baseline #4 | | | | | | | | 1Q |
| Functional Qualification Testing for Objective Baseline #5 | | | | | | | 4Q | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604801A - Aviation - Eng Dev** | **C45** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| C45 AIRCREW INTEGRATED SYS-ED | 5365 | 3481 | 2379 | 2390 | 2305 | 2302 | 2534 | 2631 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** Air Warrior System Development and Demonstration project provides improved aviator safety, survivability, and human performance that amplify the warfighting effectiveness and facilitates full-spectrum dominance of the Army Transformation aircraft including the RAH-66 Comanche, AH-64 Apache/Longbow, CH-47 Improved Cargo Helicopter, and the UH/HH-60A/L/M Black Hawk. These programs include soldier systems and equipment which are unique and necessary for the sustainment, survivability, and performance of Army aircrews and troops on the future integrated battlefield and related training missions and counter the use of asymmetrical strategies that could prevent or disrupt aviation operations. The Air Warrior program will provide the aircrew with a systems approach to chemical and biological (CB) protection, noise protection, microclimate conditioning, crash and post-crash survivability, concealment and environmental protection, ballistic protection, night vision capability, heads-up display, directed energy eye protection and flame/heat protection. Specifically, Air Warrior will enable the Army Aviation Warfighter to exceed the approved Operational Requirements Document mission length of 5.3 hours, as opposed to the 1.6 hours of mission capability (that exists today) with aviators in full chemical/biological protective gear. Preplanned block improvements integrating new technologies into the Air Warrior ensemble will continue to enhance and maximize aircrew mission performance, aircrew comfort, aircrew and airc rew station interface, safety and survivability in force modernization aircraft. These funds also resource improved laser protection against emerging new threat systems and product improvement of existing helmets to improve performance and increased commonality. The Retinal Scanning Display (RSD) effort develops RSD technology for incorporation into helmet-mounted displays of Army aircrews. The Cockpit Air Bag System (CABS) is a supplemental restraint system that reduces aviator deaths and injuries caused by body and head flailing against cockpit structures to improve crash survivability and reduce potential injuries and fatalities. The CABS includes integration into the aircraft platform of common components, including Air Bag modules and the crash sensor and system packaging. Maximum advantage will be taken of simulation to reduce program technical risk through early user evaluation and to reduce program design and test cost and schedules. This project does not duplicate any aircraft platform program efforts. Both joint and service independent efforts continue to be pursued under the scope of this project. This system supports the Objective transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Continued Air Warrior System Development and Demonstration for the Block 1 ensemble and components design. | 3596 | 0 | 0 | 0 |
| Developed the Electronic Crash Sensor Unit location on the CH-47 Cargo for Cockpit Air Bag System integration with the CH-47 Cargo aircraft platform. | 1769 | 0 | 0 | 0 |
| Complete Air Warrior Block 1 ensemble System Development and Demonstration and begin the integration of preplanned Air Warrior Block 2 improvements. | 0 | 3052 | 0 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Continue the integration of preplanned Air Warrior Block 2 improvements. | 0 | 0 | 2379 | 2390 |
| Evaluate integrated technologies for the development of high level ballistic protection for aviators. | 0 | 429 | 0 | 0 |
| Totals | 5365 | 3481 | 2379 | 2390 |

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 4032 | 3150 | 2433 | 2437 |
| Current Budget (FY 2004/2005 PB) | 5365 | 3481 | 2379 | 2390 |
| Total Adjustments | 1333 | 331 | -54 | -47 |
| Congressional program reductions | | | | |
| Congressional rescissions | -25 | -51 | | |
| Congressional increases | | 500 | | |
| Reprogrammings | 1465 | -20 | | |
| SBIR/STTR Transfer | -107 | -98 | | |
| Adjustments to Budget Years | | | -54 | -47 |

FY 2002: The $1.465 million reprogramming was to support Air Warrior engineering development.
FY 2003: $0.500 million congressional increase for high level ballistic protection development.

| **C. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| RDTE, A PE 0603801A PROJ DB45 - ACIS AD | 6597 | 4276 | 2873 | 2862 | 3437 | 3436 | 3516 | 3612 | Continue | Continue |
| Aircraft Procurement, Army SSN AZ3110 - ACIS | 15092 | 14956 | 28894 | 28719 | 29573 | 34177 | 41354 | 38105 | Continue | Continue |

**D. Acquisition Strategy:** An Air Warrior Program Definition and Risk Reduction (PDRR) development contract was awarded in FY 1997 to perform a functional requirements analysis and consider user requirements and available technologies to optimize recommended alternatives within the constraints of cost as an independent variable. The Air Warrior basic ensemble program was approved to proceed into an engineering manufacturing development system life cycle phase in 1st Quarter, FY 1999. Currently, a combined government and contractor team is developing Air Warrior improvements and integrating those components into a Block I Air Warrior ensemble that will be integrated with the Objective Force aircraft. Prototypes that represent the Block 1 Air Warrior ensemble have been developed and successfully tested in developmental and operational testing. This testing was completed ahead of schedule. The Air Warrior aircraft platform specific, nonrecurring production engineering began during FY 2002 in preparation for the Block 1 ensemble production, aircraft integration, and fielding. Beginning in FY 2003, system development and demonstration of preplanned product improvements to the Block 1 ensemble will integrate joint and new technologies as block improvements to the Air Warrior ensemble. The Cockpit Air Bag System (CABS) is being integrated into the CH-47 aircraft platform by the original development contractor for the CABS.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604801A - Aviation - Eng Dev**

PROJECT
**C45**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Air Warrior Development | CPFF & C/FP | Various | 15928 | 2418 | 2Q | 2048 | 1Q | 1879 | 1Q | Continue | Continue | Continue |
| b . Helmet Mounted Display | SS-CPFF | Microvision, Seattle, WA & Various | 15552 | 0 | | 0 | | 0 | | 0 | 15552 | 15552 |
| c . Cockpit Air Bag System integration into CH-47 Cargo Helicopter | CPFF | Simula Inc., Phoenix, AZ | 1769 | 0 | | 0 | | 0 | | 0 | 1769 | 1769 |
| d . Evaluate integrated technologies for high level ballistic protection for aviators | MIPR | U.S. Army Soldier Systems Center, Natick, MA | 0 | 429 | 2Q | 0 | | 0 | | 0 | 429 | 429 |
| | | | | | | | | | | | | |
| Subtotal: | | | 33249 | 2847 | | 2048 | | 1879 | | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604801A - Aviation - Eng Dev**

PROJECT
**C45**

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Matrix Support | MIPR and Project Order | Various Government | 2186 | 250 | 1-4Q | 29 | 1-4Q | 52 | 1-4Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 2186 | 250 | | 29 | | 52 | | Continue | Continue | Continue |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Developmental Testing | MIPR | Various Government | 1483 | 202 | 2Q | 98 | 2Q | 247 | 2Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 1483 | 202 | | 98 | | 247 | | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604801A - Aviation - Eng Dev**

PROJECT
**C45**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . PM Administration | Allotment | Various Government | 1435 | 182 | 1-4Q | 204 | 1-4Q | 212 | 1-4Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 1435 | 182 | | 204 | | 212 | | Continue | Continue | Continue |
| Project Total Cost: | | | 38353 | 3481 | | 2379 | | 2390 | | Continue | Continue | Continue |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604801A - Aviation - Eng Dev** | **C45** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Began Air Warrior Block 1 nonrecurring production engineering integration into aircraft platforms. | 2Q | | | | | | | |
| Completed Air Warrior System Block 1 Developmental and Operational Tests. | | 1Q | | | | | | |
| Air Warrior Basic Block 1 ensemble Full Rate Production Decision. | | 2Q | | | | | | |
| Advanced Component Development of Air Warrior Block 2 & 3 improvements. | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| System Development and Demonstration of Air Warrior Block 2 & 3 improvements. | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Air Warrior Block 1 FUE. | | | 2Q | | | | | |

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

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604802A - Weapons and Munitions - Eng Dev**

| | COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Program Element (PE) Cost | 16546 | 50341 | 129409 | 133444 | 126186 | 52124 | 69961 | 33109 | 0 | 628818 |
| 134 | OBJ IND CBT WPN ENG DE | 0 | 0 | 0 | 35201 | 21373 | 0 | 0 | 0 | 0 | 56574 |
| 613 | MORTAR SYSTEMS | 9577 | 8188 | 34823 | 40801 | 64161 | 19377 | 37925 | 11369 | 0 | 237365 |
| 705 | ADV PRECISION KILL WEAPON SYSTEM (APKWS) - SD&ED | 0 | 23369 | 35112 | 11414 | 6667 | 9405 | 18252 | 16966 | 0 | 121185 |
| AS1 | SMALL ARMS IMPROVEMENT | 5527 | 8564 | 8905 | 10463 | 4337 | 2374 | 13784 | 4774 | 0 | 65282 |
| AS5 | LOW COST COMPETENT MUNITIONS (LCCM) | 1442 | 6203 | 12759 | 0 | 0 | 0 | 0 | 0 | 0 | 20404 |
| AS6 | COMMON REMOTELY OPERATED WEAPONS STATION (CROWS) | 0 | 2582 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2582 |
| AS8 | XM395 PRECISION GUIDED MORTAR MUNITION (PGMM) | 0 | 1435 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1435 |
| S23 | SURF LNCH ADV MED RNG AIR-TO-AIR MSL (SLAMRAAM) | 0 | 0 | 37810 | 35565 | 29648 | 20968 | 0 | 0 | 0 | 123991 |

**A. Mission Description and Budget Item Justification:** This program element funds multiple efforts for engineering development of weapons and munitions systems.

The Objective Individual Combat Weapons Engineering Development (D134) funds the XM29, Integrated Air Burst Weapons System, which represents the next generation of the individual weapons system for U.S. Armed Services. This modular, dual-barrel weapon system includes revoluntionary high-explosive air bursting munitions, standard NATO 5.56mm kinetic energy projectiles and an integrated, multifunctional, all environment, full-solution target acquisition/fire control system. This system supports the Legacy-to-Objective transition path of the Transfromation Campaign Plan (TCP).

The Mortar Systems (D613) effort supports development of the Mortar Fire Control System (MFCS). The MFCS is a revolutionary improvement in mortar capability, seamlessly linking mortar fires in the future digital battlefield. Additionally, it funds development of the Precision Guided Mortar Munition.

Project D705, the Advanced Precision Kill Weapon System (APKWS), is a highly accurate weapon that will complement the HELLFIRE missile in precision

strikes against soft point targets and provide improved accuracy over the current 2.75-inch munition used on the AH-64 Apache, OH-58 Kiowa Warrior, and the future RAH-66 Comanche helicopters. The APKWS will provide at least ten times the number of kills, thereby substantially reducing collateral damage and reducing cost. The APKWS supports the Legacy to Objective Force transition path of the Transformation Campaign Plan.

The Small Arms Improvement program (AS1) develops technology to enhance lethality, target acquisition, fire control, training effectiveness, and/or reliability for small arms weapon systems . This program supports the Legacy-to-Objective transition path of the Transformation Campaign Plan (TCP).

Project AS5 funds the design, development, assembly and test of a Low Cost Competent Munition (LCCM) fuze, now known as the Course Correcting Fuze (CCF). The final concept for the LCCM will probably encompass a standard fuze equipped with a Global Positioning System (GPS) receiver, an air-drag device compensating for gun and meteorological ballistics effects, a Fuze, Safe and Arm (FSA) mechanism, a U.S. required Selective Availability, Anti-Spoof GPS Module (SAASM), a smaller high power battery, an inductive fuze data link, and improved trajectory correcting software algorithms. The LCCM program supports the Legacy transition path of the Transformation Campaign Plan (TCP).

Project AS8 funds the M223E1 Pyrotechnic Self-Destruct Fuze (p-SDF). The p-SDF will be developed and optimized for potential application for the 155mm M864 Recapitalization Program. The effort addresses incorporating mechanical enhancements focused on improving the reliability of both the primary and secondary (pyrotechnic) fuze modes; as well as pyrotechnic enhancements to achieve the minimum desired burn rate during all operational scenarios. The FY03 program will demonstrate the final fuze design and prove out the entire p-SDF manufacturing process to support the M864 Recapitalization Qualification Phase in FY04 and production in early FY05.

Project S23, the Surface Launched Advanced Medium Range Air-To-Air Missile (SLAMRAAM), is the initial kinetic energy component of the Enhanced Area Air Defense System (EAADS), an AMD Objective Force system. SLAMRAAM's force protection mission is to engage the low-altitude aerial threats out to 18km. This system supports the Objective transformation path of the Transformation Campaign Plan (TCP).

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 17146 | 41758 | 88837 | 61744 |
| Current Budget (FY 2004/2005 PB) | 16546 | 50341 | 129409 | 133444 |
| Total Adjustments | -600 | 8583 | 40572 | 71700 |
| Congressional program reductions | | | | |
| Congressional rescissions | | -578 | | |
| Congressional increases | | 10900 | | |
| Reprogrammings | -124 | -289 | | |
| SBIR/STTR Transfer | -476 | -1450 | | |
| Adjustments to Budget Years | | | 40572 | 71700 |

FY 2003: Congressional increases provided for the following programs: Mortar Anti-Personnel Anti-Materiel (MAPAM) $3.5M; 155mm M795E1 Extended Range Base Burner $1.5M; Common Remotely Operated Weapon Station (CROWS) $2.7M; Pyrotechnic Self-Destruct Fuze $1.5M; Surface Launched Advanced Medium Range Air-to-Air Missile (SLAMRAAM) $1.7M.

FY 2004: Increases due to funds being realigned to Mortar Systems (613), LCCM program (AS5), and continued development of SLAMRAAM (S23).

FY 2005: Increases due to funds being realigned to Mortar Systems (613), SLAMRAAM continued development (S23), and initiation of the System Development and Demonstration phase of the XM29 Integrated Air Burst Weapons System program (134).

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604802A - Weapons and Munitions - Eng Dev** | **134** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 134 OBJ IND CBT WPN ENG DE | 0 | 0 | 0 | 35201 | 21373 | 0 | 0 | 0 | 0 | 56574 |

**A. Mission Description and Budget Item Justification:** The XM29, Integrated Air Burst Weapon represents the next generation of the individual weapon system for U.S. Armed Services and specifically Objective Force Soldier. This modular dual barrel weapon system includes revolutionary high explosive air bursting munitions, standard NATO 5.56mm kinetic energy projectiles and an integrated, multifunctional, all environment, full-solution target acquisition/fire control system. The XM29 will provide decisively violent and suppressive target effects to ~500 meters. The XM29 provides the soldier with a 300-500% increase in hit probability to defeat point, area and defilade targets out to ~500 meters. It will dramatically increase soldier survivability, standoff and versatility. The XM29 will replace selected M16 Rifles and M4 Carbines. This system supports the Legacy-to-Objective transition path of the Transformation Campaign Plan (TCP).

This project transitions from Budget Activity 4 (PE 0603802 DAS3) to Budget Activity 5 (0604802 D134) in FY05.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Program Development | 0 | 0 | 0 | 7050 |
| SDD - Development and Analysis | 0 | 0 | 0 | 24401 |
| Long Lead Items | 0 | 0 | 0 | 3000 |
| Tropic Test | 0 | 0 | 0 | 750 |
| Totals | 0 | 0 | 0 | 35201 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| RDT&E: PE 0603802.AS3 - Objective Individual Combat Weapon (OICW) PD/RR | 29860 | 25523 | 31856 | 4868 | 0 | 0 | 0 | 0 | 0 | 92107 |
| WTCV: SSN G16100 Objective Individual Combat Weapon | 0 | 0 | 0 | 0 | 26881 | 27141 | 25748 | 29430 | Continuing | Continuing |
| PAA: SSN E92500 Objective Individual Combat Weapon (OICW) | 0 | 0 | 0 | 0 | 9800 | 12500 | 19628 | 15280 | Continuing | Continuing |

**C. Acquisition Strategy:** The Program Definition & Risk Reduction (PDRR) phase (Project DAS3) is utilizing modeling and simulation to support the development, building and testing of the weapon systems. The System Development and Demonstration (SDD) phase will complete development of the weapon system and verify training solution for MS C approval. The acquisition strategy utilizes an evolutionary approach to accelerate fielding of new capabilities.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604802A - Weapons and Munitions - Eng Dev**

PROJECT
**134**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Primary System Contract | TBD | Contractor TBD | 0 | 0 | | 0 | | 24401 | 3Q | 11273 | 35674 | 0 |
| b . Long Lead Items | TBD | Contractor TBD | 0 | 0 | | 0 | | 3000 | 3Q | 4300 | 7300 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 27401 | | 15573 | 42974 | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Development Support | MIPR | Multiple | 0 | 0 | | 0 | | 5750 | 2-4Q | 1875 | 7625 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 5750 | | 1875 | 7625 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604802A - Weapons and Munitions - Eng Dev**

PROJECT
**134**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Tropic Test | MIPR | Army Test & Evaluation Command, VA (ATEC) | 0 | 0 | | 0 | | 750 | 4Q | 0 | 750 | 0 |
| b . PPT | MIPR | Army Test & Evaluation Command, VA (ATEC) | 0 | 0 | | 0 | | 0 | | 1500 | 1500 | 0 |
| c . Arctic Test | MIPR | Army Test & Evaluation Command, VA (ATEC) | 0 | 0 | | 0 | | 0 | | 750 | 750 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 750 | | 2250 | 3000 | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Program Management | In-House | PM Soldier Weapons | 0 | 0 | | 0 | | 725 | 2-4Q | 900 | 1625 | 0 |
| b . Travel | In-House | PM Soldier Weapons | 0 | 0 | | 0 | | 75 | 2-4Q | 125 | 200 | 0 |
| c . Program Management Support | Time & Material | Contractor TBD | 0 | 0 | | 0 | | 500 | 2Q | 650 | 1150 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 1300 | | 1675 | 2975 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604802A - Weapons and Munitions - Eng Dev** | **134** |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 0 | 0 | | 0 | | 35201 | | 21373 | 56574 | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604802A - Weapons and Munitions - Eng Dev**

PROJECT
**134**

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Interim Progress Review (IPR) | | | | 3Q | | | | |
| Tropic Test | | | | 4Q | | | | |
| Pre-Production Test (PPT) | | | | | 1Q | | | |
| Arctic Test | | | | | 2Q | | | |
| Milestone C | | | | | 3Q | | | |
| Low Rate Initial Production (LRIP) | | | | | 4Q | | | |
| Initial Operational Test and Evaluation (IOT&E) | | | | | | 2Q | | |
| Full Rate Production Decision Review | | | | | | 4Q | | |
| First Unit Equipped | | | | | | | 4Q | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604802A - Weapons and Munitions - Eng Dev** | **613** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 613 MORTAR SYSTEMS | 9577 | 8188 | 34823 | 40801 | 64161 | 19377 | 37925 | 11369 | 0 | 237365 |

**A. Mission Description and Budget Item Justification:** Mortar Fire Control System (MFCS) - This program provides funds to complete development and type classify items that will enhance the effectiveness, lethality, versatility, mobility, and accuracy of mortar systems. Current mortar systems include conventional ammunition with a variety of fuzing, weapons that range from man-portable 60mm to vehicle-mounted 120mm mortars, and related equipment such as fire control, mortar ballistic computers, training devices, and ammunition. Current funding for this project continues development of the digital Mortar Fire Control System (MFCS) in heavy and light variants. The MFCS is a revolutionary improvement in mortar capability, seamlessly linking mortar fires in the future digital battlefield. The MFCS (Heavy) provides an on-board fire control system that includes a fire control computer, position navigation system, and gun pointing system. The MFCS allows mortar crews to set-up in one minute, down from the current eight minutes and accuracy is increased by a factor of four. Shorter exposure times increase crew survivability. The MFCS is fully compatible with the Advanced Field Artillery Tactical Data System (AFATDS), increasing situational awareness and reducing the probability of fratricide. This project fully supports and is an integral component of the Army's Legacy-to-Objective path of the TCP.

Precision Guided Mortar Munition (PGMM) - This program provides funds to perform system and technical development that will enhance the effectiveness, lethality, versatility, mobility, and accuracy of mortar systems. Current mortar systems include conventional ammunition with a variety of fuzing weapons that range from man-portable 60mm to vehicle-mounted 120mm mortars, and related equipment such as fire control, mortar ballistic computers, training devices, and ammunition. FY04-FY07 funds provide for start and completion of System Development & Demonstration (SDD) of a Block 1 Precision Guided Mortar Munition (PGMM). The PGMM will be a precision strike round using advanced sensors and guidance systems, extended range and enhanced lethal mechanism technology. It will be capable of a first round defeat of high-value, hard-point targets such as bunkers and command and control centers. The capability to hit point targets in built-up areas makes this especially valuable in Military Operations in Urban Terrain (MOUT) and Military Operations Other Than War/Stability and Support Operations (MOOTW/SASO) situations. First round hit capability reduces the overall logistical burden, a critical goal for early entry forces. This system supports the Legacy-to-Objective transition path of the Transformation Campaign Plan (TCP).

The Mortar Anti-Personnel - Anti-Materiel (MAPAM) round is a program to evaluate and type classify a foreign round. Rounds have been procured for comparative testing via sole source contract to SM Swiss Ammunition Enterprise Corp.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604802A - Weapons and Munitions - Eng Dev** | **613** |

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| MFCS: Light Hardware Development | 0 | 2037 | 2323 | 2690 |
| MFCS: Software Development | 1311 | 2379 | 2121 | 1115 |
| MFCS: Light Test & Evaluation | 0 | 100 | 0 | 950 |
| MFCS: Heavy Development Test and Evaluation | 2712 | 0 | 0 | 0 |
| MFCS: Program Management | 299 | 270 | 270 | 270 |
| MFCS: Heavy Information Assurance | 178 | 0 | 0 | 0 |
| MFCS: Heavy Development Engineering | 933 | 250 | 0 | 0 |
| SMAW-CS: Procure hardware for system level qualification | 2091 | 0 | 0 | 0 |
| SMAW-CS: Complete engineering design of baseline system developed under FY00 and FY01 programs | 1426 | 0 | 0 | 0 |
| SMAW-CS: Continue to provide engineering support and analysis | 477 | 0 | 0 | 0 |
| SMAW-CS: Perform engineering design tests on components, integrated subsystems, and systems | 150 | 0 | 0 | 0 |
| PGMM: System Integration & Qualification | 0 | 0 | 0 | 21741 |
| PGMM: System Engineering | 0 | 0 | 3500 | 4225 |
| PGMM: Program Management | 0 | 0 | 1015 | 1110 |
| PGMM: Subsystem Test & System Integration | 0 | 0 | 20494 | 0 |
| PGMM: Development Test & Evaluation | 0 | 0 | 5100 | 8700 |
| MAPAM System Engineering | 0 | 1182 | 0 | 0 |
| MAPAM Test and Evaluation | 0 | 910 | 0 | 0 |
| MAPAM Vendor Hardware | 0 | 255 | 0 | 0 |
| MAPAM Contract Engineering Support | 0 | 400 | 0 | 0 |
| MAPAM Component Hardware and LAP | 0 | 344 | 0 | 0 |
| MAPAM Program Management | 0 | 61 | 0 | 0 |
| Totals | 9577 | 8188 | 34823 | 40801 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| Other Procurement, Army -2-: K99300 (MFCS) | 9650 | 28988 | 39517 | 14742 | 18900 | 37533 | 0 | 0 | 0 | 149330 |
| 0603802 AS4 Weapons and Munitions Advanced Development, Mortar Systems | 2687 | 7738 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10425 |
| Procurement, Army Ammunition - E86200 (CTG, Mortar, 120mm, PGMM) | 0 | 0 | 0 | 0 | 0 | 9882 | 22606 | 19567 | 181103 | 233158 |

**C. Acquisition Strategy:** Mortar Fire Control System (MFCS) - The prime contractor (L3 Communications-formerly Allied Signal Corp. of Teterboro, NJ) teamed with a number of subcontractors and the Government, started development of the MFCS. Because of impending cost growth on the contract with L3 Communications, the contract was not further funded. Development is being completed as a government in-house program. The Commander's Interface, a component of MFCS that performs the ballistic computer function is being procured and fielded due to an urgent need to replace the M23 Mortar Ballistic Computer. Initial production of the full system is scheduled for FY 2003 and is planned as a fixed price competitive system contract.

Precision Guided Mortar Munition (PGMM) - The Component Advanced Development (CAD) phase contract was awarded sole source to Lockheed Martin of Orlando, FL, in June 2002. Contract strategy for the System Development and Demonstration (SDD) phase will be determined prior to Milestone B.

The Mortar Anti-Personnel - Anti-Materiel (MAPAM) round is a program to evaluate and type classify a foreign round. Rounds have been procured for comparative testing via sole source contract to SM Swiss Ammunition Enterprise Corp.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604802A - Weapons and Munitions - Eng Dev**

PROJECT
**613**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . MFCS: System Development | Cost Share | L3 Com Teterboro, NJ/TACOM-ARDEC | 20221 | 0 | | 0 | | 0 | | 0 | 20221 | 0 |
| b . MFCS: Heavy Software Development | Project Order | TACOM-ARDEC Picatinny Arsenal NJ | 3440 | 0 | | 0 | | 0 | | 0 | 3440 | 0 |
| c . MFCS: Hardware Integration | Project Order | TACOM- ARDEC Picatinny Arsenal NJ | 396 | 0 | | 0 | | 0 | | 0 | 396 | 0 |
| d . MFCS: Hardware Integration | C/T&M Contract | Applied Ordnance Technology, Waldorf MD | 521 | 0 | | 0 | | 0 | | 0 | 521 | 0 |
| e . MFCS: Heavy Integration | Project Order | TACOM-RI Rock Island Ill | 451 | 0 | | 0 | | 0 | | 0 | 451 | 0 |
| f . MFCS: Software Development | Project Order | TACOM-ARDEC Picatinny Arsenal NJ | 1311 | 2379 | 2Q | 2121 | 2Q | 1115 | 2Q | 0 | 6926 | 0 |
| g . MFCS: Light Hardware Development | Contract | TBD | 0 | 857 | 3Q | 1143 | 2Q | 910 | 2Q | 0 | 2910 | 0 |
| h . MAPAM: Vendor Hardware | SS/FP | SM Swiss AEC Zurich, Switzerland | 6302 | 255 | 2Q | 0 | | 0 | | 0 | 6557 | 0 |
| i . 120mm SRTR: Development | SS/CR | Pocal Industries Scranton, PA | 836 | 0 | | 0 | | 0 | | 0 | 836 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604802A - Weapons and Munitions - Eng Dev**

PROJECT
**613**

| I. Product Development (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| j . SMAW-CS: Engineering Design of Baseline System | SS/CP | Talley Defense Systems Mesa, AZ | 1426 | 0 | | 0 | | 0 | | 0 | 1426 | 0 |
| k . MFCS: Light Hardware Development | Project Order | TACOM-ARDEC Picatinny Arsenal NJ | 0 | 800 | 2Q | 800 | 2Q | 800 | 2Q | 0 | 2400 | 0 |
| l . PGMM: SD&D - Subsystem Test & System Integration | Competitive/ CPIF | TBD | 0 | 0 | | 20494 | 2-3Q | 0 | | 0 | 20494 | 0 |
| m . PGMM: System Integration and Qualification | Competitive/ CPIF | TBD | 0 | 0 | | 0 | | 21741 | 2-3Q | 0 | 21741 | 0 |
| n . MAPAM: Component Hardware and LAP | TBD | TBD | 0 | 344 | 3Q | 0 | | 0 | | 0 | 344 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 34904 | 4635 | | 24558 | | 24566 | | 0 | 88663 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604802A - Weapons and Munitions - Eng Dev**

PROJECT
**613**

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . MFCS: Heavy Development Engineering | Project Order | TACOM-ARDEC Picatinny Arsenal NJ | 4895 | 250 | 2Q | 0 | | 0 | | 0 | 5145 | 0 |
| b . MFCS: Logistics Support | Project Order | TACOM-RI Rock Island Ill | 396 | 80 | 2Q | 80 | 2Q | 80 | 2Q | 0 | 636 | 0 |
| c . MAPAM: System Engineering | Project Order | TACOM-ARDEC Picatinny Arsenal NJ | 3100 | 1182 | 2Q | 0 | | 0 | | 0 | 4282 | 0 |
| d . 120mm Short Range Training Rd: Dev Support | Project Order | TACOM-ARDEC Picatinny Arsenal NJ | 350 | 0 | | 0 | | 0 | | 0 | 350 | 0 |
| e . MFCS: Light Dev Support | T&M Contract | CSC | 0 | 300 | 2Q | 300 | 2Q | 300 | 2Q | 0 | 900 | 0 |
| f . SMAW-CS: Engineering Support | Project Order | TACOM-ARDEC Picatinny Arsenal NJ | 477 | 0 | | 0 | | 0 | | 0 | 477 | 0 |
| g . PGMM: Systems Engineering | Project Order | TACOM-ARDEC Picatinny Arsenal NJ | 0 | 0 | | 3500 | 2-3Q | 4225 | 2-3Q | 0 | 7725 | 0 |
| h . MAPAM: Contract Engineering Support | SS/FP | SM Swiss AEC, Zurich, Switzerland | 0 | 400 | 2Q | 0 | | 0 | | 0 | 400 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 9218 | 2212 | | 3880 | | 4605 | | 0 | 19915 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604802A - Weapons and Munitions - Eng Dev**

PROJECT
**613**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . MFCS: Heavy Component Testing | MIPR | ATEC, Alexandria, VA | 1038 | 0 | | 0 | | 0 | | 0 | 1038 | 0 |
| b . MFCS: Heavy Development Test & Evaluation | MIPR | ATEC, Alexandria, VA | 3635 | 0 | | 0 | | 0 | | 0 | 3635 | 0 |
| c . MFCS: Information Assurance | MIPR | CECOM Ft Monmouth NJ | 178 | 0 | | 0 | | 600 | 2Q | 0 | 778 | 0 |
| d . MAPAM: Foreign Comparative Test | MIPR | TACOM-ARDEC Picatinny Arsenal, NJ | 1119 | 0 | | 0 | | 0 | | 0 | 1119 | 0 |
| e . MAPAM: PCA/Production Qualification Test | MIPR | ATEC, Alexandria, VA | 85 | 0 | | 0 | | 0 | | 0 | 85 | 0 |
| f . 120mm SRTR: Production Qualification Test | MIPR | ATEC, Alexandria, VA | 182 | 0 | | 0 | | 0 | | 0 | 182 | 0 |
| g . SMAW-CS: Engineering Design Test | MIPR | ATEC, Alexandria, VA | 150 | 0 | | 0 | | 0 | | 0 | 150 | 0 |
| h . SMAW-CS: System Test Hardware | SS/CP | Talley Defense Systems Mesa, AZ | 2091 | 0 | | 0 | | 0 | | 0 | 2091 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604802A - Weapons and Munitions - Eng Dev**

PROJECT
**613**

| III. Test and Evaluation (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| i . MFCS: Light Development Test | Project Order | TACOM-ARDEC Picatinny Arsenal, NJ | 0 | 100 | 2Q | 0 | | 350 | 2Q | 0 | 450 | 0 |
| j . MFCS: Light Development Test | MIPR | ATEC, Alexandria, VA | 0 | 0 | | 0 | | 600 | 2Q | 0 | 600 | 0 |
| k . PGMM: Development Test and Evaluation | Project Order | ATEC, Alexandria, VA | 0 | 0 | | 5100 | 2-3Q | 8700 | 2-3Q | 0 | 13800 | 0 |
| l . MAPAM: PQT | Project Order | Yuma Proving Ground, Yuma, AZ | 0 | 910 | 3Q | 0 | | 0 | | 0 | 910 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 8478 | 1010 | | 5100 | | 10250 | | 0 | 24838 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604802A - Weapons and Munitions - Eng Dev**

PROJECT
**613**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Mortar Fire Control System | In-house | PM Mortars, Picatinny Arsenal NJ | 1601 | 270 | 1Q | 270 | | 270 | | 0 | 2411 | 0 |
| b . Mortar Fire Control System | T&M Contract | Robbins-Gioia Inc Alexandria VA | 637 | 0 | | 0 | | 0 | | 0 | 637 | 0 |
| c . MAPAM | In-house | PM Mortars, Picatinny Arsenal NJ | 233 | 61 | 2Q | 0 | | 0 | | 0 | 294 | 0 |
| d . 120mm SRTR XM932 | In-house | PM Mortars, Picatinny Arsenal NJ | 78 | 0 | | 0 | | 0 | | 0 | 78 | 0 |
| e . SRTR Management Support | C/T&M Contract | Applied Ordnance Technology, Waldorf MD | 54 | 0 | | 0 | | 0 | | 0 | 54 | 0 |
| f . Precision Guided Mortar Munition | In-House | PM Mortars, Picatinny Arsenal NJ | 0 | 0 | | 1015 | 2Q | 1110 | 2Q | 0 | 2125 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 2603 | 331 | | 1285 | | 1380 | | 0 | 5599 | 0 |
| Project Total Cost: | | | 55203 | 8188 | | 34823 | | 40801 | | 0 | 139015 | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604802A - Weapons and Munitions - Eng Dev**

PROJECT
**613**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| FUE of Commander's interface as Mortar Ballis tic Computer | | 2Q | | | | | | |
| IOT&E of MFCS Heavy | | 1Q | | | | | | |
| Type Classification (MFCS Heavy) (MS III) | | 2Q | | | | | | |
| First Unit Equipped (MFCS Heavy) | | 3Q | | | | | | |
| SD&D of MFCS Light Block 1 | | 2Q | | 1Q | | | | |
| IOT&E of MFCS Light | | | 3Q | | | | | |
| Type Classification MFCS Light Block1 | | | | 1Q | | | | |
| First Unit Equipped - MFCS Light | | | | 4Q | | | | |
| Prototype Qualification Tests (MAPAM) | 3Q | | | | | | | |
| Prototype Tests (XM932) | 3Q | | | | | | | |
| PGMM Start SD&D Block 1 | | | 2Q | | | | | |
| PGMM System Integration Testing (Block 1) | | | | 2-4Q | | | | |
| PGMM Pre-Production Testing, MS C (Block 1) | | | | | 2-4Q | | | |
| PGMM Start SD&D Block 2 | | | | | | 2Q | | |
| PGMM System Integration Testing - Block 2 | | | | | | | 3-4Q | |
| PGMM Pre-Production Testing, MS C Block 2 | | | | | | | | 1-3Q |
| ER-DPICM SDD Start (MS B) | | | | | | 2Q | | |
| MAPAM Production Qualification Test | | 3Q | | | | | | |
| MAPAM Type Classification | | | | 2Q | | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604802A - Weapons and Munitions - Eng Dev** | **705** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 705 | ADV PRECISION KILL WEAPON SYSTEM (APKWS) - SD&ED | 0 | 23369 | 35112 | 11414 | 6667 | 9405 | 18252 | 16966 | 0 | 121185 |

**A. Mission Description and Budget Item Justification:** The Advanced Precision Kill Weapon System (APKWS) is a family of precision-guided rockets that combines a newly designed guidance section with existing 2.75-inch munition components and launch equipment. The APKWS is a highly accurate weapon that will complement the HELLFIRE missile in a precision strike against soft point targets. The APKWS will provide improved accuracy over the current 2.75-inch munition used on the AH-64 Apache, OH-58 Kiowa Warrior and the future RAH-66 Comanche helicopters. The APKWS Block 1 program will develop, test and qualify a laser guided 2.75-inch munition. Future planned enhancements include development and qualification of an improved warhead and fuze in FY 2006 and FY 2007, followed by the development and qualification of a new motor. The funding supports system level qualification for APKWS. The APKWS is expected to provide a substantial increase in the number of kills over the unguided Hydra 70 rocket and a reduction in collateral damage to minimize fratricide. The Advanced Technology Demonstration (ATD), Low Cost Precision Kill, was funded in Program Element 0603313, project 567. This system supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Define and develop system requirements and preliminary design for precision guided rocket including hardware and software. | 0 | 20878 | 32248 | 6156 |
| Develop test plans and test support equipment. | 0 | 1353 | 1571 | 3620 |
| Perform government engineering support. | 0 | 1138 | 1293 | 1638 |
| Totals | 0 | 23369 | 35112 | 11414 |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604802A - Weapons and Munitions - Eng Dev** | **705** |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| C70301 APKWS (Advanced Precision Kill Weapon System) | 0 | 0 | 0 | 20566 | 50458 | 65320 | 125869 | 160451 | 1435900 | 1858564 |
| PE 203802/786 APKWS Simulator Upgrade | 0 | 0 | 0 | 4915 | 4903 | 4777 | 4907 | 4903 | 54800 | 79205 |

* FY03 funding includes $1.634 million resulting from a $1.7 million Congressional increase for SLAMRAAM, which will be properly aligned from project 705 to project S23 for execution.

**C. Acquisition Strategy:** Development of the APKWS will be sole source. The APKWS Block 1 development program is a 30-month effort followed by enhancement efforts to the warhead,fuze and motor. The Low Rate Initial Production (LRIP) and Full Rate Production will be sole source. The U.S. Army Aviation and Missile Command (AMCOM) will provide assistance and technical expertise during the development effort.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604802A - Weapons and Munitions - Eng Dev**

PROJECT
**705**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Prime Contract | CPIF/AF | TBD | 0 | 17656 | 2Q | 29410 | 2Q | 4466 | 2Q | 33877 | 85409 | 0 |
| b . Support Costs | Various | Various | 0 | 391 | 1-4Q | 977 | 1-4Q | 742 | 1-4Q | 1657 | 3767 | 0 |
| c . Development Engineering | Various | Various | 0 | 1197 | 1-4Q | 1861 | 1-4Q | 948 | 1-4Q | 5320 | 9326 | 0 |
| d . SLAMRAAM FY03 Congressional increase | | | 0 | 1634 | | 0 | | 0 | | 0 | 1634 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 20878 | | 32248 | | 6156 | | 40854 | 100136 | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604802A - Weapons and Munitions - Eng Dev**

PROJECT
**705**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Test Support | Various | Various | 0 | 1353 | 1Q | 1571 | | 3620 | | 6266 | 12810 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 1353 | | 1571 | | 3620 | | 6266 | 12810 | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . In-House Support | Various | Various | 0 | 1138 | 1-4Q | 1293 | 1-4Q | 1638 | 1-4Q | 4171 | 8240 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 1138 | | 1293 | | 1638 | | 4171 | 8240 | 0 |
| Project Total Cost: | | | 0 | 23369 | | 35112 | | 11414 | | 51291 | 121186 | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604802A - Weapons and Munitions - Eng Dev**

PROJECT
**705**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Milestone B | | 1Q | | | | | | |
| Award APKWS SDD Contract | | 2Q | | | | | | |
| APKWS PDR | | 4Q | | | | | | |
| APKWS CDR | | | 2Q | | | | | |
| APKWS Testing | | | 3Q | | | | | |
| Milestone C | | | | 2Q | | | | |
| Warhead/Fuze Development | | | | | 1Q | | | |
| Warhead/Fuze PDR | | | | | 3Q | | | |
| Warhead/Fuze CDR | | | | | | 1Q | | |
| Warhead/Fuze ECP | | | | | | 2Q | | |
| Extended Range Rocket Motor Development | | | | | | 2Q | | |
| Motor/Seeker PDR | | | | | | 4Q | | |
| Motor/Seeker CDR | | | | | | | 2Q | |
| Motor/Seeker Testing | | | | | | | 4Q | |
| Motor/Seeker ECP | | | | | | | | 3Q |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604802A - Weapons and Munitions - Eng Dev** | **AS1** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AS1 | SMALL ARMS IMPROVEMENT | 5527 | 8564 | 8905 | 10463 | 4337 | 2374 | 13784 | 4774 | 0 | 65282 |

**A. Mission Description and Budget Item Justification:** This program provides funds to demonstrate engineering development models or integrated commercial items designed to enhance lethality, target acquisition, fire control, training effectiveness, and reliability for small arms weapon systems and munitions. Current small arms include a variety of personal defense weapons (9mm), individual weapons (5.56mm), crew-served weapons (5.56mm-40mm) and related items such as fire control equipment, training devices, hand grenades, and ammunition. Current efforts focus on improvements to the M249 Squad Automatic Weapon, M16/M4 Rifle, M203 Grenade Launcher, MK19 Grenade Machine Gun, M240B Medium Machine Gun, ammunition, and hand grenades. These small arms weapon systems support the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Light-Weight Ground Mount (XM192) | 0 | 0 | 0 | 0 |
| - Hardware Modification and Retesting | 416 | 0 | 0 | 0 |
| - Hardware Fabrication | 175 | 0 | 0 | 0 |
| - Technical Test Start | 75 | 0 | 0 | 0 |
| - OT Planning | 80 | 0 | 0 | 0 |
| - Technical Testing | 0 | 170 | 0 | 0 |
| - Operational Testing | 0 | 714 | 0 | 0 |
| - Independent Evaluation | 0 | 25 | 0 | 0 |
| - Type Classify/Milestone C | 0 | 286 | 0 | 0 |
| M249 RAM Improvement/Weight Reduction | 0 | 0 | 0 | 0 |
| - Execution, Design/Producibility | 0 | 0 | 424 | 0 |
| - Engineering Support | 0 | 0 | 170 | 0 |
| - Simulation & Modeling | 0 | 0 | 95 | 0 |
| - Prototype Fabrication | 0 | 0 | 0 | 95 |
| - Engineering Tests | 0 | 0 | 0 | 110 |
| - Finalize Design | 0 | 0 | 0 | 470 |
| - Hardware Fabrication | 0 | 0 | 0 | 337 |
| - | 0 | 0 | 0 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| M249 MG Barrel Life Extension Program | 0 | 0 | 0 | 0 |
| - Final Design, Tooling and Fabrication | 75 | 0 | 0 | 0 |
| - Technical Testing | 124 | 0 | 0 | 0 |
| - Technical Eval/Reports | 89 | 0 | 0 | 0 |
| - Fabricate Pre-Production Hardware | 0 | 100 | 0 | 0 |
| - Test Pre-Production Hardware | 0 | 110 | 0 | 0 |
| - Tech Data Support/ECP Approval | 0 | 150 | 0 | 0 |
| M249 Short Range Training Ammunition | 0 | 0 | 0 | 0 |
| - Program Documentation/MS B | 0 | 50 | 0 | 0 |
| - Engineering Development | 0 | 185 | 0 | 0 |
| - Technical Assessment | 0 | 20 | 0 | 0 |
| - Manufacture Prototypes | 0 | 50 | 0 | 0 |
| - Conduct Developmental Tests | 0 | 200 | 0 | 0 |
| - Environmental Analysis | 0 | 5 | 0 | 0 |
| - Draft Perf Spec | 0 | 20 | 0 | 0 |
| - Manprint Assessment | 0 | 0 | 5 | 0 |
| - Finalize Perf Spec | 0 | 0 | 75 | 0 |
| - Safety Confirmation | 0 | 0 | 15 | 0 |
| - Limited User Test | 0 | 0 | 15 | 0 |
| - System Evaluation Report | 0 | 0 | 76 | 0 |
| - Prepare Packages | 0 | 0 | 120 | 0 |
| - Staff Packages | 0 | 0 | 10 | 0 |
| - Milestone C IPR/TC | 0 | 0 | 10 | 0 |
| MK19 Remote Platform | 0 | 0 | 0 | 0 |
| - Test Planning | 150 | 0 | 0 | 0 |
| - Engineering Assessment Test | 500 | 0 | 0 | 0 |
| - Award Contract - Primary Hardware | 1200 | 0 | 0 | 0 |
| - M1117 Integration | 400 | 0 | 0 | 0 |
| - HMMWV Integration | 450 | 0 | 0 | 0 |
| - Developmental Testing | 579 | 0 | 0 | 0 |
| XM116 Sight, Computerized, SAFC | 0 | 0 | 0 | 0 |
| - Contract Modification Primary Hardware | 700 | 0 | 0 | 0 |
| - Program Documentation/Execution | 200 | 0 | 0 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| - Tradeoff Studies | 64 | 0 | 0 | 0 |
| MK19 Self-Destruct Cartridge | 0 | 0 | 0 | 0 |
| - Program Documentation/MS B | 0 | 100 | 0 | 0 |
| - Solicitation | 0 | 100 | 0 | 0 |
| - Bid Sample Test and Evaluation | 0 | 315 | 0 | 0 |
| - Contract Award | 0 | 800 | 0 | 0 |
| - Build/Test Validation Samples | 0 | 305 | 0 | 0 |
| - Manufacture Test Quantity | 0 | 0 | 835 | 0 |
| - DT | 0 | 0 | 687 | 0 |
| - OT/LFT | 0 | 0 | 100 | 0 |
| - Systems Evaluation Report (SER) | 0 | 0 | 0 | 15 |
| - Analysis Assessment/Program Documentation/MS C | 0 | 0 | 0 | 335 |
| - MS C IPR/TC-STD | 0 | 0 | 0 | 25 |
| M240 Weight Reduction | 0 | 0 | 0 | 0 |
| - Engineering Tests | 0 | 80 | 0 | 0 |
| - Program Documentation/MS B | 0 | 153 | 0 | 0 |
| - Award Contract | 0 | 100 | 0 | 0 |
| - Final Design/Fabricate Test Hardware | 0 | 422 | 595 | 0 |
| - Manufacturing Process Finalized | 0 | 0 | 153 | 0 |
| - Tech Test | 0 | 0 | 520 | 0 |
| - User Assessment | 0 | 0 | 100 | 0 |
| - Independent Assessment/Test Reports | 0 | 0 | 0 | 155 |
| - Analysis Assessment/Program Documentation/MS C | 0 | 0 | 0 | 260 |
| M240 Improved MG Barrel | 0 | 0 | 0 | 0 |
| - Define Requirements | 0 | 0 | 65 | 0 |
| - Award Contract | 0 | 0 | 90 | 0 |
| - Develop Test Plan | 0 | 0 | 105 | 0 |
| - Preliminary Design/Fabrication | 0 | 0 | 290 | 0 |
| - Fabricate Prototype Hardware | 0 | 0 | 0 | 490 |
| - Test and Evaluate | 0 | 0 | 0 | 555 |
| - ECP/Report | 0 | 0 | 0 | 305 |
| Non-Toxic Ammunition | 0 | 0 | 0 | 0 |
| - Market Survey/Program Documentation | 0 | 0 | 0 | 220 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| - MS B | 0 | 0 | 0 | 30 |
| - Prepare RFP | 0 | 0 | 0 | 420 |
| - Bid Sample Testing for 9mm | 0 | 0 | 0 | 50 |
| - Source Selection | 0 | 0 | 0 | 190 |
| - Contract Award - Toxic Free Primer Development | 0 | 0 | 0 | 410 |
| Aviation Variant (M240) | 0 | 0 | 0 | 0 |
| - Test Planning | 25 | 0 | 0 | 0 |
| - Mount Concept Exploration | 225 | 0 | 0 | 0 |
| - Fabricate Prototype Weapons | 0 | 535 | 0 | 0 |
| - Design/Qualify Pintle Mods | 0 | 515 | 0 | 0 |
| - Program Documentation/MS B | 0 | 200 | 0 | 0 |
| - Fabricate Pintles/Test Hardware | 0 | 450 | 0 | 0 |
| - Engineering Tests | 0 | 650 | 0 | 0 |
| - Technical Testing | 0 | 0 | 150 | 0 |
| - Limited User Test | 0 | 0 | 1637 | 0 |
| - Evaluation Reports | 0 | 0 | 250 | 0 |
| - Program Documentation/MS C | 0 | 0 | 275 | 0 |
| - Production Planning | 0 | 0 | 75 | 0 |
| M16/M4 Improvement Block 1 | 0 | 0 | 0 | 0 |
| - Finalize Requirements | 0 | 14 | 0 | 0 |
| - Prepare/Staff Procurement Package | 0 | 44 | 0 | 0 |
| - Competitive Contractor Selection/Award | 0 | 329 | 0 | 0 |
| - Technical Test | 0 | 451 | 0 | 0 |
| - DT/OT/User Assessment | 0 | 0 | 208 | 225 |
| - Develop/Produce Test Hardware | 0 | 0 | 121 | 0 |
| - Prepare/Staff Procurement Decision | 0 | 0 | 0 | 36 |
| M16/M4 Improvements Block II | 0 | 0 | 0 | 0 |
| - Finalize Requirements | 0 | 23 | 0 | 0 |
| - Prepare/Staff Procurement Package | 0 | 61 | 0 | 0 |
| - Competitive Contractor Selection/Award | 0 | 117 | 200 | 0 |
| - Test & Evaluation | 0 | 233 | 0 | 0 |
| - Develop/Produce Test Hardware | 0 | 0 | 142 | 0 |
| - DT/OT/User Assessment | 0 | 0 | 1262 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| - Independent Evaluation | 0 | 0 | 30 | 0 |
| - Prepare/Staff IPR Package | 0 | 0 | 0 | 78 |
| M16/M4 Improvements Block III | 0 | 0 | 0 | 0 |
| - Finalize Requirements | 0 | 70 | 0 | 0 |
| - Prepare/Staff MS Package | 0 | 74 | 0 | 0 |
| - Develop/Produce Test Hardware | 0 | 241 | 0 | 5622 |
| - Test & Evaluation | 0 | 97 | 0 | 0 |
| - DT/OT/User Assessment | 0 | 0 | 0 | 25 |
| - Independent Evaluation | 0 | 0 | 0 | 5 |
| Totals | 5527 | 8564 | 8905 | 10463 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| WTCV, GZ1290, Squad Auto Wpn (MODS) | 4372 | 4049 | 5096 | 805 | 566 | 372 | 19726 | 4063 | 0 | 39049 |
| WTCV, GZ2800, M16 Rifle MODS | 2085 | 0 | 2369 | 2351 | 2050 | 0 | 3901 | 0 | 0 | 12756 |
| WTCV, GB3000, MK19 MODS | 1034 | 2697 | 3845 | 4047 | 4555 | 280 | 14416 | 8726 | 0 | 39600 |
| WTCV, GZ1300, Med MG (MODS) | 736 | 0 | 2970 | 3009 | 3102 | 1581 | 16595 | 0 | 0 | 27993 |
| WTCV, GB3007, M4 Carbine MODS | 0 | 9111 | 6660 | 7399 | 5933 | 6137 | 4932 | 23 | 0 | 40195 |

**C. Acquisition Strategy:** Primary strategy is to mature and finalize design, award RDT&E hardware contracts, test and evaluate system to result in type classification and production award.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604802A - Weapons and Munitions - Eng Dev**

PROJECT
**AS1**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Hardware Development | TBD | Various | 11535 | 2747 | 1-4Q | 1588 | 1-3Q | 6033 | 1-3Q | Continue | 21903 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 11535 | 2747 | | 1588 | | 6033 | | Continue | 21903 | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Development | MIPR | ARDEC, Picatinny, NJ | 6438 | 1810 | 1-4Q | 1514 | 1-3Q | 2400 | 1-3Q | 0 | 12162 | 0 |
| b . Logistics | MIPR | TACOM, Rock Island, IL | 523 | 220 | 1-4Q | 350 | 1-3Q | 210 | 1-3Q | 0 | 1303 | 0 |
| c . Human Research and Eng Directorate | MIPR | APG, MD | 885 | 225 | 1-4Q | 235 | 1-3Q | 260 | 1-3Q | 0 | 1605 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 7846 | 2255 | | 2099 | | 2870 | | 0 | 15070 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604802A - Weapons and Munitions - Eng Dev**

PROJECT
**AS1**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . DT | MIPR | Developmental Test Command (DTC), Aberdeen Proving Ground (APG), MD | 3891 | 1423 | 1-4Q | 1130 | 1-3Q | 345 | 1-3Q | Continue | 6789 | 0 |
| b . OT | MIPR | AEC, Alexandria, VA | 190 | 894 | 1-4Q | 2765 | 1-3Q | 50 | 1-3Q | 0 | 3899 | 0 |
| c . Validation testing | MIPR | DTC, APG, MD | 233 | 485 | 1-4Q | 380 | 1-3Q | 215 | 1-3Q | 0 | 1313 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 4314 | 2802 | | 4275 | | 610 | | Continue | 12001 | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Program Management | In House | PM Soldier Weapons, Ft. Belvoir, VA | 1812 | 710 | 1-4Q | 883 | 1-4Q | 915 | 1-4Q | 0 | 4320 | 0 |
| b . Travel | In House | PM Soldier Weapons, Ft. Belvoir, VA | 142 | 50 | 1-4Q | 60 | 1-4Q | 35 | 1-4Q | 0 | 287 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1954 | 760 | | 943 | | 950 | | 0 | 4607 | 0 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 25649 | 8564 | | 8905 | | 10463 | | Continue | 53581 | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604802A - Weapons and Munitions - Eng Dev**

PROJECT
**AS1**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Lightweight Ground Mount (XM192) | | | | | | | | |
| - Prototype Modification & Redesign | 1-2Q | | | | | | | |
| - Hardware Modification & Retesting | 1-2Q | | | | | | | |
| - Hardware Fabrication | 3-4Q | | | | | | | |
| - Technical Test Start | 3-4Q | | | | | | | |
| - OT Planning | 4Q | | | | | | | |
| - Technical Testing | | 1-2Q | | | | | | |
| - Operational Testing | | 3Q | | | | | | |
| - Independent Evaluation | | 4Q | | | | | | |
| - Type Classify/MS C (FY03 Carryover) | | | 1Q | | | | | |
| M249 RAM Improvement/Weight Reduction | | | | | | | | |
| - Execution, Design/Producibility | | | 2Q | | | | | |
| - Engineering Support | | | 3Q | | | | | |
| - Simulation & Modelling | | | 3-4Q | | | | | |
| - Prototype Fabrication | | | | 1-2Q | | | | |
| - Engineering Tests | | | | 2-3Q | | | | |
| - Final Design | | | | 4Q | | | | |
| - Hardware Fabrication | | | | 4Q | 1Q | | | |
| - TT/OT | | | | | 1-3Q | | | |
| - Independent Assessment | | | | | 3-4Q | | | |
| - ECP | | | | | 4Q | | | |
| M249 Machine Gun Barrel Life Ext Pgm | | | | | | | | |
| - Final Design, Tooling & Fabrication | 1-4Q | | | | | | | |
| - Technical Testing (FY02 Carryover) | 4Q | 1-2Q | | | | | | |
| - Technical Eval/Reports (FY02 Carryover) | | 1-2Q | | | | | | |
| - Fabricate Pre-Production Hardware | | 2-3Q | | | | | | |
| - Test Pre-Production Hardware | | 3-4Q | | | | | | |
| - Tech Data Support | | 1-3Q | | | | | | |
| - ECP Approval | | 4Q | | | | | | |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604802A - Weapons and Munitions - Eng Dev**

PROJECT
**AS1**

| **Schedule Detail (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| M249 Short Range Training Ammunition | | | | | | | | |
| - Program Documentation/MS B | | 1Q | | | | | | |
| - Engineering Development | | 1Q | | | | | | |
| - Technical Assessment | | 1Q | | | | | | |
| - Manufacture Prototypes | | 2-3Q | | | | | | |
| - Conduct Development Tests | | 3-4Q | | | | | | |
| - Environmental Analysis | | 4Q | | | | | | |
| - Draft Perf Spec | | 4Q | | | | | | |
| - Manprint Assessment | | | 1Q | | | | | |
| - Finalize Perf Spec | | | 1Q | | | | | |
| - Safety Conformation | | | 1Q | | | | | |
| - Limited User Test | | | 2Q | | | | | |
| - System Evaluation Report | | | 3Q | | | | | |
| - Prepare Packages | | | 1-3Q | | | | | |
| - Staff Packages | | | 3Q | | | | | |
| - Milestone C IPR/TC | | | 4Q | | | | | |
| MK19 Remote Platform | | | | | | | | |
| - Test Planning | 1Q | | | | | | | |
| - Engineering Assessment Test | 2-4Q | | | | | | | |
| - Award Contract - Primary Hardware (FY02 Carryover) | | 1Q | | | | | | |
| - M1117 Integration | 3Q | | | | | | | |
| - HMMWV Integration | 4Q | | | | | | | |
| - Developmental Testing (FY02 Carryover) | 4Q | 1Q | | | | | | |
| XM116 Sight, Computerized, SAFC | | | | | | | | |
| - Contr. Award Primary Hardware ( FY01 Carryover) | 1-4Q | | | | | | | |
| - Two Yr Design/Fabricate Hardware (FY01 Carryover) | 1-4Q | | | | | | | |
| - Program Documentation/Execution (FY01 Carryover) | 1-4Q | | | | | | | |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604802A - Weapons and Munitions - Eng Dev**

PROJECT
**AS1**

| **Schedule Detail (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| - Technical Test Plan (FY01 Carryover) | 1-4Q | | | | | | | |
| - Operational Test Plan (FY01 Carryover) | 1-4Q | | | | | | | |
| - ILS Documentation (FY01 Carryover) | 1-4Q | | | | | | | |
| - Tradeoff Studies | 4Q | | | | | | | |
| MK19 Self-Destruct Cartridge | | | | | | | | |
| - Program Documentation/MS B | | 2Q | | | | | | |
| - Solicitation | | 2Q | | | | | | |
| - Bid Sample Test and Evaluation | | 2-3Q | | | | | | |
| - Contract Award | | 3Q | | | | | | |
| - Build/Test Validation Samples | | 3-4Q | | | | | | |
| - Manufacture Test Quantity | | | 1-2Q | | | | | |
| - DT | | | 3-4Q | | | | | |
| - OT/LFT | | | 3-4Q | | | | | |
| - System Evaluation Report | | | | 1Q | | | | |
| - Prepare MS C IPR Package | | | | 1-2Q | | | | |
| - MS C IPR/TC-STD | | | | 3Q | | | | |
| M240 Weight Reduction | | | | | | | | |
| - Engineering Tests | | 1-3Q | | | | | | |
| - Program Documentation/MS B | | 1-2Q | | | | | | |
| - Contract Award | | 3Q | | | | | | |
| - Final Design/Fabricate Test Hardware | | 3-4Q | 1Q | | | | | |
| - Manufacturing Process Finalized | | | 1Q | | | | | |
| - Technical Test | | | 2-4Q | | | | | |
| - User Assessment | | | 2-4Q | | | | | |
| - Independent Assessment/Test Reports | | | | 1Q | | | | |
| - Analysis Assessment/Program Documentation/MS C | | | | 1-3Q | | | | |
| M240 Improved Machine Gun Barrel | | | | | | | | |
| - Define Requirements | | | 1Q | | | | | |
| - Develop Test Plan | | | 2Q | | | | | |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604802A - Weapons and Munitions - Eng Dev**

PROJECT
**AS1**

| **Schedule Detail (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| - Award Contract | | | 3Q | | | | | |
| - Preliminary Design/Fabrication | | | 4Q | 1Q | | | | |
| - Fabricate Prototype Hardware | | | | 1-2Q | | | | |
| - Test & Evaluate | | | | 3Q | | | | |
| - ECP/Reports | | | | 4Q | | | | |
| Non-Toxic Ammunition | | | | | | | | |
| - Market Survey/Program Documentation | | | | 1Q | | | | |
| - MS B | | | | 1Q | | | | |
| - Prepare RFP | | | | 1-2Q | | | | |
| - Bid Sample Testing for 9mm | | | | 3Q | | | | |
| - Source Selection | | | | 3-4Q | | | | |
| - Contract Award - Toxic Free Primer Development | | | | 3-4Q | | | | |
| - Awd Contr. for all Projectiles/Crtrdgs Development | | | | | 2Q | | | |
| - Toxic Free Primer Development | | | | | 1-4Q | | | |
| - Projectiles/Cartridges Development | | | | | 1-4Q | | | |
| - Final Development Test for Toxic Free Primer | | | | | | 1Q | | |
| - Final Development Test for Projectiles/Cartridges | | | | | | 1-2Q | | |
| - Mod. Contracts for Integrtn of Toxic Free Primer | | | | | | 2Q | | |
| - Integration of Toxic Free Primer | | | | | | 3-4Q | | |
| - Critical design review (CDR) | | | | | | 4Q | | |
| - Award Qual Lot Fabrication Option for 9mm | | | | | | 4Q | | |
| - Awrd Qual Lt Fabrication Opt.( 5.56/7.62/ Cal .50) | | | | | | | 1Q | |
| - Manufacture Qualification Hardware | | | | | | | 1-3Q | |
| - Initiate DT/OT/LFT | | | | | | | 3-4Q | |
| - Complete DT/OT/LFT | | | | | | | | 1-2Q |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604802A - Weapons and Munitions - Eng Dev**

PROJECT
**AS1**

| **Schedule Detail (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| - Prepare MSC IPR Package | | | | | | | | 2-3Q |
| - MS C IPR/TC-STD | | | | | | | | 4Q |
| Aviation Variant (M240) | | | | | | | | |
| - Test Planning | 4Q | | | | | | | |
| - Mount Concept Exploration (FY02 Carryover) | | 1Q | | | | | | |
| - Fabricate Prototype Weapons | | 1-2Q | | | | | | |
| - Design/Qualify Pintle Mods | | 2Q | | | | | | |
| - Program Documentation/MS B | | 1-2Q | | | | | | |
| - Fabricate Pintles/Test Hardware | | 2-3Q | | | | | | |
| - Engineering Tests | | 3-4Q | | | | | | |
| - Technical Testing | | | 1Q | | | | | |
| - Limited User Test | | | 1-2Q | | | | | |
| - Evaluation Reports | | | 3Q | | | | | |
| - Program Documentation/MS C | | | 3-4Q | | | | | |
| - Production Planning | | | 4Q | | | | | |
| M16/M4 Improvements Block 1 | | | | | | | | |
| - Finalize Requirements | | 1Q | | | | | | |
| - Prepare/Staff Procurement Package | | 1-2Q | | | | | | |
| - Competitive Contractor Selection/Award | | 2-4Q | | | | | | |
| - Develop/Produce Test Hardware | | | 1-3Q | | | | | |
| - Technical Test/User Assessment | | 2-3Q | 4Q | 1-2Q | | | | |
| - Prepare/Staff Procurement Decision | | | | 2Q | | | | |
| M16/M4 Improvements Block II | | | | | | | | |
| - Finalize Requirements | | 1Q | | | | | | |
| - Prepare/Staff Procurement Package | | 1-3Q | | | | | | |
| - Competitive Contractor Selection/Award | | 3-4Q | 1Q | | | | | |
| - Develop/Produce Test Hardware | | | 1-2Q | | | | | |
| - DT/OT/User Assessment | | 1-4Q | 2-4Q | | | | | |
| - Independent Evaluation | | | 4Q | | | | | |
| - Prepare/Staff IPR Package | | | | 1-2Q | | | | |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604802A - Weapons and Munitions - Eng Dev**

PROJECT
**AS1**

| **Schedule Detail (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| M16/M4 Improvements Block III | | | | | | | | |
| - Finalize Requirements | | 1-2Q | | | | | | |
| - Prepare/Staff MS Package | | 2-3Q | | | | | | |
| - Develop/Produce Test Hardware | | 4Q | | 1-4Q | 1-2Q | | | |
| - DT/OT/User Assessment/Evaluations | | 1-2Q | | 1-4Q | 2-4Q | 1-2Q | | |
| - Independent Evaluations | | | | 1-4Q | 4Q | 1-2Q | | |
| - Prepare/Staff IPR Package | | | | | 4Q | 1-3Q | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604802A - Weapons and Munitions - Eng Dev** | **AS5** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AS5 | LOW COST COMPETENT MUNITIONS (LCCM) | 1442 | 6203 | 12759 | 0 | 0 | 0 | 0 | 0 | 0 | 20404 |

**A. Mission Description and Budget Item Justification:** Low Cost Competent Munitions (LCCM) now titled Course Correcting Fuze (CCF) is a low cost, fuze-sized module that is intended to replace a "NATO standard" fuze on existing stockpile and future conventional cannon artillery projectiles. The CCF corrects the ballistic trajectory of the projectile to reduce delivery errors and thus improves projectile accuracy. While the final concept for the LCCM has not been selected, common technologies will be matured for application across all concepts. These will include control devices that compensate for gun and meteorological ballistics effects; a Fuze, Safe and Arm (FSA) mechanism; a U.S. required Selective Availability, Anti-Spoof GPS Module (SAASM); a smaller, high-power battery; an inductive fuze data link; and improved trajectory correcting software algorithms. Integration of these items to yield a low cost fuze module will effectively reduce target delivery error of conventional artillery munitions and reduce the number of projectiles required to execute a fire mission. The CCF will benefit 155mm projectiles as well as the family of 105mm projectiles. The increase in effectiveness offered by the CCF gives commanders the operational capability to defeat more targets with the same basic load, while reducing the logistical burden associated with the current mission requirements. The M795E1 baseburner program maximizes range optimization. These systems support the Legacy transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Purchase of 220 M795E1 projectiles | 1212 | 0 | 0 | 0 |
| M795E1 maximum range optimization | 230 | 1441 | 0 | 0 |
| LCCM Concept Trade Studies | 0 | 4062 | 0 | 0 |
| LCCM Operational Analysis | 0 | 700 | 0 | 0 |
| LCCM Design and develop inductive data link | 0 | 0 | 500 | 0 |
| LCCM Design, develop, and integrate gun-hardened system and components | 0 | 0 | 12259 | 0 |
| Totals | 1442 | 6203 | 12759 | 0 |

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

**C. Acquisition Strategy:** This program will be structured for possible multiple awards for the FY03 Concept Engineering Studies. One contractor will be selected in FY04 for the inititation of prototype demonstration.

M795E1 enters Safety Assessment in FY03, Gun Qualification in FY04 and type classification in FY05. The program has been merged with other similar base-burner high explosive projectile program to conserve resources and leverage technology advances for increased performance and lethality.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604802A - Weapons and Munitions - Eng Dev**

PROJECT
**AS5**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . CCF Contract | CPAF | TBD | 0 | 3573 | 3Q | 10669 | 2Q | 0 | | 0 | 14242 | 0 |
| b . M795E1 Metal Parts | Option | Chamberlain Mfg Co Scranton, PA | 722 | 0 | | 0 | | 0 | | 0 | 722 | 0 |
| c . M795E1 Basebleed | SS/CPIF | Talley Industries, Mesa, AZ | 490 | 700 | 3Q | 0 | | 0 | | 0 | 1190 | 0 |
| d . M795E1 System Integrator | SS/CPIF | GD-OTS, St Petersburg, FL | 0 | 541 | 3Q | 0 | | 0 | | 0 | 541 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1212 | 4814 | | 10669 | | 0 | | 0 | 16695 | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Product Manager's Office | In House | PM CAS, NJ | 0 | 300 | 2Q | 300 | 1Q | 0 | | 0 | 600 | 0 |
| b . Government IPT Support | MIPR | TACOM-ARDEC, Picatinny Arsenal, NJ | 0 | 689 | 2Q | 1240 | 1-3Q | 0 | | 0 | 1929 | 0 |
| c . Product Managers Office - M79E1 | In House | PM CAS, NJ | 30 | 100 | 2Q | 0 | | 0 | | 0 | 130 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604802A - Weapons and Munitions - Eng Dev**

PROJECT
**AS5**

| II. Support Cost (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d . Government IPT Support - M795E1 | MIPR | TACOM-ARDEC, Picatinny Arsenal, NJ | 50 | 100 | 2Q | 0 | | 0 | | 0 | 150 | 0 |
| e . Fort Sill | MIPR | Fort Sill, OK | 0 | 100 | 3Q | 250 | 1Q | 0 | | 0 | 350 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 80 | 1289 | | 1790 | | 0 | | 0 | 3159 | 0 |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . M795E1 Testing | MIPR | Yuma Proving Grounds, Yuma AZ | 150 | 0 | | 0 | | 0 | | 0 | 150 | 0 |
| b . LCCM Testing | | | 0 | 100 | 4Q | 300 | 4Q | 0 | | 0 | 400 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 150 | 100 | | 300 | | 0 | | 0 | 550 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604802A - Weapons and Munitions - Eng Dev**

PROJECT
**AS5**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| Project Total Cost: | | | 1442 | 6203 | | 12759 | | 0 | | 0 | 20404 | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604802A - Weapons and Munitions - Eng Dev** | **AS5** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| M795E1 Contract Awards | 4Q | | | | | | | |
| M795E1 Testing | 4Q | 2Q | | | | | | |
| LCCM Contract Award | | 3Q | | | | | | |
| LCCM Concept Trade Studies | | 3-4Q | | | | | | |
| LCCM Operational Analysis | | 3-4Q | | | | | | |
| LCCM Prototype Contract Award | | | 2Q | | | | | |
| LCCM Prototype Testing | | | 4Q | | | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604802A - Weapons and Munitions - Eng Dev** | **AS8** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AS8 | XM395 PRECISION GUIDED MORTAR MUNITION (PGMM) | 0 | 1435 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1435 |

**A. Mission Description and Budget Item Justification:** Not applicable for this item.

**Accomplishments/Planned Program** Not applicable for this item.

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

**C. Acquisition Strategy:** Not applicable for this item.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604802A - Weapons and Munitions - Eng Dev** | **S23** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| S23 | SURF LNCH ADV MED RNG AIR-TO-AIR MSL (SLAMRAAM) | 0 | 0 | 37810 | 35565 | 29648 | 20968 | 0 | 0 | 0 | 123991 |

**A. Mission Description and Budget Item Justification:** Surface Launched Advanced Medium Range Air-To-Air Missile (SLAMRAAM) is the initial kinetic energy component of the Enhanced Area Air Defense System (EAADS), an Air and Missile Defense (AMD) Objective Force system. SLAMRAAM is a System of Systems, consisting of a launcher platform, AIM-120 Advanced Medium Range Air-to-Air Missiles (AMRAAM), a common Army vehicle, launch rails, launcher electronics, on-board command, control, communications, computer (C4) components, Sentinel (ETRAC) Sensor, other external Sensors, and BMC4I. SLAMRAAM is a lightweight, day or night, adverse weather, non-line-of-sight (NLOS) fire unit for countering low altitude rotary wing (RW), fixed wing (FW), cruise missile (CM), unmanned aerial vehicle (UAV), and reconnaissance, surveillance, and target acquisition (RSTA) platforms. It supports clutter engagements in close combat areas where maneuvering forces and their supporting units operate. SLAMRAAM's force protection mission is to engage the low-altitude aerial threats out to 18km. This system supports the Objective transformation path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Development Engineering | 0 | 0 | 9155 | 6584 |
| Producibility Engineering and Planning | 0 | 0 | 429 | 655 |
| Development Tooling | 0 | 0 | 678 | 691 |
| Prototype Manufacturing | 0 | 0 | 4389 | 3185 |
| Project Management | 0 | 0 | 7153 | 6863 |
| System Test & Evaluation | 0 | 0 | 11398 | 10130 |
| Training/Devices | 0 | 0 | 2764 | 1842 |
| Data | 0 | 0 | 1844 | 1510 |
| Support Equipment | 0 | 0 | 0 | 2526 |
| Development Facilities | 0 | 0 | 0 | 1579 |
| Totals | 0 | 0 | 37810 | 35565 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| Surface-Launched AMRAAM System Summary (C81001) | 0 | 0 | 7452 | 22016 | 47088 | 24400 | 13650 | 4871 | 0 | 119477 |

*FY03 funding is currently $1.634 resulting from a $1.7 million Congressional increase in FY03 that will be properly realigned from Project 705 to Project S23 for execution.

**C. Acquisition Strategy:** System Development and Demonstration (SDD) contract award is scheduled for 1st Quarter FY04. SDD will be a 24 month effort, culminated by Milestone C in 2nd Quarter FY06. A contingency capability (FUE Battery) will be fielded in FY06 with Initial Operational Capability (IOC) available in FY07.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604802A - Weapons and Munitions - Eng Dev**

PROJECT
**S23**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Contractor Development Engineering | TBD | TBD | 0 | 0 | | 4255 | | 4334 | | 2208 | 10797 | 0 |
| b . Government Development Engineering | TBD | PM Missiles & Platforms/PEO AMD | 0 | 0 | | 4900 | | 2250 | | 10000 | 17150 | 0 |
| c . Producibility Engineering and Planning | TBD | TBD | 0 | 0 | | 429 | | 655 | | 371 | 1455 | 0 |
| d . Development Tooling | TBD | TBD | 0 | 0 | | 678 | | 691 | | 1408 | 2777 | 0 |
| e . Prototype Manufacturing | TBD | TBD | 0 | 0 | | 4389 | | 3185 | | 0 | 7574 | 0 |
| f . Support Equipment | TBD | TBD | 0 | 0 | | 0 | | 2526 | | 6635 | 9161 | 0 |
| g . Development Facilities | TBD | TBD | 0 | 0 | | 0 | | 1579 | | 1626 | 3205 | 0 |
| h . Contractor Engineering Sys/Eng Tech Asst | TBD | TBD | 0 | 0 | | 1496 | | 2032 | | 1563 | 5091 | 0 |
| i . Program Management | | PM Missiles and Platforms/PEO AMD | 0 | 0 | | 5657 | | 4831 | | 6036 | 16524 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 21804 | | 22083 | | 29847 | 73734 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604802A - Weapons and Munitions - Eng Dev**

PROJECT
**S23**

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Data | TBD | TBD | 0 | 0 | | 1844 | | 1510 | | 866 | 4220 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 1844 | | 1510 | | 866 | 4220 | 0 |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Modeling and Simulation | TBD | TBD | 0 | 0 | | 3000 | | 2000 | | 5000 | 10000 | 0 |
| b . Development Testing | TBD | TBD | 0 | 0 | | 7949 | | 4927 | | 1378 | 14254 | 0 |
| c . Operational Testing | TBD | TBD | 0 | 0 | | 449 | | 3203 | | 8852 | 12504 | 0 |
| d . Training/Devices | TBD | TBD | 0 | 0 | | 2764 | | 1842 | | 4673 | 9279 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 14162 | | 11972 | | 19903 | 46037 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604802A - Weapons and Munitions - Eng Dev**

PROJECT
**S23**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Project Total Cost: | | | 0 | 0 | | 37810 | | 35565 | | 50616 | 123991 | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604802A - Weapons and Munitions - Eng Dev**

PROJECT
**S23**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Operational Requirements Document (ORD) Approved | 3Q | | | | | | | |
| Analysis of Alternatives (AOA) | | 3Q | | | | | | |
| Milestone B | | 4Q | | | | | | |
| Development Engineering | | | 2-4Q | 1-4Q | 1-4Q | 1-4Q | | |
| Producibility Engineering and Planning | | | 2-4Q | 1-4Q | 1-4Q | | | |
| Development Tooling | | | 2-4Q | 1-4Q | 1-4Q | | | |
| Prototype Manufacturing | | | 2-4Q | 1-4Q | 1-4Q | 1-4Q | | |
| Project Management | | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | | |
| System Engineering and Integration | | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | | |
| System Test & Evaluation | | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | | |
| Training Devices | | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | | |
| Data | | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | | |
| Support Equipment | | | | 1-4Q | 1-4Q | 1-4Q | | |
| Development Facilities | | | | 1-4Q | 1-4Q | 1-4Q | | |

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

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Program Element (PE) Cost | | 31204 | 64808 | 86288 | 88153 | 31787 | 40321 | 37788 | 35947 | Continuing | Continuing |
| 194 | ENGINE DRIVEN GEN ED | 4817 | 7296 | 5248 | 6644 | 7412 | 9292 | 5491 | 5127 | Continuing | Continuing |
| 429 | RIGIDWALL SHELTER ED | 7738 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6557 |
| 461 | MARINE ORIEN LOG EQ ED | 10925 | 37046 | 61923 | 65935 | 3326 | 5175 | 5174 | 2989 | 0 | 193891 |
| H01 | COMBAT ENGINEER EQ ED | 800 | 4227 | 4190 | 4268 | 4678 | 4760 | 3320 | 3213 | 0 | 30247 |
| H02 | TACTICAL BRIDGING - ENGINEERING DEVELOPMENT | 968 | 1750 | 1946 | 1942 | 2442 | 1948 | 3380 | 3076 | Continuing | 18070 |
| H14 | MATERIALS HANDLING EQUIPMENT - ED | 573 | 1519 | 492 | 492 | 490 | 490 | 491 | 490 | Continuing | Continuing |
| L39 | FIELD SUSTAINMENT SUPPORT ED | 974 | 981 | 8413 | 4647 | 9162 | 10397 | 9819 | 9825 | Continuing | Continuing |
| L41 | WATER AND PETROLEUM DISTRIBUTION - ED | 3272 | 9315 | 1690 | 952 | 950 | 5400 | 3007 | 3570 | 0 | Continuing |
| L42 | CAMOUFLAGE SYSTEM ED | 314 | 329 | 668 | 1617 | 1654 | 1166 | 1887 | 1741 | Continuing | Continuing |
| L43 | ENGINEER SUPPORT EQUIPMENT - ED | 823 | 2345 | 1226 | 1164 | 1183 | 1203 | 4728 | 5426 | Continuing | Continuing |
| L46 | MAINTENANCE SUPPORT EQUIPMENT | 0 | 0 | 492 | 492 | 490 | 490 | 491 | 490 | 0 | 2945 |

**A. Mission Description and Budget Item Justification:** This Program Element (PE) provides system development and demostration for various projects included within the PE. Included within this PE is the development of military tactical bridging, materiel handling equipment, construction equipment, engineer support equipment, environmental equipment, water purification equipment, petroleum distribution equipment, mobile electric power and water craft.

This project supports the Legacy-to-Objective transition path of the Transformation Campaign Plan (TCP).

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 29326 | 65857 | 28257 | 25044 |
| Current Budget (FY 2004/2005 PB) | 31204 | 64808 | 86288 | 88153 |
| Total Adjustments | 1878 | -1049 | 58031 | 63109 |
| Congressional program reductions | | | | |
| Congressional rescissions | | -372 | | |
| Congressional increases | | 1143 | | |
| Reprogrammings | 2660 | | | |
| SBIR/STTR Transfer | -782 | -1820 | | |
| Adjustments to Budget Years | | | 58031 | 63109 |

FY04 & FY05 increases provided by the Army supports higher Army priorties.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604804A - Logistics and Engineer Equipment - Eng Dev** | **194** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 194 ENGINE DRIVEN GEN ED | 4817 | 7296 | 5248 | 6644 | 7412 | 9292 | 5491 | 5127 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This project supports the Mobile Electric Power (MEP) program which is established to develop a Modernized, Standard Family of Mobile Electric Power Sources for All Services throughout the Department of Defense. Building on the device/component evaluations conducted in PE 0603804A project G11, this project supports the system development and demonstration of a series of innovative mobile electric power sources that are essential to the development and eventual fielding of modernized mobile electric power sources from 0.5 kW to 920 kW. These sources will ensure compliance with federally mandated environmental statutes and significantly lower noise and thermal signatures (thereby improving battlefield survivability), improve fuel and electrical efficiency, reduce weight, enhance portability, improve reliability and maintainability and reduce operational and support costs.

This system supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Continue hardware system development and testing for 100/200kW TQG. | 4817 | 200 | 0 | 0 |
| Complete testing and transition 100/200kW TQG to production and deployment. | 0 | 3070 | 200 | 0 |
| Evaluate commercially available components for application to Advanced Medium Mobile Power Sources (AMMPS). | 0 | 1626 | 0 | 0 |
| Complete Performance Specification and MS B IPR package for AMMPS. | 0 | 300 | 0 | 0 |
| Award two or more Phase I contracts for AMMPS and conduct Phase I testing. | 0 | 0 | 5048 | 1670 |
| Award Phase II contract option for AMMPS. | 0 | 0 | 0 | 4974 |
| Initiate 2kW Improvement Program | 0 | 2100 | 0 | 0 |
| Totals | 4817 | 7296 | 5248 | 6644 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 0603804A - Logistics and Engineer Equipment Adv Dev G11 | 871 | 1480 | 1501 | 1477 | 2831 | 3426 | 4003 | 3204 | Continuing | Continuing |
| OPA3, MA9800 Generators and Associated Equipment | 60475 | 77038 | 62853 | 66485 | 71966 | 69901 | 89802 | 87365 | Continuing | Continuing |

**C. Acquisition Strategy:** Developmental items in this project will transition into procurement.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**194**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . 100/200kW TQG | C-CPFF | Fermont, Bridgeport, CT | 8618 | 200 | 2Q | 0 | | 0 | | Continue | Continue | 0 |
| b . AMMPS(5-60kW) | TBD | TBD | 4251 | 779 | 2Q | 4298 | 3Q | 4829 | 3Q | Continue | Continue | 0 |
| c . 2kW Improvement Program | TBD | TBD | 0 | 1785 | 3Q | 0 | | 0 | | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 12869 | 2764 | | 4298 | | 4829 | | Continue | Continue | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . 100/200kW TQG | In-house | CECOM, Ft Belvoir, VA | 985 | 250 | 2Q | 100 | 1Q | 0 | | Continue | Continue | 0 |
| b . AMMPS(5-60kW) | In-house | CECOM, Ft Belvoir, VA | 1425 | 200 | 2Q | 350 | 1Q | 395 | 1Q | Continue | Continue | 0 |
| c . 2kW Improvement Program | In-house | CECOM, Ft Belvoir, VA | 0 | 65 | 2Q | 0 | | 0 | | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 2410 | 515 | | 450 | | 395 | | Continue | Continue | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**194**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . 100/200kW | MIPR | Aberdeen Proving Ground, MD | 2190 | 2570 | 1Q | 0 | | 0 | | Continue | Continue | 0 |
| b . AMMPS(5-60kW) | TBD | TBD | 230 | 697 | 2Q | 0 | | 920 | 2Q | Continue | Continue | 0 |
| c . 2kW Improvement Program | MIPR | CECOM, Fort Belvoir, VA | 0 | 250 | 4Q | 0 | | 0 | | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 2420 | 3517 | | 0 | | 920 | | Continue | Continue | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . 100/200kW | In-house | CECOM, Ft Belvoir, VA | 772 | 250 | 1Q | 100 | 1Q | 0 | | Continue | Continue | 0 |
| b . AMMPS(5-60kW) | In-house | CECOM, Ft Belvoir, VA | 907 | 250 | 1Q | 400 | 1Q | 500 | 1Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1679 | 500 | | 500 | | 500 | | Continue | Continue | 0 |
| Project Total Cost: | | | 19378 | 7296 | | 5248 | | 6644 | | Continue | Continue | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**194**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Complete AMMPS prototype testing | 4Q | | | | | | | |
| Publish CBD Announcement requesting White Papers for 2kW Improvement Program | | 2Q | | | | | | |
| Award 2kW Improvement Program contract | | 3Q | | | | | | |
| Complete 100/200kW TQG Developmental Test | | 4Q | | | | | | |
| Complete solicitation package for AMMPS | | 4Q | | | | | | |
| Complete 100/200kW TQG Operational Test | | | 1Q | | | | | |
| AMMPS Milestone B | | | 1Q | | | | | |
| Transition 100/200kW TQG to Procurement (Milestone C) | | | 3Q | | | | | |
| Award two or more Phase I contracts for AMMPS prototype design and build | | | 3Q | | | | | |
| Initiate Phase I testing of AMMPS | | | | 1Q | | | | |
| Award Phase II contract for AMMPS family | | | | 3Q | | | | |
| Initiate DT and OT for AMMPS | | | | | 3Q | | | |
| Complete testing of Phase II AMMPS and prepare Milestone C package | | | | | | 4Q | | |
| Begin preparation of Performance Specification for Man Portable Power Program | | | | | | | 1Q | |
| Transition AMMPS to Procurement (Milestone C) | | | | | | | 1Q | |
| AMMPS Material Release | | | | | | | 4Q | |
| Award MPP Phase I contracts | | | | | | | | 2Q |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604804A - Logistics and Engineer Equipment - Eng Dev** | **461** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 461 | MARINE ORIEN LOG EQ ED | 10925 | 37046 | 61923 | 65935 | 3326 | 5175 | 5174 | 2989 | 0 | 193891 |

**A. Mission Description and Budget Item Justification:** This project supports the engineering and pre-production development of equipment for the Army's Logistics-Over-The-Shore (LOTS), In-theatre Port Control, Riverine logistics missions. Chief among this equipment is the Theater Support Vessel (TSV). The Objective TSV will operate at speeds up to four times greater than the current fleet. This will provide the Army with the capability to support operational maneuver from standoff distance; bypass land-based chokepoints, and reduce the logistics footprint in the Area of Responsibility. This ability to transport both troops and their equipment, and to provide an Enroute Mission Planning and Rehearsal System, does not exist today. This evolutionary acquisition features the current lease of a commercial fast ferry (in cooperation with the U.S. Navy (HSV-X1)), and a lease for another (more capable) fast ferry (TSV-1X), for Technology Demonstration purposes.

This project also supports the Harbormaster Command and Control Center (HCCC).

These systems support the Legacy-to-objective transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Army Support for TSV lease/test program. | 10925 | 36546 | 61923 | 65935 |
| Complete HCCC program documentation, i.e. Purchase Description, Modified Integrated Program Summary (MIPS). | 0 | 500 | 0 | 0 |
| Totals | 10925 | 37046 | 61923 | 65935 |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604804A - Logistics and Engineer Equipment - Eng Dev** | **461** |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| RDTE, 0603804A,526, Marine Oriented Logistics, Advanced Development | 3232 | 3242 | 3759 | 3824 | 3996 | 3213 | 4521 | 4426 | Continuing | Continuing |
| OPA 3, M11200, Logistic Support Vessel (LSV) | 25817 | 10800 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 36617 |
| OPA 3, M11203, Theatre Support Vessel (TSV) | 0 | 0 | 0 | 0 | 33218 | 33197 | 356511 | 373005 | Continuing | Continuing |

**C. Acquisition Strategy:** TSV technical efforts will be conducted primarily with the Naval Surface Warfare Center (NSWC). NSWC can call on both in-house and contract resources (based on workload and expertise) to cover Army requirements. The Acquisition Strategy calls for evolutionary/spiral development of Commercial based technology with military adaptations, acquired competitive with dual domestic sourcing.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**461**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . TSV | MIPR | NSWC, Suffolk, VA | 1783 | 2836 | 1-3Q | 3000 | 2-3Q | 2000 | 2-3Q | Continue | Continue | Continue |
| b . HSV Lease | Competitive FFP/Requirements Type Contract | Bollinger/INCAT | 3931 | 1193 | 1-2Q | 0 | | 0 | | 0 | 5124 | 0 |
| c . TSV-X1 Lease | Competitive Fixed Price Contract | Bolllinger/INCAT | 0 | 11652 | 1Q | 0 | | 0 | | 0 | 11652 | 0 |
| d . TSV-X1 Lease | PWD | TBD | 0 | 0 | | 58323 | 1-2Q | 63335 | 1-2Q | Continue | 121658 | 0 |
| e . TSV/HSV Modifications | PWD | TBD | 5021 | 20143 | 1-3Q | 0 | | 0 | | Continue | 25164 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 10735 | 35824 | | 61323 | | 65335 | | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**461**

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . HCCC/Matrix Support | MIPR | TACOM NET, Warren, MI | 0 | 5 | 2-3Q | 0 | | 0 | | 0 | 5 | Continue |
| b . TSV/Matrix Support | MIPR | TACOM Safety Office | 0 | 70 | 2Q | 50 | 2-3Q | 50 | 2-3Q | Continue | Continue | Continue |
| c . HCCC | MIPR | CASCOM | 0 | 15 | 2-3Q | 0 | | 0 | | 0 | 15 | Continue |
| d . TSV | MIPR | DRM, Ft Eustis | 90 | 0 | | 0 | | 0 | | 0 | 90 | 0 |
| e . TSV | MIPR | NSWC, West Bethesda, MD | 100 | 0 | | 0 | | 0 | | 0 | 100 | 0 |
| f . TSV/Matrix Support | MIPR | TACOM, Environmental | 0 | 125 | 2Q | 0 | | 0 | | 0 | 125 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 190 | 215 | | 50 | | 50 | | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**461**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . HCCC | MIPR | TECOM , ATC, Aberdeen, MD | 50 | 50 | 2-3Q | 0 | | 0 | | 0 | 100 | 730 |
| b . TSV/Matrix Support | MIPR | LCCE, TACOM, Warren | 0 | 50 | 2-3Q | 50 | 2-3Q | 50 | 2-3Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 50 | 100 | | 50 | | 50 | | Continue | Continue | Continue |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . HCCC/Matrix | MIPR | PM Force Projection R&D/TARDEC, TACOM, Warren, MI | 212 | 125 | 1-4Q | 0 | | 0 | | 0 | 337 | Continue |
| b . TSV/In-house | MIPR | PM TSV, Warren, MI | 0 | 477 | 1-4Q | 500 | 2-3Q | 500 | 2Q | Continue | Continue | Continue |
| c . HCCC/In-house | MIPR | PM Force Projection , Warren, MI | 0 | 255 | 2-3Q | 0 | | 0 | | 0 | 255 | Continue |
| d . HCCC | Competitive FFP/PWD | TBD | 0 | 50 | 2-3Q | 0 | | 0 | | 0 | 50 | 0 |
| | | | | | | | | | | | | |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**461**

| IV. Management Services (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Subtotal: | | | 212 | 907 | | 500 | | 500 | | Continue | Continue | Continue |
| Project Total Cost: | | | 11187 | 37046 | | 61923 | | 65935 | | Continue | Continue | Continue |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**461**

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Harbormaster Command & Control Center (HCCC) Contract Award | | 1-4Q | | | | | | |
| Spiral Developmental/Design Mods | 1-4Q | 1-4Q | 1-4Q | | | | | |
| Theater Support Vessel Joint Lease/Test program | 1-4Q | 1-4Q | 1-4Q | 1-4Q | | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604804A - Logistics and Engineer Equipment - Eng Dev** | **H01** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| H01 COMBAT ENGINEER EQ ED | 800 | 4227 | 4190 | 4268 | 4678 | 4760 | 3320 | 3213 | 0 | 30247 |

**A. Mission Description and Budget Item Justification:** This project supports the System Development and Demonstration (SDD) of military tactical Construction Equipment (CE) used in support of horizontal construction missions. Equipment includes items such as: High Mobility Engineer Excavator; Deployable Universal Combat Earthmover; Tracked Tractor; Asphalt, Rock Crushing and Compaction Equipment; Scrapers, Scoop Loaders and Graders. These systems support Combat Heavy Engineer Battalions and Airborne/Air Assault units and the Army's Division Redesign Study (ADRS) which converts National Guard units from Combat to Combat Service Support (CSS) units. Although many military requirements are available on commercial products, military unique requirements such as speed, cross country mobility, crew protection, Nuclear, Biological and Chemical Protection (NBC), and transportability (air, sea, rail) result in modifications to commercially available products. SDD is required to reduce the risk associated with modification and redesign of equipment before entering into production.

This project supports the Objective Force of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Conducted market investigations and update specifications for procurements of CE. | 291 | 447 | 457 | 470 |
| Supports development of acquisition documents required prior to Milestone "C" decisions. | 481 | 245 | 303 | 315 |
| Perform Non Developmental Item test and evaluations. | 0 | 170 | 300 | 456 |
| R&D contracts execution for Objective High Mobility Engineer Excavator (OHMEE). | 0 | 3345 | 1730 | 1427 |
| Continued Small Emplacement Excavator upgrade and Market Investigation for upgrade of Small Emplacement Excavator. | 28 | 0 | 0 | 0 |
| Prototype testing for OHMEE (6 prototypes). | 0 | 20 | 1000 | 1000 |
| Cooperative Research with Industry. | 0 | 0 | 400 | 600 |
| Totals | 800 | 4227 | 4190 | 4268 |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604804A - Logistics and Engineer Equipment - Eng Dev** | **H01** |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| OPA3, R02800, Scraper, Earthmoving 14-18 Cu | 0 | 0 | 0 | 0 | 0 | 14722 | 3098 | 7755 | Continuing | Continuing |
| OPA3, R03801, Grader, Mtzd, Hvy | 0 | 3688 | 0 | 5187 | 14536 | 14837 | 22355 | 10040 | Continuing | Continuing |
| OPA3, R05900, Interim High Mobility Engineer Excavator (IHMEE) | 12846 | 4879 | 4842 | 0 | 0 | 0 | 0 | 0 | 0 | 22567 |
| OPA3, M08100, Plant, Asphalt Mixing | 1999 | 1952 | 1937 | 1257 | 0 | 0 | 7610 | 5881 | Continuing | Continuing |
| OPA3, ML5350, Item Less than $5M (Construction Equipment) | 6359 | 14963 | 6305 | 9061 | 7470 | 9212 | 9053 | 11770 | Continuing | Continuing |
| OPA3, R05900, Objective High Mobility Engineer Excavator (OHMEE) | 0 | 0 | 0 | 8100 | 8330 | 20416 | 21315 | 21825 | Continuing | Continuing |
| OPA3, M06400, Loader, Scoop 2.5 Cu Yd | 815 | 13414 | 5442 | 10300 | 10289 | 17050 | 19025 | 17630 | Continuing | Continuing |
| OPA3, R03900, Loader Scoop 4-5 Cu Yd | 1791 | 11266 | 2706 | 5813 | 0 | 0 | 0 | 0 | Continuing | Continuing |

**C. Acquisition Strategy:** Construction Equipment- All RDT&E followed by competitive procurement.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**H01**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . OHMEE | MIPR | TACOM, Warren, MI | 8533 | 245 | 1-4Q | 303 | 1-4Q | 315 | 1-4Q | Continue | Continue | Continue |
| b . OHMEE SDD Contract | FFP | TBD | 839 | 3345 | 1-4Q | 1730 | 1-4Q | 1427 | 1-4Q | Continue | 7341 | Continue |
| c . Research Contracts | FFP | TBD | 0 | 0 | | 400 | 1-4Q | 600 | 1-4Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 9372 | 3590 | | 2433 | | 2342 | | Continue | Continue | Continue |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Market Investigations | MIPR | TARDEC, Warren, MI | 872 | 254 | 1-4Q | 261 | 1-4Q | 270 | 1-4Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 872 | 254 | | 261 | | 270 | | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**H01**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Test and Prep | MIPR | APG, Aberdeen, MD | 1121 | 20 | 1-4Q | 1000 | 1-4Q | 1000 | 1-4Q | Continue | Continue | Continue |
| b . System and Component testing | MIPR | APG, Aberdeen, MD | 28 | 170 | 1-4Q | 300 | 1-4Q | 456 | 1-4Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 1149 | 190 | | 1300 | | 1456 | | Continue | Continue | Continue |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Market Investigations | In-house | PM CE, Warren, MI | 150 | 193 | 1-4Q | 196 | 1-4Q | 200 | 1-4Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 150 | 193 | | 196 | | 200 | | Continue | Continue | 0 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 11543 | 4227 | | 4190 | | 4268 | | Continue | Continue | Continue |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**H01**

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Log Demo | 3Q | | | | | | | |
| Market Surveillance | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Market Investigations | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Acquisition documents | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| OHMEE MS B | 3Q | | | | | | | |
| OHMEE SDD Contracts | | 2Q | | | | | | |
| OHMEE Testing | | 3Q | 3-4Q | 1Q | | | | |
| NDI Investigations | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Coop Research Indsutry | | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| OHMEE MS C | | | | 2Q | | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604804A - Logistics and Engineer Equipment - Eng Dev** | **H02** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| H02 | TACTICAL BRIDGING - ENGINEERING DEVELOPMENT | 968 | 1750 | 1946 | 1942 | 2442 | 1948 | 3380 | 3076 | Continuing | 18070 |

**A. Mission Description and Budget Item Justification:** This project supports the engineering, system development and demostration and transition to procurement of Objective Force tactical bridge systems. These systems include Line of Communication (LOC) bridges and military tactical bridge site mobility equip ment. These systems are needed to meet requirements such as the Anchorage System (AS) for the Ribbon Bridge and Improved Ribbon Bridge (IRB), Access/Egress Roadway System (AE) for bridge approaches, and assessment of the Rapidly Emplaced Bridging System (REBS) for the Stryker Brigade Combat Team (SBCT).

This project supports the Legacy-to-Objective transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Upgraded Prototype Dry Support Bridge to production configuration for use as the manufacturing standard | 818 | 0 | 0 | 0 |
| Prepared performance specification for Bridge Anchorage System | 150 | 0 | 0 | 0 |
| Prepare Market Survey for Line of Communication Bridge | 0 | 145 | 0 | 0 |
| Procure representative samples of Improved Bridge Anchorage System and test | 0 | 350 | 0 | 0 |
| Perform Operational Testing on the REBS | 0 | 1110 | 0 | 0 |
| Prepare Market Survey for Access/Egress System | 0 | 145 | 0 | 0 |
| Procure representative samples of Line of Communication Bridge for development testing | 0 | 0 | 1100 | 0 |
| Procure representative samples of Access/Egress System for development testing | 0 | 0 | 846 | 0 |
| Conduct development testing for Line of Communication Bridge | 0 | 0 | 0 | 1000 |
| Conduct development testing for Access/Egress System | 0 | 0 | 0 | 942 |
| Totals | 968 | 1750 | 1946 | 1942 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| OPA3, M26600 Float Bridge Bays | 21204 | 22429 | 21442 | 24518 | 19635 | 0 | 0 | 0 | 0 | 109228 |
| OPA3, G82400 Dry Support Bridge | 21408 | 46323 | 37676 | 28927 | 33605 | 33734 | 51815 | 48536 | Continuing | Continuing |
| OPA3, G82402 Rapidly Emplaced Bridgin Sys | 3994 | 9722 | 4863 | 4807 | 0 | 0 | 0 | 0 | 0 | 23386 |

**C. Acquisition Strategy:** Limited RDTE effort to support follow-on production.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**H02**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Anchorage System Sample | SS-FFP | Eisenwerke Kaiserslautern Gmbh, Kaiserslautern, GE | 0 | 50 | 2Q | 0 | | 0 | | 0 | 50 | 50 |
| b . PM/Matrix Support | MIPR | TACOM, Warren, MI | 1918 | 290 | 3Q | 0 | | 0 | | Continue | 2208 | 2323 |
| c . LOC Sample | TBD | TBD | 0 | 0 | | 1100 | 3Q | 0 | | Continue | 1100 | 1100 |
| d . Access/Egress Sample | TBD | TBD | 0 | 0 | | 846 | 3Q | 0 | | Continue | 846 | 879 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1918 | 340 | | 1946 | | 0 | | Continue | 4204 | 4352 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**H02**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Anchorage System | MIPR | APG, Aberdeen, MD | 0 | 300 | 3-4Q | 0 | | 0 | | Continue | 300 | 300 |
| b . REBS | MIPR | HQ OTC, Ft Hood, TX | 0 | 1110 | 2Q | 0 | | 0 | | 0 | 1110 | 1110 |
| c . Access/Egress | MIPR | APG, Aberdeen, MD | 0 | 0 | | 0 | | 1000 | 3-4Q | Continue | 1000 | 1000 |
| d . LOC | MIPR | APG, Aberdeen, MD | 0 | 0 | | 0 | | 942 | 3-4Q | Continue | 942 | 975 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 1410 | | 0 | | 1942 | | Continue | 3352 | 3385 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 1918 | 1750 | | 1946 | | 1942 | | Continue | 7556 | 7737 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**H02**

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Anchorage System Performance Specification | 3Q | | | | | | | |
| Procure Anchorage System Representatives Samples | | 2Q | | | | | | |
| REBS Testing | | 2Q | | | | | | |
| Anchorage System Testing | | 3-4Q | | | | | | |
| LOC Market Investigation complete | | 3Q | | | | | | |
| Access/Egress Market Investigation complete | | 3Q | | | | | | |
| LOC Sample | | | 3Q | | | | | |
| Acess/Egress Sample | | | 3Q | | | | | |
| LOC Testing | | | | 3-4Q | | | | |
| Acess/Egress Testing | | | | 3-4Q | | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604804A - Logistics and Engineer Equipment - Eng Dev** | **H14** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| H14 | MATERIALS HANDLING EQUIPMENT - ED | 573 | 1519 | 492 | 492 | 490 | 490 | 491 | 490 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This project supports system development and demostration of Material Handling Equipment (MHE) that support Combat Service Support units with MHE for world wide rapid movement of supplies including container handling equipment, forklifts, and other cargo handling related items. Necessary efforts include validating requirements, developing acquisition strategies, developing performance specifications and test and evaluation planning.

These efforts support the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Programmatic support of All Terrain Lifting Army System (ATLAS) II. | 0 | 50 | 100 | 100 |
| Prototype rebuild of 6K Variable Reach Rough Terrain Forklift Truck (VRRTFLT) for upgrade to 10K forklift. | 248 | 680 | 0 | 0 |
| Lease or purchase of All Terrain Lifting Army System (ATLAS) II. | 0 | 439 | 142 | 0 |
| Preparation of solicitation package for All Terrain Lifting Army System (ATLAS) II Prototypes. | 241 | 100 | 0 | 0 |
| Completed market investigations. | 25 | 0 | 0 | 0 |
| Engineering support of 6K Variable Reach Rough Terrain Forklift Truck (VRRTFLT) SLEP. | 0 | 100 | 100 | 192 |
| Testing of rebuilt 6K Variable Reach Rough Terrain Forklift Truck (VRRTFLT) to convert 10K Variable Reach Rough Terrain Forklift Truck(VRRTFLT). | 0 | 150 | 150 | 200 |
| Conduct electro magnetic, environmental, effects testing on Rough Terrain Container Handler. | 59 | 0 | 0 | 0 |
| Totals | 573 | 1519 | 492 | 492 |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604804A - Logistics and Engineer Equipment - Eng Dev** | **H14** |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| RDTE, 0603804.DG14, Logistics Support Equipment, Advance | 193 | 187 | 197 | 197 | 196 | 196 | 196 | 196 | Continuing | Continuing |
| OPA3, M41200, Forklift, DE, PT, RT, 50K lbs.(RTCH) | 42751 | 47738 | 36237 | 36475 | 48918 | 44120 | 14642 | 0 | Continuing | Continuing |
| OPA3, M41800, All Terrain Lifting Army System (ATLAS) | 28616 | 24773 | 22422 | 23309 | 23156 | 23863 | 24261 | 24822 | Continuing | Continuing |
| OPA3, ML5365, Items Less Than $5.0M Material Handling Equipment (MHE) | 297 | 482 | 0 | 0 | 0 | 0 | 0 | 0 | Continuing | Continuing |
| OPA3, M41900, Material Handling Equipment (MHE) Extended Service Program (ESP) | 3300 | 2241 | 1329 | 1738 | 977 | 976 | 4872 | 4867 | Continuing | Continuing |

**C. Acquisition Strategy:** RDT&E Logistics Support Engineering Equipment - Competitive formal source selection for prototype equipment. ATLAS (All Terrain Lifting Army System) - The current contract was competitive award; FY03 follow-on will be sole source. Items less than $5M - Competitive procurements for various MHEs. 6K VRRTFLT (Variable Reach Rough Terrain Forklift Truck) prototype rebuild to be sole source to original equipment manufacturer.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**H14**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . PM/Matrix Support | In-House | TACOM, Warren, MI | 421 | 85 | 1-4Q | 0 | | 0 | | Continue | 506 | Continue |
| b . TARDEC | In-House | TARDEC, Warren, MI | 275 | 65 | 1-4Q | 0 | | 0 | | Continue | 340 | Continue |
| c . ATLAS II Contract | CFP | TBD | 241 | 439 | 3-4Q | 142 | 1-2Q | 0 | | Continue | 822 | Continue |
| d . 6K VRRTFLT Contract | SSFP | TRAK International, Port Washington, WI | 248 | 680 | 2Q | 0 | | 0 | | Continue | 928 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 1185 | 1269 | | 142 | | 0 | | Continue | 2596 | Continue |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . ATLAS | | | 0 | 50 | 1-2Q | 100 | 1-2Q | 100 | 1-2Q | Continue | Continue | Continue |
| b . 6K VRRTFLT | | | 0 | 50 | 1-2Q | 100 | 1-2Q | 192 | 1-2Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 100 | | 200 | | 292 | | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**H14**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . 6K VRRTFLT | MIPR | APG, Aberdeen, MD | 0 | 150 | 1-2Q | 150 | 1-2Q | 200 | 1-2Q | Continue | Continue | Continue |
| b . RTCH | MIPR | APG, Aberdeen, MD | 59 | 0 | | 0 | | 0 | | Continue | 59 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 59 | 150 | | 150 | | 200 | | Continue | Continue | Continue |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| Project Total Cost: | | | 1244 | 1519 | | 492 | | 492 | | Continue | Continue | Continue |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604804A - Logistics and Engineer Equipment - Eng Dev** | **L39** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| L39 | FIELD SUSTAINMENT SUPPORT ED | 974 | 981 | 8413 | 4647 | 9162 | 10397 | 9819 | 9825 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This project supports the System Development and Demonstration (SDD) of critical distribution and sustainment capabilities to include field shelters, showers, latrines, heaters, environmental control units, mortuary affairs, organizational equipment, and other combat service support equipment to improve unit sustainability and combat effectiveness. Project supports the demonstration of engineering development models and type classification of cargo parachutes, airdrop containers and other aerial delivery equipment to improve safety and efficiency of airborne operations. Project supports development of tactical field shelters including a series of Rigid Wall Shelters (RWS) and support equipment for Tactical Operation Centers with added capabilities and enhanced survivability. This project develops critical enablers that support the Quarter Master (QM) Force Transformation Strategy and The Army's Transformation Campaign Plan Axes I (Trained and Ready), Line of Operation 2 (Modernization) by maintaining readiness through fielding and integrating new equipment. Also Line of Operation 3 (Manning the Force) by ensuring Army forces are capable of rapid deployment through aerial delivery initiatives and by reducing sustainment requirements, related Combat Support/Combat Service Support (CS/CSS)demands in lift, combat zone footprint, and costs for logistical support.

This project develops and demonstrates critical enablers that support the Legacy-to-Objective transition path of the Army's Transformation Campaign Plan.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| System development and demonstration support for Large Capacity Field Heater (LCFH) Program. | 416 | 142 | 330 | 0 |
| Prepare and update acquisition documentation for LCFH Program. | 100 | 60 | 160 | 0 |
| Support for Developmental Test (DT) and Operational Test (OT) of LCFH. | 0 | 248 | 260 | 0 |
| System development and demonstration support for Block upgrade for Improved Enviromental Control Unit (IECU) Program. | 288 | 124 | 145 | 145 |
| Support DT User Evaluation of block upgrade to IECU System Development and Demonstration models. | 100 | 343 | 290 | 0 |
| Prepare and update acquisition documentation for IECU Program | 70 | 64 | 150 | 0 |
| Award contract Option for 18k Vertical and 9k British Thermal Unit (BTU), 3-phase, Horizontal IECU Prototypes for formal developmental and user testing. | 0 | 0 | 0 | 490 |
| Initiate developmental and user testing of the Mobile Integrated Remains Collection System (MIRCS). | 0 | 0 | 2500 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Complete DT/OT and conduct Milestone C for MIRCS. | 0 | 0 | 0 | 1462 |
| Complete Market Investigation and consolidate existing data to support a Milestone B Decision on the Ammunition Solar Cover. FY05 - Acquire Developmental Test (DT) and Operational Test (OT) prototypes. | 0 | 0 | 178 | 900 |
| Complete Developmental Test (DT) and Operational Test (OT) on the Enhanced Container Delivery System and prepare for Milestone C decision to transition into production. | 0 | 0 | 1300 | 0 |
| Acquire 60kW Space Heater Convective Developmental Test (DT) and Operational Test (OT) prototypes. Conduct DT/OT. FY05 - Prepare for Milestone C decision to transition into production. | 0 | 0 | 1411 | 200 |
| Conduct DT and OT on Advanced Low Velocity Airdrop Capability (Light). FY05 - Prepare for Milestone C decision to transition into production. | 0 | 0 | 1689 | 250 |
| Acquire Clothing Repair System Developmental Test (DT) and Operational Test (OT) prototypes. Conduct DT and OT and prepare for Milestone C decision for transition into production. | 0 | 0 | 0 | 1200 |
| Totals | 974 | 981 | 8413 | 4647 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| OPA3, MF9000, Environmental Control Units (ECU) | 7163 | 14423 | 13544 | 17377 | 10416 | 21353 | 28421 | 28206 | Continuing | Continuing |

**C. Acquisition Strategy:** Accelerate product development and testing to transition into Production.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**L39**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Soldier Support Equipment | In-House | PM FSS, Natick | 0 | 0 | | 1025 | 1-4Q | 445 | 1-4Q | Continue | Continue | 3241 |
| b . Soldier Support Equipment | In-House | PM FSS, Belvoir | 0 | 981 | 1-4Q | 480 | 1-4Q | 245 | 1-4Q | Continue | 1706 | 0 |
| c . Soldier Support Equipment | Contracts | Various | 974 | 0 | | 3000 | 1-2Q | 2363 | 1-2Q | Continue | 6337 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 974 | 981 | | 4505 | | 3053 | | Continue | Continue | 3241 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**L39**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Soldier Support Equipment | MIPR | DTC, MD and ATC, MD | 0 | 0 | | 600 | 1-4Q | 150 | 1-4Q | Continue | Continue | 130 |
| b . Soldier Support Equipment | MIPR | Yuma Proving Ground, AZ | 0 | 0 | | 2208 | 1-4Q | 694 | 1-4Q | Continue | 2902 | 76 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 2808 | | 844 | | Continue | Continue | 206 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Project Management Support | | PM FSS, Natick | 0 | 0 | | 1100 | 1-4Q | 750 | 1-4Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 1100 | | 750 | | Continue | Continue | 0 |
| Project Total Cost: | | | 974 | 981 | | 8413 | | 4647 | | Continue | Continue | 3447 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**L39**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Conduct Milestone C Decision on the 9k, 18k, and 36k Improved Environmental Control Units (IECU). | | | 4Q | | | | | |
| Conduct Milestone B Decision on the Ammunition Solar Cover. | | | 3Q | | | | | |
| Conduct Milestone C Decision on the Large Capacity Field Heater . | | | 2Q | | | | | |
| Complete Developmental and User testing on the Mobile Integrated Remains Collection System (MIRCS). | | | | 2Q | | | | |
| Conduct Milestone C Decision on the Mobile Integrated Remains Collection System (MIRCS) . | | | | 4Q | | | | |
| Complete Developmental and User testing on the 60kW Space Heater Convective. | | | 4Q | | | | | |
| Conduct Milestone C Decision on the 60kW Space Heater Convective. | | | | 2Q | | | | |
| Complete Developmental and User testing on the Advanced Low Velocity Airdrop Capability. | | | | 2Q | | | | |
| Conduct Milestone C Decision on the Advanced Low Velocity Airdrop Capability (Light). | | | | 4Q | | | | |
| Complete Developmental and User testing on the Clothing Repair System. | | | | 4Q | | | | |
| Conduct Milestone C Decision on the Enhanced Container Delivery System | | | 4Q | | | | | |
| Conduct Milestone C Decision on the Clothing Repair System. | | | | | 2Q | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604804A - Logistics and Engineer Equipment - Eng Dev** | **L41** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| L41 | WATER AND PETROLEUM DISTRIBUTION - ED | 3272 | 9315 | 1690 | 952 | 950 | 5400 | 3007 | 3570 | 0 | Continuing |

**A. Mission Description and Budget Item Justification:** All services depend on ample supplies of clean fuel and water. The Army has the mission to supply fuel for all land-based forces, including the Marines and the Air Force, and must supply bulk drinking water to its soldiers. This System Development and Demonstration (SDD) program enables the Army to improve maneuver sustainment operations to meet the demands of the Stryker Brigade Combat Teams and the Objective Force. The mission includes receiving and transferring petroleum from trucks, ships, pipelines and permanent and temporary storage facilities; moving petroleum from storage to and within corps and division areas; fuel quality surveillance testing; and dispensing in support of tactical operations, including rapid refueling of aircraft. The Unit Water Pod System (CAMEL) displaces the water trailer and will be fielded first to the Stryker Brigade Combat Teams. Petroleum, Oils and Lubricant (POL) Quality Analysis System (PQAS) replaces the air mobile lab and reduces the number of operators. Furthermore, the mission covers purification, storage, distribution, and quality control of water. The Army cannot fight without clean fuel and water. These R&D missions support the development and enhancement of rapidly deployed Petroleum and Water equipment which enables the Army to achieve its transformation vision by providing it with the means to be highly mobile and self-sustaining in very hostile theatres of operation.

These systems support the Legacy-to-Objective transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Conduct Petroleum, Oils and Lubricant (POL) Quality Analysis System (PQAS) Pre-Planned Product Improvements (P3I). | 0 | 100 | 400 | 425 |
| Evaluated commercial water treatment components for P3I for water purification systems. | 300 | 0 | 300 | 0 |
| Continue PQAS prototype fabrication and testing. | 210 | 1272 | 0 | 0 |
| Developed POL Quality Surveillance Lab (PQSL) program management documents for milestone decision and conduct tradeoff analysis | 106 | 0 | 0 | 0 |
| Rapidly Installed Fuel Transfer System (RIFTS) development, prototype design, fabrication, and test. | 1316 | 5758 | 910 | 454 |
| Develop purchase description for Versatile Tank & Pump Unit (VTPU) and prepare program management documents. | 0 | 200 | 0 | 0 |
| Program management and support. | 436 | 85 | 80 | 73 |
| Develop Load Handling System (LHS) Modular Fuel Farm (LMFF) prototype and conduct road test/stability test on existing prototype units. | 0 | 200 | 0 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Complete 1500 Tactical Water Purification System (TWPS) SDD effort and conduct Operational Test (OT). | 80 | 1000 | 0 | 0 |
| Lightweight Water Purifier (LWP) Operational Test (OT). | 0 | 700 | 0 | 0 |
| Conducted Heavy Expanded Mobile Tactical Truck (HEMTT)-Load Handling System (LHS) Compatible Water Tankrack (HIPPO) technical and operational testing. | 414 | 0 | 0 | 0 |
| Unit Water Pod System (CAMEL) coupled simulation testing. | 125 | 0 | 0 | 0 |
| Initiated SDD contract for CAMEL. | 275 | 0 | 0 | 0 |
| Tested and evaluation on the CAMEL. | 10 | 0 | 0 | 0 |
| Totals | 3272 | 9315 | 1690 | 952 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| RDTE, 0603804/K41, Logistics and Engineer Equipment - Advanced Development | 2234 | 4334 | 477 | 478 | 475 | 4395 | 3456 | 3375 | Continuing | Continuing |
| OPA 3, R67500, Quality Surveillance Equipment | 1441 | 7319 | 0 | 0 | 0 | 0 | 0 | 0 | Continuing | Continuing |
| OPA 3, R05200, Water Purification Systems | 21279 | 11993 | 10001 | 3973 | 11356 | 7071 | 0 | 0 | Continuing | Continuing |
| OPA 3, MA6000, Distribution Systems, Petroleum & Water | 23443 | 35280 | 43350 | 50117 | 62232 | 64116 | 59069 | 41938 | Continuing | Continuing |

**C. Acquisition Strategy:** Development of and transition to competitive procurement for most items under this project. Exceptions include the use of procurement 8A Disadvantaged Set Aside for the HIPPO and Small Business Set Aside for the CAMEL.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**L41**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . PQAS | In-House | TARDEC, Warren, MI | 777 | 100 | 2Q | 400 | 1Q | 425 | 1Q | Continue | 1702 | Continue |
| b . PQAS | MIPR | Rock Island Arsenal, Rock Island, IL | 2074 | 300 | 2Q | 0 | | 0 | | Continue | 2374 | Continue |
| c . PQSL | In-House | TARDEC, Warren, MI | 213 | 0 | | 0 | | 0 | | 0 | 213 | 213 |
| d . RIFTS | In-House | TARDEC, Warren, MI | 481 | 124 | 2Q | 214 | 1-4Q | 150 | 1-4Q | Continue | 969 | Continue |
| e . RIFTS | C-CPFF | Various | 3362 | 5558 | 2Q | 296 | 2Q | 254 | 2Q | Continue | 9470 | Continue |
| f . 1500 GPH TWPS | Task Order Contract | ICI, Dayton, OH | 365 | 0 | | 0 | | 0 | | 0 | 365 | 365 |
| g . 1500 GPH TWPS hardware | C-CPFF | SFA, Inc, Frederick, MD | 4240 | 0 | | 0 | | 0 | | 0 | 4240 | 4240 |
| h . Water Purification P3I | In-House | TARDEC, Warren, MI | 190 | 0 | | 50 | 1Q | 0 | | 0 | 240 | 190 |
| i . Water Purification P31 | Purchase Orders | TBD | 100 | 0 | | 150 | 1-3Q | 0 | | 0 | 250 | 100 |
| j . CAMEL | Purchase Order | SWRI, San Antonio, TX | 125 | 0 | | 0 | | 0 | | 0 | 125 | 125 |
| k . LWP | MIPR | TEXCOM, Ft. Hood, TX | 0 | 700 | 2Q | 0 | | 0 | | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**L41**

| I. Product Development (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| l . HIPPO | FFP | Mil-Mar Century Corp, Dayton, OH | 740 | 0 | | 0 | | 0 | | 0 | 740 | 740 |
| m . CAMEL | CPFF | TBD | 614 | 0 | | 0 | | 0 | | 0 | 614 | 739 |
| n . VTPU | In-House | TARDEC | 0 | 78 | 2Q | 0 | | 0 | | 0 | 78 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 13281 | 6860 | | 1110 | | 829 | | Continue | Continue | Continue |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . PQAS | In-House | TACOM, Warren, MI | 130 | 34 | 2Q | 0 | | 0 | | Continue | 164 | Continue |
| b . PQSL | In-House | TACOM, Warren, MI | 40 | 0 | | 0 | | 0 | | 0 | 40 | 40 |
| c . Water Purification P3I | MIPR | CHPPM, APG, MD | 25 | 0 | | 0 | | 0 | | 0 | 25 | 25 |
| d . Water Purification P31 | In-House | TACOM, Warren, MI | 50 | 0 | | 0 | | 0 | | 0 | 50 | 50 |
| e . LMFF | In-House | TACOM, Warren, MI | 0 | 50 | 2Q | 0 | | 0 | | Continue | Continue | Continue |
| f . HIPPO | FFP | TBD | 250 | 0 | | 0 | | 0 | | 0 | 250 | 250 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**L41**

| II. Support Cost (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| g . CAMEL | In-House | TARDEC, Warren, MI | 147 | 0 | | 0 | | 0 | | 0 | 147 | 147 |
| h . CAMEL | MIPR | APG, Aberdeen, MD | 10 | 0 | | 0 | | 0 | | 0 | 10 | 10 |
| i . RIFTS | In-House | TACOM, Warren, MI | 0 | 76 | 2Q | 100 | 2Q | 50 | 2Q | 0 | 226 | 0 |
| j . VTPU | CPFF | TBD | 0 | 122 | 2Q | 0 | | 0 | | 0 | 122 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 652 | 282 | | 100 | | 50 | | Continue | Continue | Continue |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . PQAS DT/OT | MIPR | TECOM, Aberdeen, MD | 498 | 545 | 2Q | 0 | | 0 | | Continue | 1043 | Continue |
| b . PQAS | MIPR | APG, Aberdeen, MD | 0 | 393 | 2-3Q | 0 | | 0 | | 0 | 393 | 25 |
| c . PQAS IOT&E | MIPR | TEXCOM, Ft. Hood, TX | 0 | 0 | | 0 | | 0 | | Continue | 0 | Continue |
| d . RIFTS | MIPR | TECOM, Aberdeen, MD | 291 | 0 | | 300 | 3Q | 0 | | 0 | 591 | Continue |
| e . 1500 GPH TWPS | MIPR | NFESC, Port Huaneme, CA | 340 | 0 | | 0 | | 0 | | 0 | 340 | 340 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**L41**

| III. Test and Evaluation (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| f . Water Purification P3I | In-House | TARDEC, Warren, MI | 200 | 0 | | 100 | 1Q | 0 | | 0 | 300 | 200 |
| g . Water Purification P3I | MIPR | Dugway PG, Dugway, MD | 200 | 0 | | 0 | | 0 | | 0 | 200 | 200 |
| h . Water Purification P3I | MIPR | NFESC, Port Hueneme, CA | 35 | 0 | | 0 | | 0 | | 0 | 35 | 35 |
| i . 1500 GPH TWPS | MIPR | ATC, APG, MD | 71 | 0 | | 0 | | 0 | | 0 | 71 | 71 |
| j . 1500 GPH TWPS | MIPR | TEXCOM, Ft. Hood, TX | 10 | 1000 | 2-3Q | 0 | | 0 | | Continue | 1010 | Continue |
| k . LMFF | MIPR | APG, Aberdeen, MD | 0 | 150 | 2Q | 0 | | 0 | | Continue | Continue | Continue |
| l . HIPPO | MIPR | APG, Aberdeen, MD | 64 | 0 | | 0 | | 0 | | 0 | 64 | 64 |
| m . CAMEL | MIPR | YPG, Yuma, AZ | 254 | 0 | | 0 | | 0 | | 0 | 254 | 254 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1963 | 2088 | | 400 | | 0 | | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**L41**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . PQSL | In-House | TARDEC, Warren, MI | 155 | 0 | | 0 | | 0 | | 0 | 155 | 155 |
| b . Program Management Support | In-House | TACOM, Warren, MI | 877 | 85 | 2Q | 80 | 1Q | 73 | 1Q | Continue | 1115 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 1032 | 85 | | 80 | | 73 | | Continue | 1270 | Continue |
| Remarks: Not Applicable | | | | | | | | | | | | |
| Project Total Cost: | | | 16928 | 9315 | | 1690 | | 952 | | Continue | Continue | Continue |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**L41**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Conduct PQAS P3I. | | 1-4Q | 1-4Q | 1-4Q | | | | |
| Continue PQAS prototype fabrication and testing. | | 1-4Q | | | | | | |
| Evaluate commercial water treatment components for P3I for water purification systems. | 1-4Q | | | | | | | |
| Develop PQSL program management documents for milestone decision and conduct tradeoff analysis. | 1-3Q | | | | | | | |
| RIFTS development, prototype design, fabrication, and test. | 1-4Q | 1-4Q | 1-4Q | 1-4Q | | | | |
| Develop VTPU specification and prepare program management documents. | | 1-4Q | | | | | | |
| Develop LMFF prototype and conduct road test/stability test on existing prototype units. | 2-4Q | 1-4Q | | | | | | |
| Complete 1500 TWPS SDD effort and conduct OT. | 2-4Q | 1-2Q | | | | | | |
| CAMEL coupled simulation testing. | 1-3Q | | | | | | | |
| LWP OT | | 1-2Q | | | | | | |
| Program Management | 1-4Q | 1-4Q | | | | | | |
| Conduct HIPPO technical and operational testing | 4Q | | | | | | | |
| Initiate SDD for CAMEL | 4Q | | | | | | | |
| CAMEL test and evaluation | 4Q | | | | | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604804A - Logistics and Engineer Equipment - Eng Dev** | **L42** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| L42 | CAMOUFLAGE SYSTEM ED | 314 | 329 | 668 | 1617 | 1654 | 1166 | 1887 | 1741 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This project provides for development and demostration of camouflage equipment that will transition to procurement at a low cost; low observable systems for suppression of visual, near-infrared, thermal, radar, and acoustic signatures of highly mobile and semi-mobile weapon assets. This program procures and fields a critical capability that supports the Army's Transformation Campaign Plan Axes I (Trained and Ready), Line of Operation 2 (Modernization and Re-capitalization) by maintaining readiness through fielding and integrating new equipment; Axes II (Transforming and Operational Force), Line of Operation 9 (Deploying and Sustaining) by reducing sustainment requirements, related Combat Support/Combat Service Support (CS/CSS) demands on lift, combat zone footprint, and costs for logistical support. Also Line of Operation 10 (Develop and Acquire Advanced Technology) by reducing vulnerability to detection by advanced sensors.

This system supports the Legacy-to-Objective transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Milestone C approved for Ultra Lightweight Camouflage Net System (ULCANS) Desert Radar Scattering, Desert Radar Transparent, and Woodland Radar Transparent. | 314 | 0 | 0 | 0 |
| Initiate development, complete Developmental Test/Operational Test (DT/OT), and conduct Milestone C on Arctic/Snow ULCANS variants. | 0 | 329 | 668 | 0 |
| Initiate development and testing of Urban Camouflage System. | 0 | 0 | 0 | 300 |
| Begin development to counter emerging technologies in FY 2005 for all variants, Woodland, Desert, Snow, Urban and Aviation. | 0 | 0 | 0 | 1317 |
| Totals | 314 | 329 | 668 | 1617 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| RDTE, 0602712.AH35, Camouflage Technology | 2262 | 2417 | 2643 | 2735 | 2830 | 2881 | 2945 | 3012 | Continuing | Continuing |

**C. Acquisition Strategy:** Develop camouflage systems for Services and transition developmental items into procurement with a competitive awaward. Continual upgrade to counter technology improvements of sensors, and to counter new emerging technologies. Continual leveraging of technology with other special operations programs.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**L42**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . ULCANS Artic/Snow | CPFF | CECOM, FT Monmouth | 0 | 144 | 2-3Q | 100 | 1-2Q | 0 | | 0 | 244 | 0 |
| b . ULCANS Urban | CPFF | CECOM, FT Monmouth | 0 | 0 | | 0 | | 300 | 1-4Q | Continue | Continue | 0 |
| c . ULCANS Technology Insertion | CPFF | CECOM, FT Monmouth | 0 | 144 | 1-4Q | 100 | 1-4Q | 750 | 1-4Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 288 | | 200 | | 1050 | | Continue | Continue | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**L42**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . ULCANS, Artic/Snow | MIPR | TECOM, WSMR | 15 | 41 | 1-2Q | 50 | 1-2Q | 0 | | 0 | 106 | 0 |
| b . ULCANS, Urban | | | 0 | 0 | | 50 | 1-4Q | 102 | 2-3Q | Continue | 152 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 15 | 41 | | 100 | | 102 | | Continue | 258 | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Engineering Support | MIPR | CECOM, FT Belvoir | 199 | 0 | | 238 | 1-4Q | 335 | 1-4Q | Continue | 772 | 0 |
| b . Program Support | Contract | Radian, INC | 100 | 0 | | 130 | 1-4Q | 130 | 1-4Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 299 | 0 | | 368 | | 465 | | Continue | Continue | 0 |
| Project Total Cost: | | | 314 | 329 | | 668 | | 1617 | | Continue | Continue | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**L42**

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Complete Desert Ultra Lightweight Camouflage Net System (ULCAN) testing, Milestone C. | 2Q | | | | | | | |
| Begin development and testing of Snow ULCAN. | | 2Q | | | | | | |
| Finalize testing of Snow ULCAN, test report, Milestone C. | | | 4Q | | | | | |
| Technology Enhancement to Woodland ULCAN/Desert ULCAN. | | | 4Q | | | | | |
| Begin development of Aviation ULCAN. | | | | 1Q | | | | |
| Test Aviation ULCAN/Milestone C. | | | | | 2Q | | | |
| Begin development of Urban ULCAN. | | | | 1Q | | | | |
| Test Urban ULCAN, Milestone C. | | | | | 3Q | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604804A - Logistics and Engineer Equipment - Eng Dev** | **L43** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| L43 | ENGINEER SUPPORT EQUIPMENT - ED | 823 | 2345 | 1226 | 1164 | 1183 | 1203 | 4728 | 5426 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This project supports systems development and demostration within the Engineer Support Equipment (ESE) arena for small boats, diving equipment, well drilling modules, woodworking shops, tool outfits, large power generator plants, electrical distribution systems, and floodlights, which are used for field operations in support of the Objective Force. This project also develops Maintenance equipment associated with Sets, Kits, Outfits and Tools (SKOTs).

This project supports the Objective Force of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Conducted market investigation, develop performance specifications and conduct preproduction award effort for diving equipment. | 104 | 606 | 562 | 740 |
| Conduct preproduction award effort for well drilling module. | 719 | 0 | 0 | 0 |
| Award System Development & Demonstration contract for well drilling module. | 0 | 1013 | 0 | 0 |
| Conduct prototype testing of well drilling module. | 0 | 0 | 250 | 0 |
| Conduct market investigation, engineering effort, and develop performance specifications for woodworking shop. | 0 | 168 | 0 | 0 |
| Fabrication of prototype for woodworking shop. | 0 | 208 | 0 | 0 |
| Conduct market investigation, engineering effort, and develop performance specifications for maintenance equipment (tools). | 0 | 162 | 0 | 0 |
| Conduct market investigation, engineering effort, and develop performance specifications for Organizational / General Purpose Shop Set. | 0 | 128 | 294 | 294 |
| Conduct Life Cycle Market Investigations for Engineer Support Equipment (ESE) Sets, Kits, Out fits and Tools (SKOTs). | 0 | 60 | 120 | 130 |
| Totals | 823 | 2345 | 1226 | 1164 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| OPA 3, ML5325, Items Less than $5.0M (Engineering Support Equipment) | 0 | 7704 | 8345 | 8122 | 8127 | 6514 | 15464 | 13682 | Continuing | Continuing |

**C. Acquisition Strategy:** Programs will progress from System Development and Demostration (SDD) and transition into production.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**L43**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Diving equipment product development | IN-HOUSE | Rock Island Arsenal, Rock Island, IL | 249 | 606 | 2Q | 562 | 2Q | 740 | 2Q | Continue | Continue | Continue |
| b . Generator production development | IN-HOUSE | CECOM, Ft Belvoir, VA | 319 | 0 | | 0 | | 0 | | 0 | 319 | 319 |
| c . Well drilling module product development | IN-HOUSE | TACOM, Warren, MI | 719 | 0 | | 0 | | 0 | | 0 | 719 | 721 |
| d . Well drilling System Development & Demonstration contract | Competitive Cost Plus Fixed Fee | TBD | 0 | 1013 | 3Q | 0 | | 0 | | 0 | 1013 | 1026 |
| e . Woodworking shop product development | IN-HOUSE | Rock Island Arsenal, Rock Island, IL | 0 | 376 | 1-4Q | 0 | | 0 | | 0 | 376 | 376 |
| f . Maintenance Equipment (Tools) | IN-HOUSE | Rock Island Arsenal, Rock Island, IL | 0 | 162 | 1-4Q | 0 | | 0 | | 0 | 162 | 162 |
| g . Organizational / General Purpose Shop Set | IN-HOUSE | Rock Island Arsenal, Rock Island, IL | 0 | 128 | 1-4Q | 294 | 1-4Q | 294 | 1-4Q | Continue | Continue | Continue |
| h . Life Cycle Market Investigations for ESE SKOTs | IN-HOUSE | Rock Island Arsenal, Rock Island, IL | 0 | 60 | 1-4Q | 120 | 1-4Q | 130 | 1-4Q | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**L43**

| I. Product Development (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 1287 | 2345 | | 976 | | 1164 | | Continue | Continue | Continue |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Well drilling module testing | MIPR | APG, Aberdeen, MD | 0 | 0 | | 250 | 3Q | 0 | | 0 | 250 | 250 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 250 | | 0 | | 0 | 250 | 250 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**L43**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Project Total Cost: | | | 1287 | 2345 | | 1226 | | 1164 | | Continue | Continue | Continue |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**L43**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Award System Development & Demonstration contract for well drilling module | | 3Q | | | | | | |
| Conduct testing for well drilling module | | | 3Q | | | | | |
| Conduct market investigation and testing for diving equipment | 1-4Q | 2Q | 2Q | 2Q | | | | |
| Conduct market investigation for woodworking shop | | 1-2Q | | | | | | |
| Fabrication of prototype of woodworking shop | | 2-4Q | | | | | | |
| Conduct Life Cycle Market Investigations for ESE SKOTs | | 1-4Q | | | | | | |
| Conduct Market investigation for Organizational / General Purpose Shop Set | | 1-4Q | 1-2Q | | | | | |
| Conduct Market investigation for maintenance equipment (Tools) | | 1-4Q | | | | | | |
| Pre Production analysis of Organizational / General Purpose Shop Set | | | 2-4Q | 1-4Q | | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604804A - Logistics and Engineer Equipment - Eng Dev** | **L46** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| L46 | MAINTENANCE SUPPORT EQUIPMENT | 0 | 0 | 492 | 492 | 490 | 490 | 491 | 490 | 0 | 2945 |

**A. Mission Description and Budget Item Justification:** Not applicable for this item.

**Accomplishments/Planned Program** Not applicable for this item.

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

**C. Acquisition Strategy:** Not applicable for this item.

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

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604805A - Command, Control, Communications Systems - Eng Dev**

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Program Element (PE) Cost | | 112970 | 89546 | 219088 | 162970 | 107046 | 72227 | 32546 | 14430 | 0 | 868279 |
| 097 | INTEROP & STANDARDS COMPLIANCE EXPERIMENT & TEST | 1866 | 1649 | 2052 | 2240 | 2044 | 2367 | 943 | 963 | 0 | 15967 |
| 485 | INFO STANDARDS INTEROP ENG/JOINT INTEROP CERT | 3851 | 3635 | 4957 | 5142 | 5210 | 5259 | 2926 | 3205 | 0 | 38051 |
| 589 | ARMY SYS ENGINEERING & WARFIGHTING TECH SUP | 8159 | 8037 | 2964 | 3030 | 3178 | 3102 | 3050 | 3173 | 0 | 42830 |
| 591 | WPN SYS TECH ARCH (WSTA) | 2322 | 2268 | 590 | 590 | 588 | 588 | 589 | 588 | 0 | 10484 |
| 615 | JTRS-GROUND DOMAIN INTEGRATION | 88208 | 60688 | 206137 | 149510 | 93403 | 58143 | 25038 | 6501 | 0 | 715075 |
| 629 | TACTICAL COMMUNICATIONS SYSTEM - ENGINEERING DEVEL | 8564 | 13269 | 2388 | 2458 | 2623 | 2768 | 0 | 0 | 0 | 45872 |

**A. Mission Description and Budget Item Justification:** This Program Element (PE) supports efforts to develop interoperability of Army programs and products, horizontally and vertically for the digitized battlefield. Project D097 supports development of the C4I Interoperability Network. Project D485 supports Information Standards Interoperability Engineering and Joint Interoperability certification. It provides the critical elements of the Army/Joint Technical Architecture, the mandated standards and communication protocols for Army/Joint ground and air operations, and crucial certification test tools to evaluate systems' interoperability for the Warfighter in support of the Vice Chief of Staff of the Army (VCSA) and Army Acquisition Executive (AAE). It also provides Joint certification testing and certification recommendations to the Joint Chiefs of Staff (JCS) for Army systems. This Army-wide effort directly supports the management, oversight, development, maintenance, and interoperability at the Army enterprise level C4I/IT (Command, Control, Communications, Computers, and Intelligence/Information Technology) architecture efforts required to implement the Army Transformation Campaign Plan (TCP), Unit Set Fielding (USF), Software Blocking (SWB) Policy and Army Knowledge Management. Project D589 Army Systems Engineering (ASE) & Warfighter Technical Support provides essential technology expertise on all Systems Engineering and Technical Architecture (SE/TA) matters critical to gain Information Dominance and foster interoperability among all Army systems. The Weapons Systems Technical Architecture, Project D591, supports development of the Joint Technical Architecture-Army (JTA-A) which provides the 'building code" foundation for designing, building, fielding, and supporting interoperable systems in an expedient and cost-effective manner. In FY03, Project D615 supports the Army Joint Tactical Radio System (JTRS) Cluster 1 and the Near Term Digital Radio System (NTDRS). In FY04, Project D615 will support the JTRS Cluster 1 and Cluster X Programs. Project D629, Tactical Communications System - Demonstration Validation, provides for insertion of selected proven communications technology from program elements 0602782A, Project AH92 applied research and 0603008A, advanced technology development, into the next phase of development. The Protocol Investigation for the Next Generation (PING) program evaluates and assesses emerging network protocols,

concentrating on the assessment and evaluation of the next generation of Internet Protocol (IPv6) and its protocol dependencies affecting the Army Enterprise Architecture. The Applied Communications and Information Networking (ACIN) project provides for the evaluation and capitalization of emerging commercial communications and networking technologies by leveraging advances, influencing development efforts, influencing standards and delivering technical solutions in support of emerging architectures (JTA-A). This system supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 118643 | 82238 | 76918 | 62100 |
| Current Budget (FY 2004/2005 PB) | 112970 | 89546 | 219088 | 162970 |
| Total Adjustments | -5673 | 7308 | 142170 | 100870 |
| Congressional program reductions | | | | |
| Congressional rescissions | | -1810 | | |
| Congressional increases | | 12000 | | |
| Reprogrammings | -2519 | -513 | | |
| SBIR/STTR Transfer | -3154 | -2369 | | |
| Adjustments to Budget Years | | | 142170 | 100870 |

Proj 097: Funding increases of $612K in FY04 and $799K in FY05 are for continued emerging Future Combat Systems architecture assessment.
Proj 485: The funding increases of $1,091K in FY 2004 and $1,176K in FY 2005 are direct results of the Command and Control Basic Organization Structure (C2 BOS) and Army Knowledge Enterprise Architecture (AKEA)General Officers Steering Committee (GOSC) budget prioritization and realignment of efforts between projects 097 and 485. Several critical unfunded requirements (UFRs), which directly impact the warfighter and the Army Transformation Campaign Plan, were funded. In addition, a new requirement was added to project D485 to perform the Software Blocking (SWB) Configuration Management (CM) function. This Army Wide function will perform the CM on SWB specific products and configuration items (CI) that include requirements, architectures, plans, test threads and procedures, and software and messaging baselines.

Proj 589: Decrement in FY04 of $4129K and in FY05 of $3936K due to reprioritization of tasks.
Proj 615: FY 2002 funds realigned ($2400K) to higher priority requirements.

FY 2004 increase of $111800K to Project D615 for JTRS Cluster 1 Product Development, and $33201K for Cluster X. FY 2005 funding reflects increase of $50600K to Project D615 in order to accelerate JTRS product development and $52575 for continuation of Cluster X development.
Proj 629: FY02 one year Congressional add of $6100K demonstrated specific exploitation of commercial technologies in networking and communications for rapid insertion to PM MILSATCOM, PM TRACS and SOCOM. Technologies included: broadband wideband gap amplifier, Ka band transmit antennas and technologies to enhance communications security.
Proj 629: FY04 and FY05 increases of $1058K and $1113K will support the steeply increased effort to develop the Army's IPv6 implementation plan as well as increased support to WIN-T and JTRS transition plans.

Proj D591: FY2004 decrease of $1390K and FY2005 decrease of $1359K reflected in current BES since previous budget submission.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604805A - Command, Control, Communications Systems - Eng Dev** | **097** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 097 | INTEROP & STANDARDS COMPLIANCE EXPERIMENT & TEST | 1866 | 1649 | 2052 | 2240 | 2044 | 2367 | 943 | 963 | 0 | 15967 |

**A. Mission Description and Budget Item Justification:** Interoperability and Standards Compliance Experimentation & Testing: The increased combat power of the Objective Force, as defined by the Chief of Staff of the Army's Transformation Campaign Plan (TCP), will derive directly from the information superiority of network/ knowledge centric warfare and the ability to be fully "interoperable as a member of the joint, multinational, interagency team." In addition, attaining full interoperability will be critical to meet the Army's Division XXI, Corps XXI, Army XXI, Army 2010 and JV 2020 plans. To attain this significantly increased combat power, it is essential that interoperability issues be identified early in the life cycle of emerging C4ISRsystems, through the conduct of Army interoperability assessments and JTA standards compliance testing. This project, in accordance with the TCP, "establishes a mechanism to ensure all digitally capable material, including the Objective Force, is fully operational, compatible and interoperable" before fielding. In particular, it provides the resources for a virtual command, control, communications, computer, intelligence, electronic warfare and sensor (C4IEWS) Digital Integration Lab (DIL) which is utilized to integrate/assess the Army's programs and products, horizontally and vertically for the digitized battlefield, by replicating current and future tactical battlefield environments (including Army, Joint and Allied interoperability environments). To attain this goal, it utilizes on-site and electronically interconnected remote C4IEWS systems, labs/ test beds, field/integration sites, developers facilities, test tools and Battle Labs to enable/facilitate comprehensive evaluations of new prototypes, evolutionary system developments, new technologies, commercial products, software and systems interoperability. This program supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP) and towards the Future Combat System (FCS).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Provide external DIL connectivity to remote battlefield digitization sites for digitization experimentation and tests. | 0 | 350 | 350 | 350 |
| Provide external DIL connectivity to remote battlefield digitization sites for digitization experimentation, and tests. | 380 | 0 | 0 | 0 |
| Upgrade, operate and support DIL Evaluation & Certification Testbed and other facilities supporting experiments/certifications needed for battlefield digitization efforts, including Joint, Allied as well as STO/ACTD/ATD experimentation and evaluations related to Objective Force development. Support interoperability testing between emerging FCS C4ISR Systems and the SDD, FCD, IBCD systems. | 668 | 0 | 750 | 750 |
| Upgrade, operate and support secure DIL Evaluation & Certification Testbed and other facilities supporting experiments/certifications needed for battlefield digitization for Army SDD & FDC, as well as STO/ACTD/ATD experimentation and evaluations related to Objective Force development. | 0 | 600 | 0 | 0 |
| Acquire/update DIL hardware and software interfacing systems, test tools, and supporting C4ISR systems for SDD, FDC, and Objective Forces. | 100 | 0 | 150 | 150 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Acquire/update DIL hardware and software interfacing systems, test tools, and supporting systems for SDD,FDC and Objective forces TA/SA evaluations. | 0 | 100 | 0 | 100 |
| Acquire DIL automated scenario drivers and test analysis tools for SDD,FDC and OF evaluations and TA/SA evaluations. | 127 | 0 | 0 | 100 |
| Acquire DIL automated scenario drivers and test analysis tools for SDD, FDC and Objective Force evaluations TA/SA evaluations. | 0 | 100 | 112 | 100 |
| Combat Net Radio (CNR) Protocol Test Tool (Monitor/Decoder) development to support Sync Mode, common PTT components. | 137 | 114 | 0 | 0 |
| CNR Protocol Test Tool (Conformance Tester V4) development; develop version 220D. | 100 | 0 | 0 | 0 |
| CNR Protocol Test Tool (Conformance Tester V5) development; develop latest approved version of CNR standard. | 0 | 55 | 0 | 0 |
| CNR Protocol Test Tool (Network Analyzer V3) development; supports Net troubleshooting & Net performance. | 50 | 0 | 0 | 0 |
| CNR Protocol Test Tool (Network Analyzer V4) development; supports Net troubleshooting & Net performance. | 0 | 52 | 0 | 0 |
| VMF Test Tool development and On site support | 0 | 92 | 0 | 0 |
| VMF Test Tool development and On-site support | 94 | 0 | 0 | 0 |
| Develop/Field VMF Reissue 5 VMF tool database | 70 | 0 | 0 | 0 |
| Develop/Field VMF Reissue 6 VMF tool database | 0 | 70 | 0 | 0 |
| VTT Message Generation Scripting | 140 | 116 | 0 | 0 |
| Provide DIL System Engineering and Integration support for conducting experiments and evaluations to support FDD, Joint Tests, and testing related to development of ATD's and STO's related to the development of the Objective Force. | 0 | 0 | 220 | 220 |
| Evaluate and certify IT/C4ISR systems interoperability for FDD, Objective Force, Joint experiments to assure compliance with the Technical and System Architectures. | 0 | 0 | 360 | 360 |
| Provide systems engineering, integrated support & field support for identification and resolution of systems' discrepancies and inconsistencies identified during evaluations. | 0 | 0 | 110 | 110 |
| Totals | 1866 | 1649 | 2052 | 2240 |

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

**C. Acquisition Strategy:** The efforts funded in this project are non-system specific, supporting interoperability across multiple systems. The contractual efforts/services are obtained from existing competitive omnibus support services contracts.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604805A - Command, Control, Communications Systems - Eng Dev**

PROJECT
**097**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Labor (internal Govt) | In House | USACECOM, Fort Monmouth, NJ | 3366 | 897 | 1-4Q | 400 | | 472 | | Continue | 5135 | 0 |
| b . Travel | In House | USACECOM, Fort Monmouth, NJ | 79 | 15 | 1-4Q | 30 | | 50 | | Continue | 174 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 3445 | 912 | | 430 | | 522 | | Continue | 5309 | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . System Engineering | C/CPFF | Arinc, Fort Monmouth, NJ | 3061 | 297 | 1-2Q | 1200 | | 1300 | | Continue | 5858 | 0 |
| b . Development Support | C/CPFF | BAE, Fort Monmouth, NJ | 80 | 0 | | 0 | | 0 | | Continue | Continue | 0 |
| c . Development Support | C/CPFF | CSC, Fort Monmouth, NJ | 607 | 129 | 1-4Q | 100 | | 100 | | Continue | 936 | 0 |
| d . Development Support | C/CPFF | C3I, Fort Monmouth, NJ | 908 | 141 | 1-2Q | 200 | | 221 | | Continue | 1470 | 0 |
| e . Security Engineering | C/CPFF | Nations, Fort Monmouth, NJ | 111 | 30 | 1Q | 0 | | 0 | | Continue | Continue | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604805A - Command, Control, Communications Systems - Eng Dev**

PROJECT
**097**

| II. Support Cost (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| f . Equipment | FFP | USA CECOM, NJ | 753 | 100 | 1-4Q | 122 | | 97 | | Continue | 1072 | 0 |
| g . Development Support | C/CPFF | BAH, Fort Monmouth, NJ | 40 | 40 | 1-4Q | 0 | | 0 | | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 5560 | 737 | | 1622 | | 1718 | | Continue | Continue | 0 |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604805A - Command, Control, Communications Systems - Eng Dev**

PROJECT
**097**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| Project Total Cost: | | | 9005 | 1649 | | 2052 | | 2240 | | Continue | Continue | 0 |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604805A - Command, Control, Communications Systems - Eng Dev** | **485** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 485 | INFO STANDARDS INTEROP ENG/JOINT INTEROP CERT | 3851 | 3635 | 4957 | 5142 | 5210 | 5259 | 2926 | 3205 | 0 | 38051 |

**A. Mission Description and Budget Item Justification:** Evaluate systems' interoperability, in support of the Vice Chief of Staff Army (VCSA) and the Office of the Chief Information Officer (CIO/G-6), Army Enterprise Architecture (AEA) Program, as cited in the AEA Master Plan, fulfilling the Clinger-Cohen Act's mandate of developing sound integrated Information Technology (IT) architectures and the Army's Software Blocking Policy. The increased combat power of the Objective Force, as defined by the Chief of Staff of the Army (CSA) Transformation Campaign Plan (TCP), will be dependent on the information superiority of network & knowledge centric warfare and the ability of systems to be fully "interoperable as a member of the joint, multinational, interagency team as well as emerging Objective Force (OF) C4ISR (Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance) Systems." It identifies and reduces interoperability issues earlier in the life cycle by intra-Army/OF/Joint/combined experiments, certifications, and assessments and through the establishment & sustainment of common standards. This Army wide effort directly supports the management, oversight, development, maintenance, and interoperability of the Army enterprise level C4I/IT architecture efforts required to implement the Army Transformation Campaign Plan, Unit Set Fielding, Software Blocking and Army Knowledge Enterprise Architecture (AKEA). Specifically, this project resources the Army's messaging standards conformance authority in assessing compliance with the Joint Technical Architecture - Army (JTA-A), in meeting the war fighter information exchange requirements and in facilitating their interoperability. Also it resources, in accordance with the JTA-A, the development and maintenance of the following information standards: Variable Message Format (VMF) & Combat Net Radio (CNR) protocol, which support Army/Joint ground operations; Tactical Digital Information Links (TADILs), which support Air Defense operations; and US Message Text Format (USMTF), which support Intel and Commanders operations. It provides the Army's lead for configuration management functions of these standards and test tools at both Army and Joint levels. This project resources the Army participation in joint/allied messaging certification testing & configuration management processes. This project also resources the development and fielding of a suite of four (4) crucial tools which are used throughout the entire Army. These tools which are currently under development will provide the ideal means to: a) validate JTA-A critical messaging and protocol standards; b) improve systems interoperability; c) verify/certify correct system implementations and interpretation to JTA-A; d) sustain/support digitization and transition of fielded systems; e) support Software Blocking and interoperability testing; f) provide Legacy AEA interoperability with Future Combat System (FCS) command and control systems. These crucial tools are critical to the JTA-A Compliance, Certification Testing mission & Interoperability programs. The task also supports the Army's transformation campaign while mitigating interoperability issues resulting in reducing cost & program slippages. This project also provides the Configuration Management & Control for the Software Blocking (SWB)/USF (Unit Set Fielding). This program supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Evaluate and certify IT/C4ISR systems interoperability for DCX (Division Capstone Exercise), Joint experiments to assure compliance with the Technical and System Architectures | 0 | 332 | 0 | 0 |
| Evaluate and certify IT/C4ISR systems interoperability for FDD (First Digitized Division), Joint experiments to assure compliance with the Technical and System Architectures | 458 | 0 | 0 | 0 |
| Provide DIL (Digital Integration Laboratory) System Engineering and Integration support for conduct of experiments and evaluations to support FDD, Joint Tests, and testing related to development of ATDs (Advanced Technology Demonstrations) and STOs (Science and Technology Objectives) related to the development of the Objective Force. | 460 | 323 | 0 | 0 |
| Provide systems engineering, integrated support & field support for identification and resolution of systems' discrepancies and inconsistencies identified during evaluations | 178 | 23 | 0 | 0 |
| Develop and publish Army wide Combat Net Radio (CNR) and Variable Message Format (VMF)/USMTF (United States Message Text Format) application header standards and updates that support warfighting interoperability requirements during the Legacy, interim to Objective Force Transformation. | 281 | 303 | 350 | 405 |
| Develop/Joint approved new Variable Message Format (VMF) messages to support interoperability during the Legacy, interim to Objective Force Transformation. | 325 | 403 | 480 | 490 |
| Joint approval of 50-200 Variable Message Format (VMF) change proposals to support warfighting interoperability during the Legacy to Objective Force Transformation. Change proposal also includes requirements for Homeland Defense (i.e. Nuclear/Biological & Chemical, security, etc) Interoperability and Software Blocking/Unit Set Fielding. | 332 | 400 | 508 | 535 |
| Maintain Army wide common Variable Message Format (VMF) Data Base (VID) and provide multiple versions that supports interoperability during the system development, testing and fielding. Ensure the warfighter requirements(Army-Wide & Joint) in the VMF Integrated Database are validated. | 81 | 77 | 150 | 199 |
| Chair the VMF Integrated database IPT. Including the development and maintenance of the VID QA consistency tool & automated distribution mechanism. | 0 | 0 | 110 | 115 |
| Conduct, chair & manage at multiple Army CCBs (Configuration Control Boards) and represent the Army at multiple Army/Joint CCBs to support existing and evolving warfighter interoperability. | 310 | 310 | 318 | 323 |
| Evaluate, process and obtain approval of 1100-1200 Air defense TADILs & ground operation USMTF change proposals incorporating crucial Ground, Air Defense, Intel & Commander requirements. | 549 | 574 | 605 | 625 |
| Prepare for and Conduct 10 Joint certification testings to include 30 operational systems, and develop over 500 interoperability problem reports for analysis by Joint services | 710 | 725 | 725 | 725 |
| Army lead in over 24 Joint Air Defense (i.e.TADILS), Ground Operations (i.e.USMTF), OSD Tactical Data Link Management plans (TDLMP), and Joint Interface Requirements. | 167 | 165 | 180 | 185 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Engineer, develop & publish Warfighter Information Standards (i.e. XML-USMTF/VMF,Wireless XML, database exchange, etc...) Incorporating the Army's requirements into the standards IAW Army guidance, policy and warfighter needs. | 0 | 0 | 275 | 295 |
| Develop, field and provide SME (subject matter expert) support for Combat Net Radio (CNR) Protocol Test tool (Monitor/Decoder) for the design & implementation of the operational Sync Mode, common PTT components and capabilities. | 0 | 0 | 150 | 150 |
| Develop, field and provide SME support for the CNR Protocol Test Tool (PTT) mandated version of CNR standards and ensure Army-Wide requirements (i.e. Mobility,Security,Robustness, etc) are met in accordance with crucial Army guidance & policy. | 0 | 0 | 115 | 115 |
| Develop, field and provide SME support for CNR PTT (Network Analyzer) design/implement net troubleshooting & net performance limited bandwidth systems to meet time sensitive information exchanges. Conduct PTT Conformance to standard test to the CNR standards to obtain Army wide & joint approval. | 0 | 0 | 85 | 100 |
| Develop and field the Army's VMF Test Tool (VTT) to current reissue baseline for the VMF standard and provide SME Support. Conduct VTT Conformance to standard test to the VMF standards to obtain Army wide & Joint approval. | 0 | 0 | 135 | 160 |
| Develop, field and support VTT Message Generation Scripting to include all Army-Wide requirements (i.e. Homeland Security, SWB/USF, etc...) and ensure compatibility with Army mandates. | 0 | 0 | 130 | 125 |
| Develop, field and support the US Message Text Tool (MTT) to support XML-USMTF support to evolving warfighter requirements and Architectural guidance. Conduct MTT Conformance to standard test to the US MTF standards to obtain Army wide & Joint approval. | 0 | 0 | 330 | 250 |
| Develop, publish and execute the SWB CM (Software Blocking Configuration Management) function to include all the configuration items developed by the Requirements WG (Working Group), Architecture WG, Block Execution Management WG and the IPT/SUB-IPTs for all SW Blocks. | 0 | 0 | 311 | 345 |
| Totals | 3851 | 3635 | 4957 | 5142 |

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

**C. Acquisition Strategy:** The efforts funded in this project are non-system specific, interoperability experimentation, evaluation and

certification across multiple systems. The contractual efforts/services are obtained from existing competitive omnibus support service contracts.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604805A - Command, Control, Communications Systems - Eng Dev**

PROJECT
**485**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Labor (internal Govt) | In House | USACECOM , Fort Monmouth, NJ | 7692 | 1623 | 1-4Q | 1800 | 1-4Q | 1900 | 1-4Q | Continue | 13015 | 0 |
| b . Travel | In House | USACECOM, Fort Monmouth, NJ | 226 | 60 | 1-4Q | 70 | 1-4Q | 75 | 1-4Q | Continue | 431 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 7918 | 1683 | | 1870 | | 1975 | | Continue | 13446 | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Development Support | C/CPFF | Arinc, Fort Monmouth, NJ | 5289 | 123 | 1-4Q | 0 | | 0 | | 0 | 5412 | 0 |
| b . Development Support | C/CPAF | Telos, Fort Monmouth, NJ | 4581 | 120 | 1-4Q | 0 | | 0 | | Continue | 4701 | 0 |
| c . Development Support | C/CPFF | CSC, Fort Monmouth, NJ | 1963 | 100 | 1-3Q | 0 | | 0 | | Continue | 2063 | 0 |
| d . Development Support | C/CPFF | C3I, Fort Monmouth, NJ | 1374 | 112 | 2-3Q | 0 | | 0 | | 0 | 1486 | 0 |
| e . Development Support | SS/CPFF | Mitre, Fort Monmouth, NJ | 280 | 0 | | 0 | | 0 | | 0 | 280 | 0 |
| f . Development Support | T&M | ITEL, Ft Monmouth, NJ | 0 | 0 | | 1705 | 1-4Q | 1790 | 1-4Q | Continue | 3495 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604805A - Command, Control, Communications Systems - Eng Dev**

PROJECT
**485**

| II. Support Cost (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| g . Development Support | T&M | ITEL/Northrop Grumman (SEC SSES), Ft Monmouth, NJ | 0 | 1200 | 2Q | 1280 | 2Q | 1269 | 2Q | Continue | 3749 | 0 |
| h . Technical Support | C/CPFF | Marconi, Fort Monmouth, NJ | 183 | 38 | 2-3Q | 0 | | 0 | | 0 | 221 | 0 |
| i . Equipment | In House | USACECOM, NJ | 375 | 94 | 1Q | 0 | | 0 | | Continue | 469 | 0 |
| j . Equipment (Development Support) | FFP | GTE, Tauton, MA | 106 | 0 | | 0 | | 0 | | 0 | 106 | 0 |
| k . Telecommunications | MIPR | USASC, Fort Huachuca, AZ | 985 | 165 | 2Q | 102 | 2Q | 108 | 2Q | Continue | 1360 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 15136 | 1952 | | 3087 | | 3167 | | Continue | 23342 | 0 |

Remarks: *Contracts/awards cited are 5 year (1 base + 4 option years). Future award dates imply future competitive award, contractor TBD.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604805A - Command, Control, Communications Systems - Eng Dev**

PROJECT
**485**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| Project Total Cost: | | | 23054 | 3635 | | 4957 | | 5142 | | Continue | 36788 | 0 |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604805A - Command, Control, Communications Systems - Eng Dev** | **589** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 589 | ARMY SYS ENGINEERING & WARFIGHTING TECH SUP | 8159 | 8037 | 2964 | 3030 | 3178 | 3102 | 3050 | 3173 | 0 | 42830 |

**A. Mission Description and Budget Item Justification:** Army Systems Engineering & Warfighter Technical Support (WTS): The Army Systems Engineer (ASE) provides essential technology expertise on all Systems Engineering and Technical Architecture (SE/TA) matters critical to gain Information Dominance and foster interoperability among all Army systems. The Joint Technical Architecture-Army (JTA-A) provides the "building code" foundation for designing, building, fielding, and supporting interoperable systems in an expedient and cost-effective manner. ASE supports CIO/G6 in defining and maintaining the JTA-A and technically influences development and implementation of the JTA. ASE identifies new and emerging standards for integration of new technologies into existing Army Systems and Advanced Technology Demonstrations/Advanced Concept Technology Demonstrations (ATD/ACTDs) to support Army transformation to the Objective Force. The ASE's work efforts associated with the development and implementation of the JTA-A are critical path elements to achieve the Army's digitization mission, Army's Transformation to the Objective Force, to provide the ability to fight and win on tomorrow's battlefield, and assure compatibility with both Joint and Coalition Warfighters. WTS provides essential technical field expertise, on-site architectural/system analysis and execution planning to integrate emerging technologies and support the next generation of digitization across all 21st Century Battlefield Operating Systems. Promotes joint experiments in conjunction with Joint C4ISR Battle Center (JBC) to foster interoperability between Army Systems and those of other services both joint and coalition and including Homeland Security (HLS) Issues. WTS conducts interservice and Civil Agency coordination to identify candidate systems, provides expert analysis to define appropriate architecture, evaluates notional designs and conducts performance/cost benefit analysis to recommend viable tradeoffs. Performs technical coordination/integration activities to accelerate system enhancements providing solutions to current user problems in the field capturing soldier and first responder ingenuity through on-the-spot input/feedback. Supports development of the operational architecture and implementation of new warfighter information technologies throughout the force structure. This program supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP) to include HLS.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Conduct Major design evaluations for Joint Technical Architecture-Army (JTA-A) Interoperability. System Implementations: WIN-T, THAAD, JTRS, Future Combat Systems (FCS), ACS, BCT-IAV, Land Warrior Redesign, MOSAIC, Agile Commander. | 1350 | 1350 | 0 | 0 |
| Ensure JTA-A Interop Implementation and Assess JTA-A compatibility for Army and S&T Programs.SSEBS/RFPs: WIN-T, TACSAT T4H, Joint Tactical Radio System (JTRS), Future Combat System (FCS). | 1321 | 1321 | 0 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Assess JTA-A interop for Army Systems. AD Hoc Assessments. | 800 | 800 | 0 | 0 |
| Technically influence the development/implementation of Joint Technical Architecture (JTA). JTA Version 5.0, JTA-A Version 7.0 | 811 | 815 | 0 | 0 |
| Maintain existing JTA-A Information Technical Standards. | 623 | 695 | 1104 | 1142 |
| Investigate information technical standards for inclusion in JTA-A/JTA. Global Information Grid (GIG) Technologies (XML, JPEG 2000, MPEG 4, IPV6) | 640 | 690 | 736 | 762 |
| Technically influence commercial and international standards forums. MANET (TBRPF), IPV6 | 375 | 0 | 0 | 0 |
| Technically influence integration of ABCS architectural components. | 839 | 1030 | 361 | 424 |
| Establish Army focus for Commercial product integration into the Joint Architecture (e.g. DCTS) | 830 | 817 | 361 | 300 |
| Assess C4ISR architectural performance in Joint Experimentation. | 570 | 519 | 402 | 402 |
| Totals | 8159 | 8037 | 2964 | 3030 |

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

**C. Acquisition Strategy:** The efforts funded in the project are non-system specific, therefore no acquisition strategy is provided.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604805A - Command, Control, Communications Systems - Eng Dev**

PROJECT
**589**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Government Systems Engineering Support | In House | ASEO, Fort Monmouth, NJ | 7895 | 1723 | 1-4Q | 1646 | 1-4Q | 1728 | 1-4Q | Continue | 12992 | 0 |
| b . Engineering Support | MIPR | ISEC, Fort Huachuca, AZ | 1357 | 200 | 1Q | 0 | | 0 | | Continue | Continue | 0 |
| c . Contract Systems Engineering Support | C & FPI | CSC, Eatontown, NJ | 7002 | 1397 | 1-3Q | 114 | 1Q | 91 | 1Q | 0 | 8604 | 0 |
| d . Contract Systems Engineering Support | SS & FP | MITRE, Tinton Falls, NJ | 5552 | 2220 | 1Q | 0 | | 0 | | 0 | 7772 | 0 |
| e . Contract Systems Engineering Support | C & FP | GTE/BBN, Cambridge, MA | 960 | 0 | | 0 | | 0 | | 0 | 960 | 0 |
| f . Contract Systems Engineering Support | C & FP | Litton, Reading, MA | 245 | 0 | | 0 | | 0 | | 0 | 245 | 0 |
| g . Contract Systems Engineering Support | C & FP | Battelle, Alexandria, VA | 354 | 0 | | 0 | | 0 | | 0 | 354 | 0 |
| h . Contract Systems Engineering Support | C & FP | SRI, Menlo Park, CA | 0 | 200 | 1-3Q | 0 | | 0 | | 0 | 200 | 0 |
| i . Contract Systems Engineering Support | C & FP | SRC, Atlanta, GA | 612 | 165 | 2Q | 0 | | 0 | | 0 | 777 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604805A - Command, Control, Communications Systems - Eng Dev**

PROJECT
**589**

| I. Product Development (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| j . Contract Systems Engineering Support | C & FP | HTPi, Shrewsbury, NJ | 145 | 0 | | 0 | | 0 | | 0 | 145 | 0 |
| k . Contract Systems Engineering Support | C & FP | Gemini, Billerica, MA | 137 | 0 | | 0 | | 0 | | 0 | 137 | 0 |
| l . Systems Engineering and Integration | MIPR | WTS - ISIO CECOM, Fort Monmouth, NJ | 2341 | 560 | 1-4Q | 86 | 1-4Q | 90 | 1-4Q | Continue | 3077 | 0 |
| m . Contract Support | C & T&M -R | C3ISGI, Tinton Falls, NJ | 2830 | 512 | 1-3Q | 471 | 1-3Q | 432 | 1-3Q | 0 | 4245 | 0 |
| n . Contract Support | C & T&M | BAE, Tinton Falls, NJ | 139 | 55 | 1Q | 60 | 1Q | 63 | 1Q | 0 | 317 | 0 |
| o . Contract Support | C & T&M | SAIC, Falls Church, VA | 1511 | 173 | 2Q | 240 | 2Q | 256 | 2Q | 0 | 2180 | 0 |
| p . Contract Support | IPA Agreement | Rutgers University, New Brunswick, NJ | 378 | 200 | 2Q | 165 | 2Q | 174 | 2Q | 0 | 917 | 0 |
| q . Contract Support | C & T&M | Datron, Simi Valley, CA | 305 | 0 | | 0 | | 0 | | 0 | 305 | 0 |
| r . System Development and Integration | MIPR | PEO C3S, PM TOCS, Fort Monmouth, NJ | 25 | 0 | | 0 | | 0 | | 0 | 25 | 0 |
| s . Contract Support | C & FP | CSC, Eatontown, NJ | 1746 | 0 | | 0 | | 0 | | 0 | 1746 | 0 |
| t . Contract Support | C & FP | TRW, Domingues Hills, CA | 1281 | 0 | | 0 | | 0 | | 0 | 1281 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604805A - Command, Control, Communications Systems - Eng Dev**

PROJECT
**589**

| I. Product Development (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| u . Contract Support | C & FP | Lockheed Martin, Eatontown, NJ | 545 | 0 | | 0 | | 0 | | 0 | 545 | 0 |
| v . Travel | In House | ASEO/ISIO CECOM, Fort Monmouth, NJ | 1096 | 200 | 1-4Q | 106 | 1-4Q | 116 | 1-4Q | Continue | 1518 | 0 |
| w . Overhead | In House | ASEO/ISIO CECOM, Fort Monmouth, NJ | 1422 | 432 | 1-4Q | 76 | 1-2Q | 80 | 1-2Q | 0 | 2010 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 37878 | 8037 | | 2964 | | 3030 | | Continue | Continue | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604805A - Command, Control, Communications Systems - Eng Dev**

PROJECT
**589**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| Project Total Cost: | | | 37878 | 8037 | | 2964 | | 3030 | | Continue | Continue | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604805A - Command, Control, Communications Systems - Eng Dev**

PROJECT
**589**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| TA - JTA-A 7.5 | | | 2-4Q | | | | | |
| TA - JTA-A 7.0 | | 2-4Q | | | | | | |
| TA - JTA 5.0 | 4Q | 1-2Q | | | | | | |
| TA - JTA 6.0 | | 4Q | 1-2Q | | | | | |
| SA - 2DFSA (3BDE/1CAV) | | 1Q | | | | | | |
| BCT 3 - (172nd Inf Bde) S=STRYKER | | 2Q | | | | | | |
| Corps Warfighter | | 1Q | | | | | | |
| 75 Ranger Reg | | 1Q | | | | | | |
| AECP/Homeland Security Support | | 2Q | | | | | | |
| Joint /HLS Architecture Development | | 2Q | | | | | | |
| 04 Joint/HLS Architecture Support | | 2Q | | | | | | |
| Juice 03 | | 4Q | | | | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604805A - Command, Control, Communications Systems - Eng Dev** | **591** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 591 | WPN SYS TECH ARCH (WSTA) | 2322 | 2268 | 590 | 590 | 588 | 588 | 589 | 588 | 0 | 10484 |

**A. Mission Description and Budget Item Justification:** Weapons Systems Technical Architecture (WSTA): The Joint Technical Architecture (JTA) and JTA-Army (JTA-A) provides the "building code" foundation for designing, building, fielding, and supporting interoperable systems in an expedient and cost-effective manner. The WSTA identifies new and emerging standards for integration of new technologies into new and existing Army Weapons Systems in support of Army transformation efforts. WSTA defines JTA and JTA-A Weapon Systems domain specific mandatory and emerging standards which are required for these embedded, real-time computing systems use of electronic data and information. It has and will continue to refine the Common Operation Environment (COE) concept insuring that the Army's hard-real-time and embedded requirements for systems are acknowledged. These endeavors enable the realization of the Transformation Campaign Plan (TCP) goals by providing the means by which all three axes of the TCP can be achieved.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Update the WSTA Framework | 233 | 0 | 0 | 0 |
| Interface Standards Analysis for WS Core Operating Environment (COE) | 300 | 0 | 0 | 0 |
| Define DII COE to WS COE Interfaces | 275 | 0 | 0 | 0 |
| Develop and Test Real-Time Computing WS COE API | 603 | 1410 | 0 | 0 |
| Develop and Test Real-Time WS COE Mapping Services API | 300 | 89 | 0 | 0 |
| Modify and Test Embedded Battle Command (EBC) Software in WS COE | 0 | 0 | 0 | 0 |
| Develop, Test, and Certify a WSTA Security Architecture for WS COE | 0 | 0 | 0 | 0 |
| Support WS COE Family of API's Transistion to Industry and COTS | 0 | 258 | 247 | 244 |
| Develop updates to MIL-STD-2525B (Symbology) | 80 | 89 | 0 | 0 |
| Research, Define, and Input Unmanned WS Standards in JTA/JTA-A | 214 | 89 | 0 | 0 |
| Maintain and support update of WS Domain of the JTA/JTA-A | 156 | 164 | 171 | 170 |
| Engineering and Program Development Infrastructure | 161 | 169 | 172 | 176 |
| Totals | 2322 | 2268 | 590 | 590 |

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

This activity receives an intermediate level of support from participation by Program Executive Offices, Program Managers, Commodity Commands, Academia and Industry. This support significantly supplements the overall WSTA activity at an estimated level of three for one in the near term and five or more to one in the out years.

**C. Acquisition Strategy:** The efforts funded in this project are non-system specific, interoperability experimentation, evaluation and certification across multiple systems. The contractual efforts/services are obtained from existing competitive Omnibus support services contracts.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604805A - Command, Control, Communications Systems - Eng Dev**

PROJECT
**591**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . USAISSC | MIPR | Fort Belvoir, VA | 128 | 67 | 2Q | 69 | 2Q | 70 | 2Q | Continue | 334 | 0 |
| b . TACOM-ARDEC | MIPR | Picatinny Arsenal, NJ | 1598 | 755 | 1-4Q | 163 | 1-4Q | 162 | 1-4Q | Continue | 2678 | 0 |
| c . TACOM-TARDEC | MIPR | Warren, MI | 2754 | 646 | 1-4Q | 144 | 1-4Q | 143 | 1-4Q | Continue | 3687 | 0 |
| d . GSA | MIPR | Huntsville, AL | 1479 | 89 | 1-4Q | 0 | | 0 | | 0 | 1568 | 0 |
| e . AMCOM-AMRDEC | MIPR | Redstone Arsenal, AL | 207 | 523 | 1-4Q | 167 | 1-4Q | 169 | 1-4Q | Continue | 1066 | 0 |
| f . CSC (Nichols Research Corp) | C/CPFF | Huntsville, AL | 171 | 0 | | 0 | | 0 | | 0 | 171 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 6337 | 2080 | | 543 | | 544 | | Continue | 9504 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604805A - Command, Control, Communications Systems - Eng Dev**

PROJECT
**591**

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . AMCOM -AMRDEC | In House | Redstone Arsenal, AL | 683 | 292 | 1-4Q | 57 | 1-4Q | 56 | 1-4Q | Continue | 1088 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 683 | 292 | | 57 | | 56 | | Continue | 1088 | Continue |
| Project Total Cost: | | | 7020 | 2372 | | 600 | | 600 | | Continue | 10592 | Continue |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604805A - Command, Control, Communications Systems - Eng Dev** | **615** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 615 | JTRS-GROUND DOMAIN INTEGRATION | 88208 | 60688 | 206137 | 149510 | 93403 | 58143 | 25038 | 6501 | 0 | 715075 |

**A. Mission Description and Budget Item Justification:** Project D615 supports the Joint Tactical Radio System (JTRS)- Cluster 1 RDTE development effort. The Cluster 1 JTRS-Army RDTE program will enable the Army to acquire and field a family of affordable, scaleable, high capacity, interoperable radio sets based on a common JTRS Software Communications Architecture (SCA). The JTRS is a key enabler of the Army Transformation and will provide critical communications capabilities across the spectrum of operations in a Joint environment. The Cluster 1 JTRS is a Joint program encompassing the specific requirements of the JTRS Joint Program Office (JPO), US Army Ground Vehicular and Rotary Wing Aircraft, US Air Force Tactical Control Party (TACP), and US Marine Corps applications. This project supports RDT&E efforts for the JTRS Cluster 1 program while the Services provide funding for their unique requirements. The Army will initiate the development and design of an embedded, dismounted form factor to support Future Combat System and Operation Enduring Freedom requirements. This cluster is currently identified as Cluster X. These systems support the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| JTRS Product Development (JTRS Step 2C Contract) | 1813 | 0 | 0 | 0 |
| JTRS Product Development (JTRS Cluster 1 Vehicular and Airborne Hardware Design and Development of Prototypes and technical engineering support) | 67650 | 34484 | 140009 | 57485 |
| JTRS Product Development (JTRS Cluster procurement of up to 10 Vehicular and up to 14 Airborne pre-engineering models for Early Operational Assessment testing) | 0 | 9999 | 0 | 0 |
| JTRS Product Development (Cluster 1 Platform Installation Kit Development) | 0 | 0 | 5653 | 5748 |
| JTRS Test and Evaluation (JTRS EPG Testbed and Test Planning/Test Support/Electronic and Information Warfare Test and Evaluation/Labor) | 1303 | 2328 | 8053 | 19721 |
| JTRS Management Services (JTRS Program Management Office Support) | 9047 | 9083 | 15900 | 10568 |
| JTRS Support Costs (Systems Engineering and Technical Support) | 3854 | 4194 | 3321 | 3413 |
| NTDRS Support Costs (NTDRS Testbed and Technical Support) | 4541 | 600 | 0 | 0 |
| Initiate the development and design of an embeddable, dismountable form factor currently identified as Cluster X | 0 | 0 | 33201 | 0 |
| Continue the development and design of an embeddable, dismountable form factor currently identified as Cluster X. | 0 | 0 | 0 | 52575 |
| Totals | 88208 | 60688 | 206137 | 149510 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| OPA, Army, ADDS, BU1400/EPLRS/JTRS* | 0 | 0 | 0 | 136552 | 119146 | 132272 | 124542 | 123782 | Continuing | Continuing |
| RDTE, JTRS, 0604280A/D162** | 72742 | 62921 | 134693 | 91583 | 62826 | 55945 | 28849 | 27347 | Continuing | Continuing |
| RDTE, PEO AVN, JTRS A-Kit PE 64201/C97*** | 7040 | 30483 | 60650 | 41615 | 29052 | 23491 | 31348 | 24374 | Continuing | Continuing |
| APA, PEO AVN, JTRS A-Kit Procurement AA0702*** | 0 | 0 | 1906 | 22674 | 46498 | 62121 | 60544 | 66014 | Continuing | Continuing |

Note: *The BU1400 SSN is a shared program line. Above reflects JTRS Cluster 1 portion of funding only. ** Funding represents all Clusters. ***Other Army Program funding is JTRS Cluster 1 only.

**C. Acquisition Strategy:** Joint Tactical Radio System (JTRS): Project D615 supports JTRS Cluster 1 Army Software Development and Demonstration efforts and JTRS Step 2C. In FY03, development and testing efforts for the Step 2C program will be completed upon final delivery of 40 JTRS Step 2C Engineering Development Models. The JTRS Cluster 1 supports an evolutionary acquisition strategy. The JTRS Joint Program Office (JPO) is responsible for common core activities including developing, maintaining, and evolving the JTRS open standards architecture, providing re-coded versions of legacy waveforms to operate on JTRS architecture compliant hardware, and provides a certifying infrastructure for hardware/software compliance. After a successful Milestone B Decision in 3QFY02, the Cluster 1 development effort was awarded to develop multi-channel ground and airborne configurations. Cluster 1 is the first group of requirements to be developed and procured under the JTRS domain concept. The Army PM TRCS is the lead for the Cluster 1 effort. Under Cluster 1, a software reprogrammable radio providing the warfighter with a multi-band and multi-mode capability, networkable radio system which provides simultaneious voice, data and video communications to increase interoperability, flexibility and adaptability in support of varied mission requirements will be developed. In June 2002, a cost plus award fee contract was competitively awarded to a Prime Systems Engineering Contractor (The Boeing Company) who is responsible for developing and/or acquiring numerous Sofware Communications Architecture compliant waveforms, defining common form-fit-function configurations for vehicular and aviation versions of the JTRS hardware, and successfully porting the waveforms to JTRS hardware produced by two different developers. The FY04-05 budget supports continued development and support of the development of Cluster 1 Ground and Airborne sets, design of ground vehicular A-kits (installation kits) for platforms required for testing, Early Operational Assessment and Development Test (DT)/Operational Test (OT) and Multi-Service Operational Test and Evaluation (MOT&E) testing for Cluster 1. The Army will initiate another cluster currently identified as Cluster X in FY04. Preliminary plans indicate an ACAT 1D Milestone review in 2QFY04 and a System Design and Development award in 2/3Q FY04. Cluster X will support emerging Future Combat System and Operation Enduring Freedom requirements.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604805A - Command, Control, Communications Systems - Eng Dev**

PROJECT
**615**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . NTDRS CPIF/T&M/FFP Efforts* | C/T&M/CPIF/FFP | ITT, Fort. Wayne, IN | 9715 | 0 | | 0 | | 0 | | 0 | 9715 | 8968 |
| b . NTDRS (Ancillary Equip, NMT, & Misc) | Misc | Misc | 430 | 0 | | 0 | | 0 | | 0 | 430 | 325 |
| c . JTRS Army Step 2C Hardware Development and Cost of Prototypes | C/OTA/T&M | BAE Systems, Wayne, NJ | 6876 | 0 | | 0 | | 0 | | 0 | 6876 | 0 |
| d . JTRS Step 2C Anc Equip/Log & Engrg | Various | Various | 616 | 0 | | 0 | | 0 | | 0 | 616 | 0 |
| e . JTRS Cluster 1 GFE | Various | Various | 22 | 0 | | 0 | | 0 | | 0 | 22 | 0 |
| f . JTRS Cluster 1 (EPLRS Data Rights) | FFP | Raytheon, Fullerton, CA | 5000 | 0 | | 0 | | 0 | | 0 | 5000 | 0 |
| g . JTRS Cluster 1 Development | CPAF | BOEING, Annaheim, CA | 62086 | 43459 | 1-3Q | 138709 | 1-3Q | 56335 | 1-3Q | Continue | Continue | 0 |
| h . JTRS Cluster 1 (Installation Kit) | TBD | TBD | 0 | 0 | | 5653 | 1-3Q | 5748 | 1-3Q | Continue | Continue | 0 |
| i . Tactical Internet Integration | T&M | ITT, Ft. Wayne,IN | 1792 | 0 | | 0 | | 0 | | 0 | 1792 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604805A - Command, Control, Communications Systems - Eng Dev**

PROJECT
**615**

| I. Product Development (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| j . JTRS Development - System Engrg Spt | various | MISC | 1596 | 1024 | 1-4Q | 1300 | 1-4Q | 1150 | 1-4Q | Continue | Continue | 0 |
| k . ABCS System Engineering and Integration Efforts | Various | MISC | 1227 | 0 | | 0 | | 0 | | 0 | 1227 | 0 |
| l . Cluster X Design and Development | Various | TBD | 0 | 0 | | 33201 | 2-3Q | 52575 | 1-4Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 89360 | 44483 | | 178863 | | 115808 | | Continue | Continue | 9293 |

Remarks: *NTDRS efforts prior to FY 2000 were funded in PE 0603713A, Proj D370

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . *NTDRS Test/Training/Logistics/Technical /Exercise Support | Various | Various | 7154 | 600 | 1-2Q | 0 | | 0 | | 0 | 7754 | 0 |
| b . JTRS Antenna Studies | PWD | ARINC, Annapolis, MD | 504 | 0 | | 0 | | 0 | | 0 | 504 | 0 |
| c . JTRS Technical Support | Various | Miscellaneous | 4204 | 2879 | 1-2Q | 3321 | 1-4Q | 3413 | 1-4Q | Continue | Continue | 0 |
| d . ABCS SE&I Effort | | | 1633 | 1315 | 1-3Q | 0 | | 0 | | 0 | 2948 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604805A - Command, Control, Communications Systems - Eng Dev** | **615** |

| II. Support Cost (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 13495 | 4794 | | 3321 | | 3413 | | Continue | Continue | 0 |

Remarks: *NTDRS efforts prior to FY 2000 were funded in PE 0603713A, Proj D370

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . *NTDRS Field Testing | MIPR | EPG, Fort Huachuca, AZ | 95 | 0 | | 0 | | 0 | | 0 | 95 | 0 |
| b . JTRS Step 2C EPG Qual Testing/Customer Testing | MIPR | EPG, Fort Huachuca, AZ | 2450 | 0 | | 0 | | 0 | | 0 | 2450 | 0 |
| c . JTRS EPG Testbed and Test Planning | MIPR | EPG, Fort Huachuca, AZ | 1484 | 800 | 1Q | 1200 | 1Q | 1200 | 1Q | Continue | Continue | 0 |
| d . JTRS Modeling & Simulation | MIPR | USAIC | 350 | 556 | 1-2Q | 350 | 1-2Q | 350 | 1-2Q | Continue | Continue | 0 |
| e . JTRS Test Inhouse Spt & Govt Activities | Various | Various | 747 | 556 | 1-3Q | 1521 | 1-3Q | 1232 | 1-3Q | Continue | Continue | 0 |
| f . JTRS EOA/DTOT Test Activity | | | 0 | 416 | 1-3Q | 4982 | 1-3Q | 16939 | 1-3Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604805A - Command, Control, Communications Systems - Eng Dev**

PROJECT
**615**

| III. Test and Evaluation (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Subtotal: | | | 5126 | 2328 | | 8053 | | 19721 | | Continue | Continue | 0 |

Remarks: *NTDRS efforts prior to FY 2000 were funded in PE 0603713A, Proj D370

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . *NTDRS Program Support | MIPR | Fort Monmouth, NJ | 655 | 0 | | 0 | | 0 | | 0 | 655 | 0 |
| b . JTRS Business/Engineering Management | Various | Various | 8180 | 4727 | 1-2Q | 3569 | 1-4Q | 3163 | 1-4Q | Continue | Continue | 0 |
| c . Project Management Office Support | Various | Various | 3729 | 3646 | 1-3Q | 11356 | 1-3Q | 6410 | 1-3Q | Continue | Continue | 0 |
| d . JTRS MITRE Support | PWD | MITRE Corp., Mclean, VA | 1407 | 710 | 1Q | 975 | 1Q | 995 | 1Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 13971 | 9083 | | 15900 | | 10568 | | Continue | Continue | 0 |

Remarks: *NTDRS efforts prior to FY 2000 were funded in PE 0603713A, Proj D370

| Project Total Cost: | | | 121952 | 60688 | | 206137 | | 149510 | | Continue | Continue | 9293 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604805A - Command, Control, Communications Systems - Eng Dev** | **615** |

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| NTDRS CTSF ABCS Software Updates | 1-4Q | | | | | | | |
| NTDRS Participation in Millennium Challenge 02 | 4Q | | | | | | | |
| NTDRS Deployment to Brigade Combat Team 2 | 3-4Q | | | | | | | |
| NTDRS Participation NTC/01-06/02-05/02-08/03-03/03-05/03-08 | 2-4Q | 1-4Q | | | | | | |
| NTDRS Participation FBCB2 Field Test IV and V | 1-4Q | | | | | | | |
| NTDRS Participation in FBCB2 IOT&E | 2Q | | | | | | | |
| JTRS-Army Milestone B | 3Q | | | | | | | |
| JTRS-Army Cluster 1 Ground & Airborne SDD Award | 3Q | | | | | | | |
| JTRS-Army Step 2C EPG Testing/Validation | 4Q | 1Q | | | | | | |
| JTRS-Early Operational Assessment | | | 4Q | 1Q | | | | |
| JTRS Cluster 1 OIPT Approval to Exercise Option 1 | | | | 2Q | | | | |
| JTRS-Army Cluster 1 LRIP Option 1 Contract Award | | | | 2Q | | | | |
| JTRS-Army Cluster 1 Ground & Airborne DT/OT | | | | 3-4Q | 1Q | | | |
| JTRS Cluster 1 Milestone C | | | | | 2Q | | | |
| JTRS-Army Cluster 1 Ground & Airborne MOT&E | | | | | 4Q | | | |
| JTRS-Army Cluster 1 LRIP Option 2 Award | | | | | 2Q | | | |
| LRIP Option 1 Deliveries Begin | | | | | 3-4Q | 1-2Q | | |
| Full Rate Production In Process Review | | | | | | 2Q | | |
| Full Rate Production Contract Award | | | | | | 2Q | | |
| LRIP Option 2 Deliveries Begin | | | | | | 3-4Q | 1-2Q | |
| Full Rate Production Deliveries | | | | | | | 1-4Q | 1-4Q |
| Product Improvements | | | | | | | 1-4Q | 1-4Q |
| Cluster X Milestone B | | | 2Q | | | | | |
| Cluster X Contract Award | | | 2-3Q | | | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604805A - Command, Control, Communications Systems - Eng Dev** | **629** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 629 | TACTICAL COMMUNICATIONS SYSTEM - ENGINEERING DEVEL | 8564 | 13269 | 2388 | 2458 | 2623 | 2768 | 0 | 0 | 0 | 45872 |

**A. Mission Description and Budget Item Justification:** The Army Transformation and the goals of the Objective Force will be met by introducing the latest in information and network protocol technologies within current and future combat systems.

The Protocol for Investigation Next Generation (PING) Program's objectives are to identify network and communication architecture gaps, validate emerging network technologies, assess proposed network solutions, ensure system of systems network communications interoperability among tactical and sustaining Army assets, as well as, with Joint, Interagency, and Multinational systems, and verify compliance to Army Knowledge Enterprise Architecture (AKEA) System and Technical Views that will make possible the Army's Objective Force. The PING analyze emerging commercial network communication protocols assessing their benefits and suitability to satisfy Army requirements, mitigate risks associated with implementing them across the AKEA and future combat systems, and to assist system developers in incorporating emerging technologies across Army communication systems accelerating Army Transformation goals.

The PING Program is the Army's principal organization evaluating and testing the Next Generation of Internet Protocol, Version 6, or IPv6. While IPv6 is being implemented globally, the PING will determine a coordinated approach for Army adaptation of IPv6 that will meet current network communication requirements, maintain interoperability across Army, Joint, Interagency, and Multinational systems, and provide the enhancements necessary to make the Objective Force possible.

The PING program supports the Army Chief Information Office (CIO/G6), the Objective Force Task Force (OFTF), and maintain close cooperation with the Army System Engineering Office (ASEO); helping identify technologies suitable for consideration in future versions of the Joint Technical Architecture - Army (JTA-A), and various PEOs/PMs by participating at Working Groups involved with System Views (SVs) and Technical Views (TVs). The PING will analyze or develop SVs and TVs.

The PING Program's mission is critical for mitigating risks associated in the evolution and maturation of communications networks within the AKEA and for ensuring a cost effective Legacy to Objective transition path of the Transformation Campaign Plan.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| -Support the Army's Chief Information Office (CIO/G6) Interface Control Working Group (ICWG) determining proper network interfaces that reflect latest technology advances and meet current Army requirements.<br>- Participate at Future Combat Systems (FCS), Wideband Networking Waveform, and WIN-T Working Groups defining network interfaces and connectivity within Unit of Actions (UA) and Units of Equipment (UE).<br>- Support the Army's CIO/G6 by preparing and coordinating an Army IPv6 Implementation Plan that will minimize risks to system developers as they incorporate IPv6 based solutions for war fighter requirements.<br>- Participate in the OSD CIO WG identifying IPv6 Army requirements and delineating a DoD IPv6 Implementation Plan.<br>- Participate in the Defense Information Systems Agency (DISA) WG identifying and coordinating Joint solutions to IPv6 implementation issues such as the Common Operating Environment (COE), STEP sites, Addressing schemes and address space management, Security, etc.<br>- Establish and maintain an Army Center of Excellence providing technical assistance to all Army agencies with respect to IPv6 and other network protocol issues affecting the AKEA. Assess IPv6 protocol dependencies with respect to capabilities, maturity, and limitations. Dependencies critical to Army networks include: mobility, network management, bandwidth management, dynamic quality of services, multicast, hierarchical routing, etc.<br>- Maintain a test bed capability to validate and verify proposed and emerging network technologies and protocols. Test bed resources will include hardware and software testing tools and Modeling and Simulation tools.<br>- Maintain and operate a test bed capability to analyze IPv6 impacts on Army network architectures. Facilities will verify interoperability among Army, Joint, Interagency, and Multinational networks utilizing IPv4 and IPv6 coexistence mechanisms.<br>- Analyze and evaluate network comm issues with WIN-T,JTRS,FCS as they relate to AKEA. | 2619 | 1959 | 2388 | 2458 |
| Applied Communications and Information Networking (ACIN)FY02:<br>- Develop wireless identification tags that can identify friend or foe.<br>- Develop and evaluate broadband wide bandgap 50 watt amplifier which addresses requirements of JTRS.<br>- Demonstrate data rate and security enhancements, to include authentication, authorization, and encryption, with a 50 node ad-hoc networked battlefield sensor system.<br>- Develop transmit Ka band antenna. Integrate and demonstrate with receive antenna developed in Phase 1.<br>- Refine workshops toward customer specific concerns regarding the impact of technology on emerging architecture.<br>- Evaluate new WLAN standards. Assess 802.11a 54 Mbps and HiperLAN. Conduct multipath fading testing on 802.11lb.<br>-Develp software to allow Personal Digital Assistant (PDA) to communicate securely. | 5945 | 0 | 0 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Applied Communications and Information Networking (ACIN) FY03:<br>- Evaluate high-dynamic range low-noise amplifiers, mixers, and local oscillators for receiver applications in the 30Mhz to 2 Ghz frequency range.<br>- Characterize the state-of-the-practice of the implementation of COTS Ultra-wideband (UWB) products and of UWB technologies, and evaluate the performance and the potential performance of UWB in DoD applications.<br>- Prototype a Software Defined Radio from commercially available hardware and software components while meeting the key JTRS performance requirements.<br>- Allow development of interoperable and secure mobile agents incorporated in PDA platfoms and suitable for DoD commercial applications.<br>- Develop and demonstrate On-The-Move SATCOM ground terminal for PM MILSATCOM's Ka band Satellite (KaSAT) program.<br>- Develop a prototype of an ad-hoc deployable communication system, based on small, low-cost voice and data communication relay nodes, to enable communications in critical situations in which there are particularly challenging non line of sight links.<br>- Development of a unique Radio Frequency Identification (RFID) system that unambiguously identifies a user at a reasonable distance. This will be accomplished by integrating a high quality fingerprint imaging and authentication system with a wireless identification system. | 0 | 11310 | 0 | 0 |
| Totals | 8564 | 13269 | 2388 | 2458 |

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

**C. Acquisition Strategy:**With this program the Army will benefit by achieving the following objectivess:

- Identify network and communication gaps among legacy, interim, and future Army network architectures before they are accepted and deployed.
- Ensure System of Systems network protocol interoperability prior to finalizing system developments.
- Utilize technology proficiency and lessons learned to mitigate risks associated with deploying emerging technologies across the AEA.
- Initiate a comprehensive standardized approach to transition Army systems and architectures from the current IPv4 based network environment to a modern and dynamic IPv6 version.
- Reduce system development costs by leveraging from a centralized and well-coordinated program while introducing emerging protocols, such as IPv6, within interim and future communication systems and architectures.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604805A - Command, Control, Communications Systems - Eng Dev**

PROJECT
**629**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Systems Engineering | In House | CECOM RDEC, Fort Monmouth, NJ | 5110 | 2186 | 1-4Q | 2388 | | 2458 | | Continue | 12142 | 0 |
| b . 1) | C-T&M | MITRE, Eatontown, NJ | 1226 | 480 | 1-4Q | 0 | | 0 | | Continue | 1706 | 0 |
| c . 2) | C-T&M PSLA | SRI, Eatontown, NJ | 840 | 420 | 1-4Q | 0 | | 0 | | Continue | 1260 | 0 |
| d . 3) | C-T&M | Janus Research Group, Abbling, GA | 0 | 183 | 1-4Q | 0 | | 0 | | 0 | 183 | 0 |
| e . ACIN | OT (Other Transactions) | Drexel Univ, Philadelphia, Pa | 17388 | 10000 | | 0 | | 0 | | 0 | 27388 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 24564 | 13269 | | 2388 | | 2458 | | Continue | 42679 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604805A - Command, Control, Communications Systems - Eng Dev**

PROJECT
**629**

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

Remarks: Not Applicable

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 24564 | 13269 | | 2388 | | 2458 | | Continue | 42679 | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604805A - Command, Control, Communications Systems - Eng Dev** | **629** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Evaluate Architecture Issues | 1-4Q | 1-4Q | 1-4Q | 1-4Q | | | | |
| Assessment and Analysis of Technology Impacts | 1-4Q | 1-4Q | 1-4Q | 1-4Q | | | | |
| Policy and Implementation Plan Development | 1-4Q | 1-4Q | 1-4Q | 1-4Q | | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE |
|---|---|
| **5 - System Development and Demonstration** | **0604807A - Medical Materiel/Medical Biological Defense Equipm** |

| | COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Program Element (PE) Cost | 17070 | 18790 | 12202 | 11715 | 12403 | 14338 | 15589 | 15629 | Continuing | Continuing |
| 812 | MIL HIV VAC&DRUG DEV | 0 | 0 | 3245 | 3756 | 4207 | 4505 | 4511 | 4508 | 0 | 24879 |
| 832 | COMBAT MEDICAL MATL ED | 13037 | 9385 | 3726 | 3464 | 3844 | 3758 | 5270 | 5296 | Continuing | Continuing |
| 834 | SOLDIER SYS PROT-ED | 851 | 782 | 1412 | 1064 | 882 | 3005 | 1818 | 1766 | Continuing | Continuing |
| 849 | INFEC DIS DRUG/VACC ED | 3182 | 3270 | 3819 | 3431 | 3470 | 3070 | 3990 | 4059 | Continuing | Continuing |
| A10 | RAMAN CHEMICAL BIOTHREAT DETECTION PROGRAM | 0 | 5353 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5353 |

**A. Mission Description and Budget Item Justification:** This program element (PE) funds advanced development of medical materiel within system demonstration and low rate initial production portions of the acquisition life cycle. The PE supports products that successfully transitioned through the Systems Development and Demonstration In-Process Review (IPR). This principally includes Phase 3 human clinical trials as well as related stability and production manufacturing testing for medical pharmaceuticals, biologics, and devices. Further operational testing (IOT&E) for military unique requirements is evaluated and fulfilled.

Infectious disease vaccines and preventive drugs that will reduce the risk of service members contracting debilitating or fatal diseases, especially within a battlefield of growing potentials as urban warfare risks increase. Disease and non-battle injury (DNBI) rates are the largest contributor to medical footprint, and reduction in ill patients could have a significant reduction in echelon 3 facilities. Equally important, the reduction of patient evacuation within Objective Force (OF) units will act as a force multiplier because timely replacement of these uniquely skilled soldiers will be nearly impossible.

Combat Casualty Care devices and biologics that have two major focuses: enhance forward care at the first responder level and reduce footprint of medical organizations for greater mobility and easier sustainment. The OF concept will place soldiers into a more austere environment with lengthened evacuation times (both arrival and transit). This requires greater capability in the hands of medics and first responders to save lives and extend stabilization. Reduction in weight, cube, and sustainment will allow medical units to increase mobility and maintain contact with its supported maneuver units.

Soldier Performance Enhancers in the form of drugs or diagnostics that will allow commanders to increase soldiers' cognitive awareness and stamina. This has direct relationship to increased soldier capabilities and a potential to reduce casualties.

This program is managed by the U.S. Army Medical Research and Materiel Command.

This PE includes congressionally directed research on the Cartilage Infuser.

Project 812, Military HIV Vaccine and Development funds militarily relevant human immunodeficiency virus (HIV) research.

This program supports the OF transition path of the Transformation Campaign Plan (TCP).

$8.2M of Defense Emergency Response Funds was provided to this program element in support of the Hemostatic Dressing program (project 832).

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 9153 | 12625 | 8799 | 8720 |
| Current Budget (FY 2004/2005 PB) | 17070 | 18790 | 12202 | 11715 |
| Total Adjustments | 7917 | 6165 | 3403 | 2995 |
| Congressional program reductions | | | | |
| Congressional rescissions | | -315 | | |
| Congressional increases | | 7100 | | |
| Reprogrammings | 8151 | -108 | | |
| SBIR/STTR Transfer | -234 | -512 | | |
| Adjustments to Budget Years | | | 3403 | 2995 |

Change Summary Explanation: Funding – FY 2002: Funds reprogrammed into project 832 to accelerate the Hemostatic Dressing program (+8155). FY 2004/2005: Funding increase due to the reinstatement of the Military HIV Vaccine and Drug Development program.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604807A - Medical Materiel/Medical Biological Defense Equipm** | **812** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 812 | MIL HIV VAC&DRUG DEV | 0 | 0 | 3245 | 3756 | 4207 | 4505 | 4511 | 4508 | 0 | 24879 |

**A. Mission Description and Budget Item Justification:** This project funds Congressionally mandated, militarily relevant human immunodeficiency virus (HIV) medical countermeasures. These funds provides for engineering and manufacturing development of sufficient candidate vaccines and drugs to permit large-scale field testing and education/training materials. Development efforts are focused on militarily unique needs affecting manning, mobilization, and deployment. The major contractor is Henry M. Jackson Foundation for the Advancement of Military Medicine, Rockville, MD. This program supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| FY03 - Program transferred to National Institutes of Health (NIH), and funding was provided to Medical Research and Materiel Command (MRMC) to continue efforts on this vaccine. FY04 – Program returned to the Army. Begin multi-year phase 3 clinical trial to determine effectiveness of prime-boost HIV vaccine against the clade E virus strain. FY05 - Continue multi-year phase 3 clinical trial to determine effectiveness of prime boost HIV vaccine against the clade E virus strain. | 0 | 0 | 3245 | 3756 |
| Totals | 0 | 0 | 3245 | 3756 |

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

**C. Acquisition Strategy:** Test and evaluate commercially developed vaccine candidates in government-managed trials.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604807A - Medical Materiel/Medical Biological Defense Equipm**

PROJECT
**812**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Product Development | Cooperative Agreement | Henry M. Jackson Foundation, Rockville, MD | 2200 | 0 | | 2693 | | 3117 | | 0 | 8010 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 2200 | 0 | | 2693 | | 3117 | | 0 | 8010 | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . No product/contract costs greater than $1M individually | | | 201 | 0 | | 146 | | 169 | | 0 | 516 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 201 | 0 | | 146 | | 169 | | 0 | 516 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604807A - Medical Materiel/Medical Biological Defense Equipm**

PROJECT
**812**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Test and Evaluation | Government Laboratory | Walter Reed Army Institute of Research (WRAIR), Silver Spring, MD | 0 | 0 | | 357 | | 413 | | 0 | 770 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 357 | | 413 | | 0 | 770 | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . No product/contract costs greater than $1M individually | | | 105 | 0 | | 49 | | 57 | | 0 | 211 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 105 | 0 | | 49 | | 57 | | 0 | 211 | 0 |
| Project Total Cost: | | | 2506 | 0 | | 3245 | | 3756 | | 0 | 9507 | 0 |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604807A - Medical Materiel/Medical Biological Defense Equipm** | **832** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 832 COMBAT MEDICAL MATL ED | 13037 | 9385 | 3726 | 3464 | 3844 | 3758 | 5270 | 5296 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This project funds technical development of candidate medical products for the advancement of combat casualty care; especially far forward on the battlefield with first responders, combat life savers, and field medics. This primarily funds Phase 3 human clinical trials or mechanical engineering evaluations for efficacy of devices or biologics unique to military operational requirements. This work is frequently completed through a joint laboratory and contractor team with the contractor assuming ultimate Food and Drug Administration (FDA) licensure. These products (enhanced location and diagnostic devices of patients; more potent resuscitative biologics) will decrease mortality rates, thereby increasing soldier morale and willingness to place themselves in danger. Additionally, several products (DEFTOS, Oxygen Generator, Blood Processor) will reduce medical organizational sustainment footprint through smaller weight and cube or equipment independence from supporting materiels. Priority is given to those products that provide the greatest clinical benefit balanced with the technical and financial risks. These products positively support both the Army Transformation Campaign Plan (TCP) and Objective Force (OF) doctrine/organizational structure.

Major contractors/intragovernmental agencies include: Cambridge Consultants Corporation, IGR Enterprises, Army Medical Department Board Test Center, and the American National Red Cross.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Hemostatic Dressing (HD): In FY02, conducted animal trials required by FDA and prepared Investigational New Drug Application. In FY03, continue testing and prepare for a Milestone B In-Process-Review (IPR). In FY04, conduct elective surgery trials (human clinical trials) using informed consent, and conduct the MS B IPR. In FY05, continue elective surgery trials (human clinical trials) using informed consent, and prepare Biologics License Application for submission to the FDA. | 10441 | 7950 | 2321 | 1816 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Conduct testing and milestone IPRs for field medical treatment and treatment aid devices. (1) Dental Field Treatment and Operating System (DEFTOS): In FY02, conducted a MS A/Program Initiation IPR and worldwide user evaluation. In FY03/FY04, redesign to reflect test results and conduct limited testing, and conduct a MS C IPR. (2) Thawed Blood Processing System (TBPS): In FY02, conducted in vitro tests, validated software, and prepared Investigational Device Exemption. In FY03, fabricate disposables, conduct in vitro tests, and submit IDE to FDA. In FY04, conduct clinical trails and submit premarket notification for FDA approval. In FY05, conduct user evaluations, procure Low Rate Initial Production (LRIP), and conduct a MS C IPR. (3) Ceramic Oxygen Generator System (COGS): In FY02, scaled up oxygen generator cells from test sizes to full size, approximately a 10-fold increase in area, and proved the performance and durability of the ceramic compounds and fabrication methods. In FY03, integrate oxygen generator cells into a portable oxygen generator and fabricate prototype oxygen generators for a user evaluation. In FY04, develop techniques for reliable and repeatable large-scale production of oxygen generators and conduct a MS B IPR. In FY05, prepare MS C package. (4) Cartilage Infuser: In FY02, initiated plans for the development of the Cartilage Infuser; a variable rate blood warming and infusion system. | 2596 | 1435 | 1405 | 1648 |
| Totals | 13037 | 9385 | 3726 | 3464 |

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

**C. Acquisition Strategy:** Evaluate commercially developed materiel in government-managed trials.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604807A - Medical Materiel/Medical Biological Defense Equipm**

PROJECT
**832**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Hemostatic Dressing | | American National Red Cross, Charlotte, NC | 12150 | 7768 | | 2348 | | 1850 | | Continue | Continue | 0 |
| b . Thawed Blood Processing System | | Mission Medical Inc. , Freemont, CA | 1625 | 1617 | | 1378 | | 1614 | | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 13775 | 9385 | | 3726 | | 3464 | | Continue | Continue | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Not Applicable | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604807A - Medical Materiel/Medical Biological Defense Equipm**

PROJECT
**832**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Not Applicable | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . No product/contract costs greater than $1M individually | | | 7609 | 0 | | 0 | | 0 | | Continue | 7609 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 7609 | 0 | | 0 | | 0 | | Continue | 7609 | 0 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 21384 | 9385 | | 3726 | | 3464 | | Continue | Continue | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604807A - Medical Materiel/Medical Biological Defense Equipm** | **832** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Hemostatic Dressing (MS B); (MS C) | | | 2Q | | 3Q | | | |
| Oxygen Generator Systems (MS B); (MS C) | | | 2Q | | 4Q | | | |
| Thawed Blood Processing System (MS C) | | | | 2Q | | | | |
| Dental Field Treatment and Operating System (MS C) | | 4Q | | | | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604807A - Medical Materiel/Medical Biological Defense Equipm** | **834** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 834 SOLDIER SYS PROT-ED | 851 | 782 | 1412 | 1064 | 882 | 3005 | 1818 | 1766 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This project supports system development and demonstration of preventive medicine materiel, including devices, pharmacologicals, and other tools to provide protection, sustainment, and enhancement of the physiological and psychological capabilities of soldiers in the face of combat operations under all environmental conditions. Focus is on reduction in the incidence of personnel losses due to preventable disease and nonbattle injuries through development of environmental and physiological performance monitors and other preventive medicine countermeasures. A major contractor is Allermed Laboratories, Inc., San Diego, CA. This program supports the Objective Force transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| In FY02, resolved the technical issues raised by the U.S. Food and Drug Administration (FDA) on the manufacture of the skin test for Leishmania mexicana, which causes leishmaniasis in the Americas and conducted a Phase 1 safety trial; established good manufacturing practices (GMP) manufacturing line for the skin test for L. tropica, which causes leishmaniasis in Southwest Asia. In FY03, produce the FDA-required three-lot consistency lots of the L. tropica skin test and begin a Phase 1 safety trial. In FY04, conduct stability studies on the three lots of L. tropica skin tests and manufacture the skin tests for the Phase 3 pivotal studies to be conducted in Turkey. In FY05, continue the stability testing of the original three lots, start stability testing on the skin tests made for Phase 3 study, and begin a Phase 2 field trial with L. tropica skin test. | 851 | 782 | 1412 | 1064 |
| Totals | 851 | 782 | 1412 | 1064 |

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

**C. Acquisition Strategy:** Test and evaluate in-house and commercially developed vaccine candidates in government-managed trials to meet FDA requirements.

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604807A - Medical Materiel/Medical Biological Defense Equipm** | **834** |

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Leishmania skin test (MS B); (MS C) | | 1Q | | 4Q | | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604807A - Medical Materiel/Medical Biological Defense Equipm** | **849** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 849 | INFEC DIS DRUG/VACC ED | 3182 | 3270 | 3819 | 3431 | 3470 | 3070 | 3990 | 4059 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This project funds technical development of candidate medical countermeasures to infectious diseases that occur within militarily relevant areas of the world. These products fall within three major areas: vaccines, drugs, and diagnostic kits. The funds support Phase 3 human clinical trials for large-scale efficacy testing, long-term animal studies, and related manufacturing tests. This work, which is jointly performed by military laboratories and civilian contracted pharmaceutical firms, is directed toward the prevention of disease, early diagnosis if contracted, and speeding recovery once diagnosed. These trials are required to meet U.S. Food and Drug Administration (FDA) regulatory approval guidance, a mandatory obligation for all military products placed into the hands of medical providers or service members. Priority is based upon four major factors: the extent of the disease within the Combatant Commands theater of operations, the clinical severity of the disease, the technical maturity of the proposed solution, and the affordability of the solution (development and production). Consequently, malaria, dysentery, hepatitis, and dengue diseases (which are found in CENTCOM, EUCOM, SOUTHCOM, and PACOM areas) come to the top of the requirement. The reduction in risk to contract infectious diseases within the force supports the Army Transformation Campaign Plan (TCP) and directly enables the Objective Force (OF) concept through reduction of evacuations of uniquely qualified soldiers and decrease in medical footprint to sustain the evacuees.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Clinical trials, developmental testing, and appropriate reviews of malarial/antimalarial vaccines, drugs, and diagnostics: In FY02, analyzed data from one Phase 3 clinical trial to evaluate the effectiveness of tafenoquine, an antimalarial prophylatic drug, and determined it to be efficacious against malaria, but identified several technical problems; in support of reinitiating the tafenoquine Investigational New Drug (IND), met with three expert panels to address resolution of technical problems; successfully completed developmental testing of a prototype Malaria Rapid Diagnostic Device (MRDD), which is being commercialized by a contractor for rapid, dependable and inexpensive diagnosis of malaria. In FY03, conduct a Milestone (MS) B In Process Review (IPR) for MRDD; prepare and submit a Pre-Market Approval application to the FDA for MRDD; conduct a MS C IPR for MRDD; conduct a Phase 1 safety study and begin a multi-site multiyear Phase 3 study to evaluate the safety and effectiveness of tafenoquine. In FY04, continue multi-site multiyear Phase 3 studies to evaluate effectiveness of tafenoquine. In FY05, complete multi-site multiyear Phase 3 study to evaluate effectiveness of tafenoquine. | 764 | 2125 | 2024 | 961 |
| Studies, trials, and reviews of diarrheal vaccines: In FY02, completed a Phase 3 pivotal study of the Enterotoxigenic Escherichia-coli (ETEC) vaccine; completed a Phase 2 efficacy trial in Egyptian infants of ETEC vaccine; conducted a Phase 2 challenge trial for new adjuvant lot of Campylobacter diarrheal vaccine. In FY03, conduct a MS C IPR for ETEC vaccine for the prevention of traveler's diarrhea; conduct a Phase 2 trial for new adjuvant lot of Campylobacter vaccine. In FY04, conduct an expanded Phase 2 trial of the Campylobacter vaccine. In FY05, begin a Phase 3 Shigella flexneri vaccine trial. | 1559 | 818 | 955 | 480 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Clinical studies and trials, and appropriate reviews of grouped vaccines, drugs, and diagnostics (Leishmaniasis, Paromomycin, Tick-borne Encephalitis Vaccine (TBEV), and Hepatitis E): In FY02, conducted the first part of a 2-year Phase 3 clinical trial to determine the effectiveness of paromomycin/gentamicin topical antileishmanial cream; conducted a Phase 1 safety trial of Leishmania mexicana skin test kits; completed acceptance testing on each of the five colors for both visual and near infrared signature profile and finalized input to new military specification for performance of camouflage face paint. In FY03, work with the manufacturer of TBEV to conduct lot consistency and safety studies; continue 2-year Phase 3 clinical trial to determine the effectiveness of paromomycin/gentamicin topical antileishmanial; conduct Phase 2 clinical study to determine the safety, sensitivity, and specificity of new L. mexicana skin test components; complete Phase 1 safety trial with L. tropica skin test kits; submit new IND application for good manufacturing practices (GMP) L. tropica skin test kits and prepare for Phase 2 safety trials with industry partner's Leishmania skin test kits. In FY04, complete Phase 1 safety trial with L.tropica skin test kits. In FY05, begin Phase 2 field trial in Turkey to evaluate safety and efficacy of the L. tropica skin test kits. | 859 | 327 | 382 | 343 |
| In FY04, begin field site preparations for a Phase 3 dengue vaccine efficacy trial. In FY05, continue field site preparation and initiate a dengue vaccine Phase 3 efficacy trial. | 0 | 0 | 458 | 1647 |
| Totals | 3182 | 3270 | 3819 | 3431 |

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

**C. Acquisition Strategy:** Test and evaluate in-house and commercially developed products in government-managed trials to meet FDA requirements and Environmental Protection Agency registration.

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604807A - Medical Materiel/Medical Biological Defense Equipm**

PROJECT
**849**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| ETEC vaccine (MS C) | | 2Q | | | | | | |
| Tafenoquine antimalarial drug (MS C) | | | | 3Q | | | | |
| Malaria Rapid Diagnostic Device (MS B/C) | | 4Q | | | | | | |
| Leishmania skin test (MS B); (MS C) | | | | 4Q | | | | |
| Shigella flexneri (MS B) | | | 2Q | | | | | |
| Paromomycin/Gentamicin (MS B/C) | | | 4Q | | | | | |
| RTS,S malaria vaccine (MS B) | | 4Q | | | | | | |
| Dengue tetravalent vaccine (MS B) | | | 1Q | | | | | |

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

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604808A - Landmine Warfare/Barrier - Eng Dev**

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Program Element (PE) Cost | | 55502 | 123314 | 90396 | 90126 | 117975 | 128648 | 48003 | 66876 | 0 | 805707 |
| 016 | CLOSE COMBAT CAPABILITIES ENG DEV | 1330 | 21483 | 2697 | 0 | 0 | 0 | 0 | 0 | 0 | 25510 |
| 415 | MINE NEUTRAL/DETECTION | 39520 | 44185 | 33706 | 13234 | 19933 | 28906 | 48003 | 66876 | 0 | 320263 |
| 434 | ANTI-PERSONNEL LANDMINE ALTERNATIVES (NSD) | 1114 | 27055 | 22522 | 9833 | 0 | 0 | 0 | 0 | 0 | 96612 |
| 443 | APL-A (MIXED SYSTEMS) | 13538 | 30591 | 31471 | 67059 | 98042 | 99742 | 0 | 0 | 0 | 363322 |

**A. Mission Description and Budget Item Justification:** This program element (PE) provides for System Development and Demonstration of mine, countermine, demolition, non-lethal, and shoulder launched munitions/systems. The PE also it provides for development of grenades, munition simulators, and pyrotechnic devices/systems. The Close Combat Capabilities Engineering Development, provides for the increased tactical effectiveness and responsiveness of landmines, with development of upgrades for the Volcano Dispenser and the development of a Volcano Light system. Program also provides for a variety of demolition efforts to include development of Flexible Linear Shaped Charge, Remote Shock Tube Initiator, Magnetic Inductive Urban OPS Structure Remote Initiator, Insensitive Initiator, and Advanced Cratering. Mine Neutralization/Detection Engineering Development, provides for development of the Airborne Standoff Minefield Detection System (ASTAMIDS), Ground Standoff Mine Detection System (GSTAMIDS), Handheld Standoff Mine Detection System (HSTAMIDS), and Explosive Standoff Minefield Clearer (ESMC). Anti-Personnel Landmine Alternatives (APLA) provides for development of alternative systems for Non Self-Destruct (NSD)Anti-Personnel Landmines (APLs). APLA Track Mixed Systems provides alternatives to anti-personnel submunitions used in mixed anti-tank (AT) landmine systems and possibly the entire mixed landmine system.

These systems support the Interim and Objective transition path of the Transformation Campaign Plan (TCP).

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 68550 | 128992 | 108109 | 117005 |
| Current Budget (FY 2004/2005 PB) | 55502 | 123314 | 90396 | 90126 |
| Total Adjustments | -13048 | -5678 | -17713 | -26879 |
| Congressional program reductions | | | | |
| Congressional rescissions | | -608 | | |
| Congressional increases | | | | |
| Reprogrammings | -11141 | -1517 | | |
| SBIR/STTR Transfer | -1907 | -3553 | | |
| Adjustments to Budget Years | | | -17713 | -26879 |

FY 02: Funds (-$11.1M) realigned to higher priority requirements.
FY 04: Funds (-$17.7M) realigned to higher priority requirements.
FY 05: Funds (-$26.9M) realigned to higher priority requirements.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604808A - Landmine Warfare/Barrier - Eng Dev** | **016** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 016 | CLOSE COMBAT CAPABILITIES ENG DEV | 1330 | 21483 | 2697 | 0 | 0 | 0 | 0 | 0 | 0 | 25510 |

**A. Mission Description and Budget Item Justification:** This project provides for Systems Development and Demonstration of mine, demolition, non-lethal, and shoulder launched munitions/systems. Also provides for development of grenades, munition simulators, and pyrotechnic devices. Includes the upgrade to the Volcano Dispenser Control Unit (DCU) and the Volcano modularization in support of the Stryker Brigade Combat Team (SBCT). Also includes a variety of Demolition devices to include: Flexible Linear Shaped Charge, Remote Shock Tube Initiator, Magnetic Inductive Urban OPS Structure Remote Initiator, Insensitive Initiator, and Advanced Cratering.

These Systems support the Interim and Objective Forces of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Continue design/development of Volcano DCU upgrades. | 1230 | 5122 | 1297 | 0 |
| Continue test planning and preparation for Volcano DCU . | 100 | 200 | 0 | 0 |
| initiate Volcano DCU Engineering testing. | 0 | 700 | 600 | 0 |
| Initiate Design/Development of Volcano Light | 0 | 807 | 600 | 0 |
| Initiate Volcano Light Testing | 0 | 100 | 200 | 0 |
| Initiate Development of Flexible linear Shaped Charge. | 0 | 2629 | 0 | 0 |
| Initiate Development of Remote Shock Tube Initiator. | 0 | 2853 | 0 | 0 |
| Initiate development of Magnetic Urban OPS Structure Remote Initiator. | 0 | 3000 | 0 | 0 |
| Initiate development of Insensitive Initiator. | 0 | 2659 | 0 | 0 |
| Initiate development of Advanced Cratering System. | 0 | 3413 | 0 | 0 |
| Totals | 1330 | 21483 | 2697 | 0 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| G39103, Volcano Light | 0 | 0 | 0 | 2377 | 0 | 0 | 0 | 0 | 0 | 2377 |
| G39100, Dispenser, Mine M139 | 0 | 0 | 5231 | 3332 | 0 | 0 | 0 | 0 | 0 | 8563 |

**C. Acquisition Strategy:** After completing the system development and demostration phase, the Volocano upgrade program will transition into production with a competitive solicitation to a performance specification. All of the demolition development efforts will be competitive selections with production options.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604808A - Landmine Warfare/Barrier - Eng Dev**

PROJECT
**016**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Volcano DCU Upgrade-SDD Contract | C-CPIF | Alliant Tech Systems, Plymouth MN | 1230 | 4266 | 2Q | 997 | | 0 | | 0 | 6493 | 6493 |
| b . Volcanol Light-SDD Contract | C-CPIF | Alliant Tech Systems, Plymouth MN | 0 | 607 | 2Q | 500 | | 0 | | 0 | 1107 | 1107 |
| c . Demolition Programs SDD Contracts | C-CPIF | TBD | 0 | 12454 | 3Q | 0 | | 0 | | 0 | 12454 | 12841 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1230 | 17327 | | 1497 | | 0 | | 0 | 20054 | 20441 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Engineering Support Volcano Light | MIPR | TACOM/ARDEC, Picatinny Arsenal, NJ | 0 | 100 | 1Q | 50 | 1Q | 0 | | 0 | 150 | 150 |
| b . Engineering Support Volcano DCU | MIPR | TACOM/ARDEC, Picatinny Arsenal, NJ | 100 | 700 | 1Q | 200 | | 0 | | 0 | 1000 | 1000 |
| c . Engineering Support Demolition Programs | MIPR | Various | 0 | 1500 | 2Q | 0 | | 0 | | 0 | 1500 | 1500 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604808A - Landmine Warfare/Barrier - Eng Dev**

PROJECT
**016**

| II. Support Cost (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 100 | 2300 | | 250 | | 0 | | 0 | 2650 | 2650 |

Remarks: None

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Volcano Light | | | 0 | 100 | 2Q | 200 | 2Q | 0 | | 0 | 300 | 300 |
| b . Volcano- DCU | MIPR | ATEC, Alexandria, VA | 0 | 900 | 2Q | 600 | 2Q | 0 | | 0 | 1500 | 1600 |
| c . Demolition Programs Test Support | MIPR | ATEC, Alexandria, VA | 0 | 400 | 2Q | 0 | | 0 | | 0 | 400 | 400 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 1400 | | 800 | | 0 | | 0 | 2200 | 2300 |

Remarks: None

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604808A - Landmine Warfare/Barrier - Eng Dev**

PROJECT
**016**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Volcano Light | In-House | PM CCS, Picatinny Arsenal, NJ | 0 | 100 | 1Q | 50 | | 0 | | 0 | 150 | 150 |
| b . Volcano DCU | In-House | PM CCS, Picatinny Arsenal, NJ | 0 | 156 | 1Q | 100 | | 0 | | 0 | 256 | 500 |
| c . Demolitions Programs | In-House | PM CCS, Picatinny Arsenal, NJ | 0 | 200 | 1Q | 0 | | 0 | | 0 | 200 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 456 | | 150 | | 0 | | 0 | 606 | 650 |

Remarks: None

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 1330 | 21483 | | 2697 | | 0 | | 0 | 25510 | 26041 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604808A - Landmine Warfare/Barrier - Eng Dev** | **016** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Volcano Modular Upgrade - ECP contract awarded | 2Q | | | | | | | |
| Volcano Modular Upgrade - ECP enters production | | | 1Q | | | | | |
| Demolition programs (5) Milestone B | | 2Q | | | | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604808A - Landmine Warfare/Barrier - Eng Dev** | **415** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 415 | MINE NEUTRAL/DETECTION | 39520 | 44185 | 33706 | 13234 | 19933 | 28906 | 48003 | 66876 | 0 | 320263 |

**A. Mission Description and Budget Item Justification:** This project provides System Development and Demonstration (SDD) for the Airborne Standoff Minefield Detection System (ASTAMIDS). The Block I ASTAMIDS uses an Electro-Optic/Infrared (EO/IR) sensor mounted on a Future Combat System Unit of Action Unmanned Aerial Vehicle to detect and locate minefields and obstacles that are impediments to maneuver forces. Block I ASTAMIDS can be used in the tactical operations in real time, day and night, to detect surface implaced and recently buried minefields and obstacles.

Handheld Stand-off Mine Detection System (HSTAMIDS) is a handheld multi-sensor detector that combines an advanced metal detector with a special purpose Ground Penetrating Radar (GPR) coupled to an advanced signal processor and software algorithms. It provides for enhanced detection capabilities against non-metallic mines and reduces incidences of false alarms in highly cluttered metal environments.

Ground Standoff Mine Detection System (GSTAMIDS) Block 0 is a two vehicle system consisting of teleoperated mine detection vehicle and a blast protected clearance vehicle. Block 0 keep soldiers safe by providing a 400 meter standoff distance during mine detection operations. The mine detection vehicle employ multiple sensors (metal detector and GPR) in order to detect all types of anti-tank mines. GSTAMIDS Block I is an integration of advanced countermine capabilities that will provide the Objective Force with the fastest means possible to detect and clear anti-tank (AT) mines. Block I will be capable of marking a cleared path eight meters wide to allow safe passage by tactical convoys.

Explosive Standoff Minefield Clearer (Mongoose) is a rocket deployed array of shaped chare munitions, launched across minefields and command detonated, to provide a high confidence cleared lane for passage of mounted troops. Mongoose will defeat all defined threat mines from a stand-off position including mines with countermeasures to current countermine systems.

Obstacle Marking System (OMS) is designed to work in conjunction with other countermine systems. OMS provides the Army with the capability to clearly mark a path through a minefield and other obstacles.

These systems are Interim and Objective Force Block I systems.

| Accomplishments/Planned Program | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Conduct Source Selection and award GSTAMIDS Block I System Development & Demonstration Contract. | 0 | 1000 | 0 | 0 |
| Prepare for GSTAMIDS Block 0 for Milestone C (Full Rate Production). | 0 | 585 | 0 | 0 |
| Complete GSTAMIDS Block 0 Contractor Testing. | 2333 | 425 | 0 | 0 |
| Complete GSTAMIDS Block I SD&D preliminary design effort. | 0 | 3987 | 0 | 0 |
| Complete GSTAMIDS Block 0 System Integration. | 2104 | 426 | 0 | 0 |
| Initiate GSTAMIDS Block I SD&D detailed design and system integration effort and confirmation sensor. | 0 | 0 | 10890 | 12555 |
| Conduct GSTAMIDS Block 0 Government Testing. | 0 | 2273 | 0 | 0 |
| ESMC BCT design and validate insensitive munition rocket. | 0 | 17888 | 4000 | 0 |
| Completed ESMC (Mongoose) BCT preliminary design. | 18010 | 0 | 0 | 0 |
| Fabricate ESMC prototypes (34 reloads, 5 trailers). | 0 | 8548 | 5000 | 0 |
| Contractor/Government testing of ESMC. | 0 | 2305 | 4000 | 0 |
| Procured long lead materials for ESMC Prototypes. | 4143 | 0 | 0 | 0 |
| Fabrication of 22 HSTAMIDS Prototypes and conduct DT/OT testing. | 3182 | 5122 | 0 | 0 |
| Develop ESMC Manufacturing Processes. | 1080 | 700 | 1434 | 0 |
| Completed HSTAMIDS System Development Design. | 7668 | 0 | 0 | 0 |
| Prepare documentation, conduct MS C, and prepare procurement package for HSTAMIDS. | 0 | 926 | 0 | 0 |
| Conduct HSTAMIDS P3I | 0 | 0 | 6202 | 679 |
| Design/develop Obstacle Marking System | 0 | 0 | 2180 | 0 |
| Conducted Robotics Tiger Team exercise. | 1000 | 0 | 0 | 0 |
| Totals | 39520 | 44185 | 33706 | 13234 |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604808A - Landmine Warfare/Barrier - Eng Dev** | **415** |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| PE 0603619A, Project 606, Countermine/Barrier Advanced Dev | 458 | 9716 | 9 | 11755 | 9053 | 8254 | 39015 | 43453 | Continuing | Continuing |
| R68200, HSTAMIDS | 0 | 0 | 1766 | 6673 | 6930 | 6917 | 7947 | 7225 | Continuing | Continuing |
| OPA 3, R68101, GSTAMIDS Block 0 | 8180 | 20359 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 28539 |
| OPA 3, R68102, GSTAMIDS Block 1 | 0 | 0 | 0 | 0 | 0 | 7201 | 20932 | 20226 | Continuing | Continuing |
| OPA 3, R68105 ESMC | 0 | 0 | 0 | 1934 | 2898 | 578 | 0 | 0 | 0 | 5410 |
| Ammo, E81400 ESMC | 0 | 0 | 0 | 6855 | 16612 | 20262 | 0 | 0 | 0 | 43729 |
| OPA 3, S11500 ASTAMIDS | 0 | 0 | 0 | 0 | 0 | 0 | 11191 | 11963 | Continuing | Continuing |

**C. Acquisition Strategy:** The Explosive Standoff Minefield Detection Clearer (ESMC) competitively-selected Concept & Technology Development (CTD) contractor was awarded a sole source System Development & Demonstration (SDD) contract upon completion of CTD phase and MDA approval. ASTAMIDS competitively selected System Component Development contractor will be awarded a sole source System Development and Demonstration (SDD) contract upon completion of System Component Development phase and MDA approval. Sole source production contract with multiple options are anticipated for the successful SDD contractor. GSTAMIDS program is a spiral development acquisition program designed to field vehicle mounted mine detection and neutralization capabilities in successive block upgrades (Blocks 0,1, and 2). GSTAMIDS Block I integrates a number of advanced countermine capabilities into one system. The Block I system development contract is expected to be competitively solicited. The GSTAMIDS Block 0, SDD contractor was competitively selected. The SDD contractor will be awarded the initial production contract (sole source). HSTAMIDS had two competing contractors at start of CTD phase. In FY99 one contractor was selected to continue extended CTD phase through SDD. SDD contractor will be awarded production contract with multiple options.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604808A - Landmine Warfare/Barrier - Eng Dev**

PROJECT
**415**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . GSTAMIDS Block 1 | C-CPFF | Quantum Magnetics San Diego, CA | 0 | 1800 | 1-2Q | 0 | | 0 | | 0 | 1800 | 1800 |
| b . GSTAMIDS Block 1 | C-CPFF | BAE Systems, Austin, TX | 0 | 95 | 1Q | 0 | | 0 | | 0 | 95 | 95 |
| c . GSTAMIDS Block 1 | TBD | TBD | 0 | 0 | | 7890 | 2Q | 9555 | 2Q | Continue | Continue | Continue |
| d . GSTAMIDS Block 0 | C-CPFF | EG&G Systems Inc., Albuquerque, NM | 15015 | 1015 | 1-2Q | 0 | | 0 | | 0 | 16030 | 16161 |
| e . HSTAMIDS | C-CPIF | CY Terra Corporation, Orlando, FL | 12401 | 2123 | 1-2Q | 3219 | 1Q | 203 | 1Q | 0 | 17946 | 17566 |
| f . ESMC | SS-CPIF | BAE Systems, Austin,TX | 19933 | 25330 | 1-2Q | 10400 | | 0 | | 0 | 55663 | 54197 |
| g . OMS | TBD | TBD | 0 | 0 | | 1000 | 2Q | 0 | | 0 | 1000 | 1000 |
| | | | | | | | | | | | | |
| Subtotal: | | | 47349 | 30363 | | 22509 | | 9758 | | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604808A - Landmine Warfare/Barrier - Eng Dev**

PROJECT
**415**

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Eng. support GSTAMIDS Blk 0 | MIPR | NVESD/ CECOM, Ft Belvoir, VA | 6743 | 85 | 1Q | 0 | | 0 | | 0 | 6828 | 6828 |
| b . Eng support GSTAMIDS Blk 0 | MIPR | Various OGAs | 6159 | 91 | 1Q | 0 | | 0 | | 0 | 6250 | 5250 |
| c . Eng Support GSTAMIDS Block 0 | Various | Various Contractors | 7722 | 149 | 1Q | 0 | | 0 | | 0 | 7871 | 7871 |
| d . GSTAMIDS Blk I | MIPR | Various OGAs | 0 | 757 | 1Q | 700 | 1Q | 700 | 1Q | Continue | 2157 | Continue |
| e . GSTAMIDS Support Blk I | MIPR | NVESD/CECOM, Ft Belvoir, VA | 0 | 1231 | 1Q | 800 | 1Q | 800 | 1Q | Continue | 2831 | Continue |
| f . Support GSTAMIDS Blk 1 | Various | Various Contractors | 0 | 628 | 1Q | 400 | 1Q | 400 | 1Q | Continue | 1428 | Continue |
| g . Eng Support HSTAMIDS | MIPR | NVESD/CECOM, Ft Belvoir, VA | 3162 | 1038 | 1Q | 1294 | 1Q | 276 | 1Q | Continue | 5770 | Continue |
| h . Support HSTAMIDS | Various | Various | 3519 | 1270 | 1Q | 804 | 1Q | 0 | | Continue | 5593 | Continue |
| i . ESMC (Mongoose) | MIPR | NVESD/CECOM, Ft Belvoir, VA | 1497 | 367 | 1Q | 500 | 1Q | 0 | | Continue | Continue | Continue |
| j . ESMC (Mongoose) | Various | Various | 3905 | 1847 | 1Q | 1834 | 1Q | 0 | | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604808A - Landmine Warfare/Barrier - Eng Dev**

PROJECT
**415**

| II. Support Cost (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| k . OMS | TBD | TBD | 0 | 0 | | 1080 | 2Q | 0 | | 0 | Continue | 0 |
| l . Tiger team for robotics | MIPR | PM - Soldier, Ft. Belvoir | 1000 | 0 | | 0 | | 0 | | 0 | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 33707 | 7463 | | 7412 | | 2176 | | Continue | Continue | Continue |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Test support GSTAMIDS Blk 0 | MIPR | ATEC, Alexandria, VA | 3082 | 1599 | 2Q | 0 | | 0 | | 0 | 4681 | 4793 |
| b . Test support HSTAMIDS | MIPR | ATEC, Alexandria, VA | 1793 | 1025 | 1Q | 309 | 1Q | 103 | 1Q | 0 | 3230 | 5734 |
| c . Test Support ESMC | MIPR | ATEC, Alexandria, VA | 597 | 886 | 1Q | 1300 | 1Q | 0 | | Continue | 2783 | Continue |
| d . Test support GSTAMIDS Blk 1 | MIPR | ATEC, Alexandria, VA | 0 | 40 | 2Q | 300 | 2Q | 300 | 2Q | 0 | 640 | 640 |
| | | | | | | | | | | | | |
| Subtotal: | | | 5472 | 3550 | | 1909 | | 403 | | Continue | 11334 | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604808A - Landmine Warfare/Barrier - Eng Dev**

PROJECT
**415**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Program management | In-House | PM-CCS, Picatinny Arsenal, NJ | 2799 | 1171 | 1-4Q | 976 | 1-4Q | 449 | 1-4Q | Continue | 5395 | Continue |
| b . Program management Contractor support | Various | Various | 2737 | 1638 | 1-4Q | 900 | 1-4Q | 448 | 1-4Q | Continue | 5723 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 5536 | 2809 | | 1876 | | 897 | | Continue | 11118 | Continue |
| Project Total Cost: | | | 92064 | 44185 | | 33706 | | 13234 | | Continue | Continue | Continue |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604808A - Landmine Warfare/Barrier - Eng Dev**

PROJECT
**415**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| GSTAMIDS Block 0 MS C | | | 2Q | | | | | |
| GSTAMIDS Block 1 MS B | | 4Q | | | | | | |
| GSTAMIDS Block I MS C | | | | | | 4Q | | |
| HSTAMIDS MS B | | | | | | | | |
| HSTAMIDS MS C | | 4Q | | | | | | |
| ESMC MS B | | | | | | | | |
| ESMC (BCT) MS C | | | | 2Q | | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604808A - Landmine Warfare/Barrier - Eng Dev** | **434** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 434 ANTI-PERSONNEL LANDMINE ALTERNATIVES (NSD) | 1114 | 27055 | 22522 | 9833 | 0 | 0 | 0 | 0 | 0 | 96612 |

**A. Mission Description and Budget Item Justification:** This program provides for development of alternative systems for Non Self-Destruct (NSD) Anti-Personnel Landmines (APLs), particularly in Korea. This System supports the Objective transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Contractor team design/development for SD&D Phase | 0 | 23098 | 9622 | 4613 |
| Risk Reduction Contract | 0 | 50 | 0 | 0 |
| Provide general engineering support, program management and risk reduction efforts for SD&D. | 1114 | 3110 | 6200 | 4320 |
| Perform modeling and simulation. | 0 | 405 | 700 | 400 |
| Government test and evaluation facility and facility support activities | 0 | 392 | 6000 | 500 |
| Totals | 1114 | 27055 | 22522 | 9833 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| Ammo E91700 | 0 | 0 | 0 | 34863 | 91368 | 127966 | 132492 | 126867 | 0 | 513556 |

**C. Acquisition Strategy:** USD(AT&L)) approved the NSD-A plan to have Alliant Tech Systems and Textron Systems Corporation form a joint venture for the System Development & Demonstration (SDD) and Production & Deployment (P&D) efforts of this program.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604808A - Landmine Warfare/Barrier - Eng Dev**

PROJECT
**434**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . NSD-A SDD | C-CPIF | Alliant Tech Systems, Plymouth, MN/TEXTRON, Wilmington, MA | 16558 | 23098 | 1-3Q | 9622 | 1Q | 4613 | 1Q | 0 | 53891 | 54662 |
| b . RCU with embedded GPS | FFP | TALLA Tech | 0 | 50 | 2Q | 0 | | 0 | | 0 | 50 | 50 |
| | | | | | | | | | | | | |
| Subtotal: | | | 16558 | 23148 | | 9622 | | 4613 | | 0 | 53941 | 54712 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Eng support NSD-A | MIPR | TACOM/ARDEC, Picatinny Arsenal, NJ | 3260 | 1015 | 2Q | 2550 | 2Q | 1798 | 2Q | 0 | 8623 | 7615 |
| b . Eng support NSD-A | MIPR | Various | 1908 | 750 | 2Q | 1460 | 2Q | 996 | 2Q | 0 | 5114 | 5114 |
| c . Engr Support | Various | BRTRC, CORBETT, MITRE, Various | 0 | 645 | 2-4Q | 1260 | 2Q | 856 | 2Q | 0 | 2761 | 2761 |
| | | | | | | | | | | | | |
| Subtotal: | | | 5168 | 2410 | | 5270 | | 3650 | | 0 | 16498 | 15490 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604808A - Landmine Warfare/Barrier - Eng Dev**

PROJECT
**434**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . T&E | MIPR | Army Evaluation Center, MD, FT Benning, GA, YUMA, AZ | 2000 | 392 | 2Q | 6000 | 2Q | 500 | 2Q | 0 | 8892 | 8892 |
| | | | | | | | | | | | | |
| Subtotal: | | | 2000 | 392 | | 6000 | | 500 | | 0 | 8892 | 8892 |

Remarks: Not Applicable

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Program Mgmt NSD-A | In-House | PM-CCS, Picatinny Arsenal, NJ | 456 | 1105 | 1-4Q | 1630 | 1-4Q | 1070 | 1-4Q | 0 | 4261 | 4155 |
| | | | | | | | | | | | | |
| Subtotal: | | | 456 | 1105 | | 1630 | | 1070 | | 0 | 4261 | 4155 |
| Project Total Cost: | | | 24182 | 27055 | | 22522 | | 9833 | | 0 | 83592 | 83249 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604808A - Landmine Warfare/Barrier - Eng Dev** | **434** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| NSD-A MS-C | | | | 3Q | | | | |
| Production Qualification Test | | | 3Q | | | | | |
| Initial Operational Test | | | | 1Q | | | | |
| Material Release | | | | | | 3Q | | |
| First Unit Equipped | | | | | | | 1Q | |
| Initial Operational Capability | | | | | | | 4Q | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604808A - Landmine Warfare/Barrier - Eng Dev** | **443** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 443 APL-A (MIXED SYSTEMS) | 13538 | 30591 | 31471 | 67059 | 98042 | 99742 | 0 | 0 | 0 | 363322 |

**A. Mission Description and Budget Item Justification:** This project provides alternatives to the anti-personnel submunitions used within mixed anti-tank (AT)/anti-personnel (AP)munition systems or the entire mixed AT/AP system. Alternative systems may include but are not limited to surveilance, command and control (AT/AP munitions), remote control, remote delivery, and overwatch effects that will be developed and evaluated in parallel assuring an equivalent or enhanced capability to that currently provided by mixed AT/AP systems. Modeling and simulation will be used to evaluate system alternatives and develop/modify tactics and procedures. Prototype components and system architectures will be constructed and evaluated in system field tests. The overall goal is to pursue an aggressive program to field alternative systems that maintain or enhance current capabilities while supporting the transition path to the objective force.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Component Advanced Development (CAD) for mixed system alternatives | 5033 | 21291 | 22171 | 46309 |
| Pre CAD Phase Risk Reduction effort for Mixed System Landmine Alternative (MSLA). | 4400 | 0 | 0 | 0 |
| Provide efforts for horizontal command, control, communication, computer integration. | 405 | 300 | 300 | 425 |
| Evaluate/Improve Track III alternative concepts by potential transition of Track II concept Development into MLSA. | 0 | 375 | 550 | 4700 |
| Conduct distributed modeling and simulation. | 3000 | 2000 | 1500 | 3200 |
| Develop universal munition controller system. | 700 | 725 | 650 | 1975 |
| Perform CAD phase development evaluation and prepare assessment. | 0 | 0 | 0 | 625 |
| System Development and Demonstration Phase Preparation. | 0 | 0 | 0 | 325 |
| Prepare for CAD phase test and evaluation. | 0 | 100 | 500 | 2500 |
| Perform CAD phase risk reduction studie (Long range conops). | 0 | 550 | 550 | 550 |
| Perform CAD phase risk reduction studie (Long range communications). | 0 | 1050 | 1050 | 1050 |
| Perform CAD phase risk reduction study (Logistics). | 0 | 300 | 300 | 300 |
| Perform CAD phase risk reduction study (Target descrimination (sensors)). | 0 | 745 | 745 | 745 |
| Perform CAD phase risk reduction study (Long Range deployment). | 0 | 1023 | 1023 | 1023 |
| Perform CAD phase risk reduction study (Enhanced system remote control capabilities). | 0 | 632 | 632 | 832 |
| Perform CAD phase risk reduction study (BAA for component technology to fill technological gaps). | 0 | 1500 | 1500 | 2500 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Totals | 13538 | 30591 | 31471 | 67059 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| PAA SSN: E91701 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**C. Acquisition Strategy:** Continue system alternative development efforts by entering into block Component Advanced Development(CAD) with two system contractors. The program will pursue parallel risk reduction studies and component technology development with the intent of technology insertion into the program. Studies, technology development, and CAD phase efforts (development, test, and evaluation) will lead to selection of System development and Demonstration (SDD) contractor.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604808A - Landmine Warfare/Barrier - Eng Dev**

PROJECT
**443**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . APL-A Component advanced Development | C-CPIF | Textron Systems, Wilmington, MA; and ATK, Hopkins, MN | 6223 | 16791 | 2-3Q | 17671 | 2Q | 40134 | 1Q | 0 | 80819 | 80819 |
| b . APL-A Component Technology Development | C-CPIF | Various contractors | 1487 | 1500 | 2-3Q | 1500 | 1-4Q | 2000 | 1-4Q | 0 | 6487 | 6487 |
| c . APL-A Support | | Various contractors | 4830 | 2600 | 2-3Q | 2600 | 1-4Q | 3200 | 1-4Q | 0 | 13230 | 13230 |
| d . APL-A UMCS | MIPR | CECOM, Ft. Monmouth | 700 | 725 | 2-3Q | 650 | 1Q | 1975 | 1Q | 0 | 4050 | 4050 |
| e . APL-A Risk Reduction Studies | C-CPFF | TBD | 0 | 4300 | 2-3Q | 4300 | 1-2Q | 5000 | 1-2Q | 0 | 13600 | 13600 |
| f . APL-A Product Improvement Efforts | TBD | TBD | 0 | 375 | 2-3Q | 550 | 1Q | 4700 | | 0 | 5625 | 5625 |
| g . APL-A System Concept Exploriation | C-CPIF | Various contractors | 9311 | 0 | | 0 | | 0 | | 0 | 9311 | 6223 |
| | | | | | | | | | | | | |
| Subtotal: | | | 22551 | 26291 | | 27271 | | 57009 | | 0 | 133122 | 130034 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604808A - Landmine Warfare/Barrier - Eng Dev**

PROJECT
**443**

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Engineering Support | MIPR | TACOM/ARDEC, Picatinny Arsenal, NJ | 3456 | 1400 | 2-4Q | 1400 | 1Q | 2600 | 1Q | 0 | 8856 | 8556 |
| b . Engineering Support | MIPR | Night Vision Labs, Ft. Belvoir, VA | 1237 | 300 | 2-4Q | 300 | 1Q | 750 | 1Q | 0 | 2587 | 2587 |
| c . Concepts & Component Analysis & Evaluation | MIPR | Various | 8251 | 1800 | 2-4Q | 1300 | 1-4Q | 3500 | 1Q | 0 | 14851 | 14851 |
| | | | | | | | | | | | | |
| Subtotal: | | | 12944 | 3500 | | 3000 | | 6850 | | 0 | 26294 | 25994 |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . T&E Support | MIPR | Army Evaluation Center, MD | 1210 | 50 | 2-4Q | 150 | 1Q | 500 | 1Q | 0 | 1910 | 773 |
| b . Test Facilities and T&E Support | MIPR | TBD | 0 | 50 | 2-4Q | 350 | 1Q | 2000 | 1Q | 0 | 2400 | 2400 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1210 | 100 | | 500 | | 2500 | | 0 | 4310 | 3173 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604808A - Landmine Warfare/Barrier - Eng Dev**

PROJECT
**443**

Remarks: Not Applicable

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Program Management | MIPR | PM-CCS. Picatinny Arsenal, NJ | 1210 | 700 | 2-4Q | 700 | 1-4Q | 700 | 1-4Q | 0 | 3310 | 3310 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1210 | 700 | | 700 | | 700 | | 0 | 3310 | 3310 |
| Project Total Cost: | | | 37915 | 30591 | | 31471 | | 67059 | | 0 | 167036 | 162511 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604808A - Landmine Warfare/Barrier - Eng Dev** | **443** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Track III MS B | | | | 4Q | | | | |
| Track III MS C | | | | | | | 1Q | |
| IOC | | | | | | | | |

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

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604814A - Sense and Destroy Armament Missile - Eng Dev**

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| Total Program Element (PE) Cost | 59329 | 102188 | 133994 | 153389 | 161909 | 173445 | 223058 | 264958 | 0 | 1300866 |
| 708 XM982 PROJECTILE | 59329 | 102188 | 133994 | 143359 | 142300 | 144051 | 183807 | 191407 | 0 | 1129031 |
| 709 ADVANCED FIELD ARTILLERY MUNITION | 0 | 0 | 0 | 10030 | 19609 | 29394 | 39251 | 73551 | 0 | 171835 |

**A. Mission Description and Budget Item Justification:** This program funds multiple efforts; the Excalibur XM982 Projectile Blocks I, II and III, and the Spin Stabilized-Sensor Fuzed Munition (SS-SFM).

XM982 Projectile funds the development of the Excalibur 155mm projectile and integration of the Unitary warhead (Block I) and Smart Munition (Block II). Excalibur provides improved fire support through a Precision Guided Extended Range family of munitions with greatly increased accuracy and reduced collateral damage in support of the Objective Force. The Excalibur will be compatible with the Future Combat System-Cannon (FCS-C). The Excalibur will allow greater standoff and faster defeat of potential threats, increasing soldier survivability while reducing the ammunition workload. The Product Management Office (PMO) recently completed a merger with the Trajectory Correctable Munitions (TCM) program to reduce program risk. Excalibur Unitary is an international program, teamed with the Kingdom of Sweden (KoS), who will contribute resources towards the development in accordance with an established Project Agreement. This system supports the Transformation Campaign Plan (TCP).

Funding also conducts an assessment of SS-SFM systems. SS-SFM's are advanced "fire and forget" smart artillery projectiles that can be used in all 155mm artillery systems. SS- SFM's use one or more sensors to defeat self-propelled artillery and lightly armored targets in all weather and environmental conditions. This system supports the Transformation Campaign Plan (TCP).

Advanced Field Artillery Munition (AFAM) funds the development of a Discriminating Munition that will seek, detect, discriminate and engage specified target(s) located in complex and urban terrain and is part of the Excalibur family of munitions (Block III). It will be compatible with the Future Combat System-Cannon (FCS-C). This system supports the Transformation Campaign Plan (TCP).

Funding also provides for technology updates (technology refresh) of electronics in Excalibur Blocks I and II. Planned technology updates include interoperability with the next generation GPS system, insertion of future planned lower unit cost components (such as the DoD Common Guidance / Common Sensor Inertial Measurement Unit), avoidance of parts obsolescence, and maintaining technology relevance against future threats.

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 61300 | 70888 | 53067 | 29833 |
| Current Budget (FY 2004/2005 PB) | 59329 | 102188 | 133994 | 153389 |
| Total Adjustments | -1971 | 31300 | 80927 | 123556 |
| Congressional program reductions | | | | |
| Congressional rescissions | | -1451 | | |
| Congressional increases | | 36225 | | |
| Reprogrammings | -312 | -587 | | |
| SBIR/STTR Transfer | -1659 | -2887 | | |
| Adjustments to Budget Years | | | 80927 | 123556 |

FY03: Congressional increase for program (+$36.2M). This was as a result of Amended FY03 Budget Request due to termination of Crusader program.
FY04: Transfer from procurement to fund integration/merger of Trajectory Correctable Munition (TCM) with Excalibur projectile (+$38.1M), addition of Spin Stabilized-Sensor Fuze Munition Program (+$9.8M) and increase of funds for reliability growth and cost reduction activities (+$33.0M).
FY05: Transfer from procurement to fund integration/merger of TCM with Excalibur projectile (+$33.5M), addition of Spin Stabilized-Sensor Fuze Munition Program (+$23.2M) and increase of funds for reliability growth and cost reduction activities (+$66.9M).

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604814A - Sense and Destroy Armament Missile - Eng Dev** | **708** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 708 XM982 PROJECTILE | 59329 | 102188 | 133994 | 143359 | 142300 | 144051 | 183807 | 191407 | 0 | 1129031 |

**A. Mission Description and Budget Item Justification:** This project funds two programs, the Excalibur XM982 Projectile and the Spin Stabilized-Sensor Fuzed Munition (SS-SFM).

XM982 Projectile funds the development of the Excalibur 155mm projectile and integration of the Unitary warhead (Block I) and Smart Munition (Block II). Excalibur provides improved fire support through a Precision Guided Extended Range family of munitions with greatly increased accuracy and reduced collateral damage in support of the Objective Force. The Excalibur will be compatible with the Future Combat System-Cannon (FCS-C). The Excalibur will allow greater standoff and faster defeat of potential threats, increasing soldier survivability while reducing the ammunition workload. The Product Management Office (PMO) recently completed a merger with the Trajectory Correctable Munitions (TCM) program to reduce program risk. Excalibur Unitary is an international program, teamed with the Kingdom of Sweden (KoS), who will contribute resources towards the development in accordance with an established Project Agreement. This system supports the Transformation Campaign Plan (TCP).

Funding also conducts an assessment of SS-SFM systems. SS-SFM's are advanced "fire and forget" smart artillery projectiles that can be used in all 155mm artillery systems. SS- SFM's use one or more sensors to defeat self-propelled artillery and lightly armored targets in all weather and environmental conditions. This system supports the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Continue airframe tactical structure and conduct contractor development testing with merged Excalibur-TCM design. | 9235 | 22507 | 24428 | 23041 |
| Continue guidance unit integration, gun hardening, tactical telemetry, systems software development, and programmed maneuver flight demonstration. | 21339 | 27467 | 38376 | 38542 |
| Continue to execute Systems and Specialty Engineering activities, to include specification development, Cost As Independent Variable (CAIV), program metric tracking, and conduct modeling of lethality, effectiveness, and aeroballistics, and requirements analysis to incorporate a tactical telemetry system. | 7694 | 17273 | 19996 | 20720 |
| Continue Unitary warhead development, to include structure penetration, and fragmentation testing | 10177 | 9329 | 13071 | 8482 |
| Continue Platform Integration effort including design and build of prototype hardware for Platform Integration Kit and Portable Inductive Artillery Fuze Setter (EPIAFS) and development of Advanced Field Artillery Tactical Direction System (AFATDS) integration. | 4553 | 5925 | 13206 | 11854 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Continue maturing technology of TCM program to integrate into the Excalibur program. | 3500 | 7500 | 0 | 0 |
| Procured 30 test projectiles and 18 guidance test projectiles for FY02 Contractor Development Testing. | 2831 | 0 | 0 | 0 |
| Procure and test 16 structure test projectiles, 8 soft recovery Guidance system evaluation test projectiles, 27 ballistic environment measurement rounds, and 36 warhead test projectiles for FY03 Contractor Development Testing. | 0 | 12187 | 0 | 0 |
| Procure and test 16 structure test projectiles, 27 soft recovery Guidance system evaluation test projectiles, 7 full up system rounds, and 36 warhead test projectiles for FY04 Contractor Development Testing. | 0 | 0 | 15117 | 0 |
| Procure and test 16 structure test projectiles, 15 soft recovery Guidance system evaluation test projectiles, 40 full up system rounds, and 162 warhead test projectiles for FY05 Contractor Development Testing. | 0 | 0 | 0 | 17520 |
| SS-SFM Comparative Testing to include Winter, Summer and Desert Testing | 0 | 0 | 9800 | 15200 |
| Initiate SS-SFM Prelimary Qualification testing, to include firing tables, safety tests and Lethal Mechanism Characterization | 0 | 0 | 0 | 8000 |
| Totals | 59329 | 102188 | 133994 | 143359 |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604814A - Sense and Destroy Armament Missile - Eng Dev** | **708** |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| Procurement Ammunition Army: E80103 | 0 | 0 | 0 | 0 | 21544 | 28172 | 61909 | 129720 | 3894600 | 4135945 |
| OPA2: Enhanced Portable Inductive Fuze Setter (E-PIAFS): AD3260 | 0 | 0 | 0 | 0 | 0 | 0 | 5898 | 11726 | 0 | 17624 |
| RDTE: 0604814A D709 Advanced Field Artillery Munition | 0 | 0 | 0 | 10030 | 19609 | 29394 | 39251 | 73551 | Continuing | Continuing |

**C. Acquisition Strategy:** Excalibur is a family of 155mm Precision Guided Extended Range Munitions. A competitive source selection awarded an Engineering and Manufacturing Development (E&MD) contract for the initial variant, with options for the other variant's development and all Low Rate Initial Production quantities (LRIPs). The Product Management Office (PMO) merged the Trajectory Correctable Munitions (TCM) and Excalibur programs to satisfy the common guided extended range requirement. This merger will reduce program risk through incorporation of TCM technology. The PMO awarded a single, merged contract for the balance of System Development and Demonstration (SDD) with options for LRIP.

The SS-SFM strategy is to utilize full and open competition to assure that the “best value” system is selected and produced. The performance specification will be for a non-developmental SS-SFM. Competitors will provide twelve b id sample units, additional performance data, and fixed price costing data. The bid samples will be tested at Yuma Proving Grounds (YPG) in a “side-by-side” test against the extreme environmental and countermeasure target requirements of the SADARM Operational Requirements Document (ORD). The “best-value” munition based on cost, schedule, performance, production capability and risk will be selected for further testing. Additionally, proposal evaluation will determine the extent of additional required qualification testing leading up to and during operational testing.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604814A - Sense and Destroy Armament Missile - Eng Dev**

PROJECT
**708**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Excalibur Development | C/CPAF | Raytheon Missile System,Tucson, AZ | 81873 | 72630 | 1Q | 90571 | 1Q | 81330 | 1Q | 86484 | 412888 | 418737 |
| b . Award Fee on Excalibur Development Contract | N/A | Raytheon Missile System,Tucson, AZ | 0 | 4604 | 2-4Q | 5462 | 2-4Q | 13973 | 2-4Q | 9809 | 33848 | 33848 |
| c . TCM Technology Integration | FP | Bofors Defence | 3430 | 7500 | 1Q | 0 | | 0 | | 0 | 10930 | 10930 |
| d . Platform Integration-Systems Contractor | CPAF | TBD | 0 | 100 | 2Q | 400 | 1Q | 1200 | 1Q | 1200 | 2900 | 2900 |
| e . EPIAFs and Platform Integration Kit Development | MIPR | TACOM-ARDEC, Picatinny Arsenal, NJ | 2951 | 500 | 2Q | 1860 | 1Q | 1860 | 1Q | 2790 | 9961 | 0 |
| f . Misc Contracts | Various | Various | 367 | 200 | 1-2Q | 200 | 1-2Q | 200 | 1-2Q | 400 | 1367 | 1367 |
| g . Platform Integration/Fire Control | SS/CPIF | Raytheon AFATDS, Ft Wayne, IN | 0 | 0 | | 990 | 1Q | 400 | 1Q | 440 | 1830 | 1830 |
| h . Platform Integration Firing Tables Development | MIPR | TACOM-ARDEC, Firing Tables Branch | 0 | 400 | 2Q | 420 | 1Q | 441 | 1Q | 579 | 1840 | 0 |
| i . SS-SFM Test Projectiles | C/FFP | TBD | 0 | 0 | | 8640 | 2Q | 0 | | 0 | 8640 | 0 |
| j . SS-SFM Qualification | SS/FFP | TBD | 0 | 0 | | 0 | | 11400 | | 15900 | 27300 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604814A - Sense and Destroy Armament Missile - Eng Dev**

PROJECT
**708**

| I. Product Development (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 88621 | 85934 | | 108543 | | 110804 | | 117602 | 511504 | 469612 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Program Management | In House | Excalibur PM, Picatinny Arsenal, NJ | 4369 | 3337 | 1-4Q | 3470 | 1-4Q | 3609 | 1-4Q | 6466 | 21251 | 0 |
| b . Government IPT Support - Excalibur XM982 | MIPR | TACOM-ARDEC, Picatinny Arsenal, NJ | 11013 | 3729 | 1-4Q | 3878 | 1-4Q | 4034 | 1-4Q | 6921 | 29575 | 0 |
| c . Government TCM Support | MIPR | TACOM-ARDEC, Picatinny Arsenal, NJ | 560 | 350 | 2Q | 0 | | 0 | | 0 | 910 | 0 |
| d . Goverment Support - Ft Sill | MIPR | Ft. Sill, OK | 554 | 650 | 2Q | 650 | 1Q | 700 | 1Q | 793 | 3347 | 0 |
| e . Paladin Platform Integration | MIPR | PM Paladin/TACOM - ARDEC, Picatinny Arsenal, NJ | 450 | 0 | | 0 | | 0 | | 0 | 450 | 0 |
| f . Modeling and Structural Development | MIPR | Army Research Labs, Adelphi, MD | 1401 | 850 | 2-3Q | 851 | 1-2Q | 852 | 1-2Q | 1103 | 5057 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604814A - Sense and Destroy Armament Missile - Eng Dev**

PROJECT
**708**

| II. Support Cost (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| g . Milestone Support | SS/FP | Camber, Alexandria, VA | 299 | 300 | 2Q | 425 | 2Q | 425 | 2Q | 567 | 2016 | 0 |
| h . Technical Spt Contract for Platform Integration | SS/FP | Camber, Dallas, TX | 179 | 120 | 2Q | 121 | 1-2Q | 122 | 1-2Q | 247 | 789 | 0 |
| i . Fire Control development support | PM EFCS / TSM AFATDS | Ft Monmouth, NJ/Ft Sill, OK | 0 | 320 | 2-3Q | 336 | 1-2Q | 353 | 1-2Q | 359 | 1368 | 0 |
| j . Miscellaneous Support | MIPR | VAR | 252 | 250 | 1-4Q | 320 | 1-4Q | 320 | 1-4Q | 370 | 1512 | 0 |
| k . Platform Integration Software Support | MIPR | Navy Surface Warfare Center, MD | 80 | 160 | 2-4Q | 160 | 1-4Q | 180 | 1-4Q | 180 | 760 | 0 |
| l . PM CAS SS-SFM | In-House | PM CAS, Picatinny Arsenal, NJ | 0 | 0 | | 500 | 1Q | 500 | 1Q | 500 | 1500 | 0 |
| m . Government IPT Support SS-SFM | MIPR | TACOM-ARDEC, Picatinny Arsenal, NJ | 0 | 0 | | 660 | 1Q | 2300 | 1Q | 1000 | 3960 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 19157 | 10066 | | 11371 | | 13395 | | 18506 | 72495 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604814A - Sense and Destroy Armament Missile - Eng Dev**

PROJECT
**708**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . ATEC Test Range | MIPR | YPG, Yuma, AZ | 4400 | 2460 | 2-4Q | 6754 | 1-4Q | 5200 | 1-4Q | 14513 | 33327 | 0 |
| b . Test Instrumentation and Analysis | MIPR | Army Research Labs, Adelphi, MD | 540 | 950 | 2-4Q | 905 | 1-4Q | 485 | 1-4Q | 900 | 3780 | 0 |
| c . Telemetry Support | SS/FF | Physical Science Laboratories (PSL), Las Cruces, NM | 676 | 640 | 2Q | 950 | 1Q | 640 | 1Q | 900 | 3806 | 0 |
| d . Telemetry Support | MIPR | TACOM-ARDEC, Picatinny Arsenal, NJ | 1386 | 1140 | 2Q | 4003 | 1Q | 2367 | 1Q | 2643 | 11539 | 0 |
| e . Telemetry Cryptographic Support | MIPR | Ft. Huachuca, AZ | 78 | 0 | | 0 | | 0 | | 0 | 78 | 0 |
| f . Tri-Service Software Assessment | MIPR | OSD, Wash, DC | 61 | 0 | | 0 | | 0 | | 0 | 61 | 0 |
| g . Operational Test Support | MIPR | ATEC, Alexandria, VA | 0 | 68 | 2Q | 68 | 2Q | 68 | 2Q | 950 | 1154 | 0 |
| h . Target Replacement Definition, Maintenance and Repair and Threat Assessment | MIPR | Various | 100 | 100 | 2-4Q | 100 | 1-2Q | 100 | 1-2Q | 300 | 700 | 0 |
| i . ARDEC Testing | MIPR | ARDEC, Picatinny Arsenal, NJ | 475 | 180 | 2-4Q | 300 | 1-4Q | 300 | 1-4Q | 600 | 1855 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604814A - Sense and Destroy Armament Missile - Eng Dev**

PROJECT
**708**

| III. Test and Evaluation (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| j . Test Gun Equipment | MIPR | Watervliet Arsenal, MA | 2050 | 650 | 2-4Q | 1000 | 1-2Q | 1000 | 1-2Q | 1150 | 5850 | 0 |
| k . Target Replacement Definition, Maintenance and Repair-SS-SFM | MIPR | TBD | 0 | 0 | | 0 | | 2300 | 1Q | 2300 | 4600 | 0 |
| l . Test Ranges and Support-SS-SFM | MIPR | TBD | 0 | 0 | | 0 | | 4000 | 1-4Q | 4000 | 8000 | 0 |
| m . Live Fire and Lethal Mechanism Test Support-SS-SFM | MIPR | TBD | 0 | 0 | | 0 | | 2700 | 2Q | 0 | 2700 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 9766 | 6188 | | 14080 | | 19160 | | 28256 | 77450 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604814A - Sense and Destroy Armament Missile - Eng Dev**

PROJECT
**708**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| Remarks: Not Applicable | | | | | | | | | | | | |
| Project Total Cost: | | | 117544 | 102188 | | 133994 | | 143359 | | 164364 | 661449 | 469612 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604814A - Sense and Destroy Armament Missile - Eng Dev**

PROJECT
**708**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| TCM Merger Decision | 1Q | | | | | | | |
| Warhead Contractor Development Test Firing | 1-4Q | 1-4Q | 1-4Q | 1-3Q | | | | |
| Guidance Soft Recovery Testing/Sys. Reliability Growth | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-3Q | | |
| Program Review with AAE | 4Q | | | | | | | |
| Contract Definitization for Merger of TCM and Excalibur | | 1Q | | | | | | |
| Tactical Guidance System Testing - Open Loop | | | 2Q | | | | | |
| Extended Range Demonstration | | | | 2Q | | | | |
| Initial Full System Test Firing | | | | 2Q | | | | |
| Pre-Qualification Testing (PQT) | | | | | 1Q | | | |
| System Critical Design Review (CDR) -1 | | | 4Q | | | | | |
| System Final CDR -2 | | | | | 1Q | | | |
| Inductive Fuze Setter Preliminary Design Review (PDR) | | | 1Q | | | | | |
| Inductive Fuze Setter CDR | | | | 2Q | | | | |
| Start Developmental Technical (DT) Test, Evaluation & Qualification | | | | | 1Q | | | |
| Milestone C | | | | | 2-3Q | | | |
| Award LRIP I Contract | | | | | 3Q | | | |
| Complete Developmental Technical Test and Evaluation | | | | | | 3Q | | |
| Award LRIP II Contract | | | | | | 2Q | | |
| First Article Test | | | | | | 4Q | | |
| System IOT&E | | | | | | | 1Q | |
| Award LRIP III Contract | | | | | | | 2Q | |
| Full Rate Production Interim Progress Review (IPR) | | | | | | | 4Q | |
| System IOC | | | | | | | 4Q | |
| Initiate Study for Block 2 - Smart Munition | | | | | | 1Q | | |
| Conduct IPR for Block 2 - Smart Munition | | | | | | | 1Q | |
| Award SDD Contract for Block 2 - Smart Munition | | | | | | | 2Q | |
| Conduct Systems Rqmts Review Block 2 - Smart Munition | | | | | | | | 2Q |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604814A - Sense and Destroy Armament Missile - Eng Dev** | **709** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 709 | ADVANCED FIELD ARTILLERY MUNITION | 0 | 0 | 0 | 10030 | 19609 | 29394 | 39251 | 73551 | 0 | 171835 |

**A. Mission Description and Budget Item Justification:** This project funds two programs, the Excalibur XM982 Discriminating Munition Projectile (Block III) and Technology Refresh for Excalibur Blocks I and II.

Advanced Field Artillery Munition (AFAM) funds the development of a Discriminating Munition that will seek, detect, discriminate and engage specified target(s) located in complex and urban terrain and is part of the Excalibur family of munitions (Block III). It will be compatible with the Future Combat System-Cannon (FCS-C). This system supports the Transformation Campaign Plan (TCP).

Funding also provides for technology updates (technology refresh) of electronics in Excalibur Blocks I and II. Planned technology updates include interoperability with the next generation GPS system, insertion of future planned lower unit cost components (such as the DoD Common Guidance / Common Sensor Inertial Measurement Unit), avoidance of parts obsolescence, and maintaining technology relevance against future threats.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Conduct concept analysis to establish preliminary Discriminating requirements. | 0 | 0 | 0 | 2360 |
| Procures 40 test articles to support modeling efforts, and to demonstrate technology gun hardening | 0 | 0 | 0 | 3600 |
| Conduct development efforts to insert technology updates into the Excalibur munition. | 0 | 0 | 0 | 4070 |
| Totals | 0 | 0 | 0 | 10030 |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604814A - Sense and Destroy Armament Missile - Eng Dev** | **709** |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| XM982 Projectile (Excaibur) 604814A D708 | 59329 | 102188 | 133994 | 143359 | 142300 | 144051 | 183807 | 191407 | Continuing | Continuing |
| PAA: Proj 155mm Extended Range XM982-U Excalibur (E80103) | 0 | 0 | 0 | 0 | 21544 | 28172 | 61909 | 129720 | Continuing | Continuing |
| OPA2: Enhanced Portable Inductive Fuze Setter (E-PIAFS) (AD3260) | 0 | 0 | 0 | 0 | 0 | 0 | 5898 | 11726 | 0 | 17624 |

**C. Acquisition Strategy:** The Acquisition Strategy for the Advanced Field Artillery Munition is covered in the Excalibur Acquisition Strategy. This effort addresses the development of the Excalibur Block III - Discriminating as well as technology refresh of key components and subsystems for Excalibur Blocks I and II.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604814A - Sense and Destroy Armament Missile - Eng Dev**

PROJECT
**709**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Technology Refresh | SS/CPAF | Raytheon Missile Systems, Tucson, AZ | 0 | 0 | | 0 | | 6190 | 2Q | Continue | 6190 | 0 |
| b . Discrinating Munitions Concept Study | TBD | TBD | 0 | 0 | | 0 | | 1800 | 2Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 7990 | | Continue | Continue | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Program Management | In House | PM Excalibur, Picatinny Arsenal, NJ | 0 | 0 | | 0 | | 280 | 1Q | Continue | Continue | 0 |
| b . Government IPT Support | MIPR | TACOM-ARDEC, Picatinny Arsenal, NJ | 0 | 0 | | 0 | | 1160 | 1-4Q | Continue | Continue | 0 |
| c . Analysis Support | MIPR | Ft Sill, OK | 0 | 0 | | 0 | | 280 | 1Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 1720 | | Continue | Continue | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604814A - Sense and Destroy Armament Missile - Eng Dev**

PROJECT
**709**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . TECOM Testing | MIPR | YPG, Yuma, AZ | 0 | 0 | | 0 | | 320 | 3Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 320 | | Continue | Continue | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 0 | 0 | | 0 | | 10030 | | Continue | Continue | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604814A - Sense and Destroy Armament Missile - Eng Dev**

PROJECT
**709**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Iniate RFP for Phase I Discriminating Concept Studies | | | | 1Q | | | | |
| Award Phase I Discriminating Concept Studies Contract | | | | 2-3Q | | | | |
| Phase I Discriminating Study Outbrief | | | | | 2Q | | | |
| Award Phase 2 of Discriminating Concept Studies Contract | | | | | | 1Q | | |
| Phase 2 Discriminating Study Outbrief | | | | | | | 1Q | |
| Initiate RFP for Discriminating Munition SDD contract | | | | | | | | 1Q |
| Award Discriminating Munition SDD contract | | | | | | | | 3Q |
| Initiate Technology Refresh Study Group | | | | 1Q | | | | |
| Award Technology Refresh Contract | | | | 3Q | | | | |
| Conduct testing with new hardware - Technology Refresh | | | | | 2-4Q | 1-4Q | | |
| Engineering Change Proposal for Excalibur LRIP contract - Technology Refresh | | | | | | | 2Q | |

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

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604817A - Combat Identification**

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Program Element (PE) Cost | | 2892 | 4985 | 3541 | 0 | 0 | 0 | 0 | 0 | 0 | 136754 |
| 482 | GROUND CID (BCIS) | 0 | 0 | 3541 | 0 | 0 | 0 | 0 | 0 | 0 | 126010 |
| 902 | INDIVIDUAL COMBAT IDENTIFICATION SYSTEM (ICIDS) | 2892 | 4985 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10744 |

**A. Mission Description and Budget Item Justification:** Survivability is one of the seven tenets of the Army Transformation Strategy and combat identification technologies represent an integral part of that strategy as they work to reduce incidents of fratricide. A key survivability enabler is the rapid, reliable identification of friends, foes, and neutrals. Project 482 supports the transition of combat identification technology to the Objective Force with potential application as an embedded solution to the Future Combat System. Project 482 also supports the Combat Identification International Program to develop the North Atlantic Treaty Organization (NATO) interoperable combat identification technology as directed by the Senior National Representatives (Army). Project 902 addresses the individual soldier-to-soldier combat identification mission. Both project lines provide a critical link to ensuring compatibility and interoperability to the Future Combat System and to the Objective Warrior System.

This system supports the Objective transformation path of the transformation campaign plan (TCP).

FY04 funds support the transition of Combat Identification programs to Future Combat System (FCS).

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE |
|---|---|
| **5 - System Development and Demonstration** | **0604817A - Combat Identification** |

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 2989 | 1995 | 0 | 0 |
| Current Budget (FY 2004/2005 PB) | 2892 | 4985 | 3541 | 0 |
| Total Adjustments | -97 | 2990 | 3541 | 0 |
| Congressional program reductions | | | | |
| Congressional rescissions | -14 | -57 | | |
| Congressional increases | | 3220 | | |
| Reprogrammings | | -29 | | |
| SBIR/STTR Transfer | -83 | -144 | | |
| Adjustments to Budget Years | | | 3541 | |

Change Summary Explanation:
FY04 - The $3.0 million increase is for the transition of Combat Identification technology to the Future Combat System (FCS) and Objective Force. The $.541M increase is for the Combat Identification International Program.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604817A - Combat Identification** | **482** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 482 GROUND CID (BCIS) | 0 | 0 | 3541 | 0 | 0 | 0 | 0 | 0 | 0 | 126010 |

**A. Mission Description and Budget Item Justification:** Ground Combat Identification (CID) is intended to minimize fratricide while maximizing combat effectiveness given rapidly changing and intense tactical situations.

FY04 funding supports the transition of Combat Identification technology to the Objective Force (OF) with potential application as an embedded solution into the Future Combat System (FCS). FY04 funding also supports the Combat Identification International Program to develop the NATO interoperable combat identification technology as directed by the Senior National Representatives (Army).

| Accomplishments/Planned Program | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Design and Develop potential Embedded Ground-to-Ground CID Solution | 0 | 0 | 1750 | 0 |
| Design and Develop potential Air-to-Ground CID Solution | 0 | 0 | 1250 | 0 |
| Combat Identification International Efforts to Develop the NATO interoperable combat identification technology | 0 | 0 | 541 | 0 |
| Totals | 0 | 0 | 3541 | 0 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| OPA2, SSN BA0510, Combat Identification Program | 5556 | 982 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6538 |

**C. Acquisition Strategy:** FY04 dollars will fund the FCS Integrated Support Team (FIST) study and analysis of the FCS Combat ID architecture for Block II and beyond. The performing activities to execute this effort are yet to be determined.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604817A - Combat Identification**

PROJECT
**482**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . B-Kit Development | C/CPAF | TRW, CA | 69765 | 0 | | 0 | | 0 | | 0 | 69765 | 69765 |
| b . A-Kit Development (Abrams) | CPFF | GDLS, MI | 10909 | 0 | | 0 | | 0 | | 0 | 10909 | 10909 |
| c . A- Kit Development (Bradley) | CPFF | UDLP, CA | 3364 | 0 | | 0 | | 0 | | 0 | 3364 | 3364 |
| d . A-Kit Development (Various) | Misc. | E&S, TRW, UDLP, AM General, Raytheon. | 5836 | 0 | | 0 | | 0 | | 0 | 5836 | 0 |
| e . Ground-to-Ground Solution Efforts | TBD | TBD | 0 | 0 | | 1295 | 1Q | 0 | | 0 | 1295 | 0 |
| f . Air-to-Ground Solution Efforts | TBD | TBD | 0 | 0 | | 1250 | 1Q | 0 | | 0 | 1250 | 0 |
| g . Combat Identification International Efforts | TBD | TBD | 0 | 0 | | 541 | 1Q | 0 | | 0 | 541 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 89874 | 0 | | 3086 | | 0 | | 0 | 92960 | 84038 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604817A - Combat Identification**

PROJECT
**482**

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Matrix Support | MIPR | CECOM, Fort Monmouth NJ | 8240 | 0 | | 145 | 1Q | 0 | | 0 | 8385 | 0 |
| b . System Eng/Tech Assistance | T&M/MIPR | Sytex Group, Eatontown NJ | 7057 | 0 | | 175 | 1Q | 0 | | 0 | 7232 | 0 |
| c . Test Planning | MIPR | CECOM, Fort Monmouth NJ | 437 | 0 | | 0 | | 0 | | 0 | 437 | 0 |
| d . Techinal Support | MIPR | Sandia National Laboratories/IDA | 570 | 0 | | 0 | | 0 | | 0 | 570 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 16304 | 0 | | 320 | | 0 | | 0 | 16624 | 0 |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Technical Test, Log Demo, SCD, IOTE | MIPR | TECOM, YPG, AZ | 3513 | 0 | | 0 | | 0 | | 0 | 3513 | 0 |
| b . Limited User Test | MIPR | TEXCOM | 673 | 0 | | 0 | | 0 | | 0 | 673 | 0 |
| c . ASCIET | MIPR | Misc. | 6651 | 0 | | 0 | | 0 | | 0 | 6651 | 0 |
| | | | | | | | | | | | | |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604817A - Combat Identification**

PROJECT
**482**

| III. Test and Evaluation (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Subtotal: | | | 10837 | 0 | | 0 | | 0 | | 0 | 10837 | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Program Management | In house support | PM NavSys/TIMS | 5454 | 0 | | 135 | 1-4Q | 0 | | 0 | 5589 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 5454 | 0 | | 135 | | 0 | | 0 | 5589 | 0 |
| Project Total Cost: | | | 122469 | 0 | | 3541 | | 0 | | 0 | 126010 | 84038 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604817A - Combat Identification**

PROJECT
**482**

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Milestone B for FCS | | 3Q | | | | | | |
| Design and Develop potential Embedded CID Ground-to-Ground Solution | | | 1-4Q | | | | | |
| Design and Develop potential CID Air-to-Ground Solution | | | 1-4Q | | | | | |
| Transition potential solutions to FCS/OF programs | | | 4Q | | | | | |
| Execute Combat Identification International program efforts | | | 1-4Q | | | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604817A - Combat Identification** | **902** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 902 | INDIVIDUAL COMBAT IDENTIFICATION SYSTEM (ICIDS) | 2892 | 4985 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10744 |

**A. Mission Description and Budget Item Justification:** The identification of friendly forces on future battlefields will be more complex due to the highly mobile, dispersed, non-linear formations found in unconventional warfare. The Individual Combat Identification System (ICIDS) program was terminated by the Army. The decision to cancel the Individual-Combat Identification System (I-CIDS) program in FY 02 was precipitated by the need to fund other high priority programs supporting Army Transformation. The Army recognizes the need to protect soldiers on the battlefield and has already transferred the funding and technology from the ICIDS program to the Land Warrior program in order to integrate this capability into the Land Warrior System. The ICIDS Milestone Decision Authority and Program Executive Office Soldier approved a transition plan detailing the transfer of technology and PM Land Warrior is using these funds to integrate this capability and the technologies into the Land Warrior System. The existing program was restructured to produce ICIDS/Land Warrior compatible equipment, with technology to support the Objective Force. The system will fulfill requirements in the Operational Requirements Document (ORD) for use by Army, Marine and Special Operations Forces. The Integrated Battlefield Combat Identification Situation Awareness System (IBCSAS) is an alternative technology approach to providing soldier to soldier combat identification functionality into the Land Warrior System. The contractor will provide a full scale system demonstration 16 months after contract award. This would allow this technology to be evaluated for potential integration into LW-SI. The system consists of 3 components:
1) Man worn combat ID system - IR Laser interrogation, RF response which meets or exceeds CIDDS ORD requirements; 2) Communications and remote situation awareness device - Radio that provides C2 and SA, (moving map display, GPS, and links to man worn CID system, aircraft SA systems and ground vehicle SA systems; 3) Airborne UAV for surveillance that provides comms networking capability and allows SA link to other vehicles. Survivability is one of the seven tenets of the Army Transformation Strategy and ICIDS represents an integral part of that strategy as it works to reduce incidents of fratricide and increase combat effectiveness. This system provides a critical link to ensuring compatibility and interoperability to the Objective Warrior System.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Conducted Land Warrior Interoperability Study. Procured nine Land Warrior - Initial Capability (LW-IC) systems with integrated ICIDS capability for a feasibility demonstration. | 2892 | 0 | 0 | 0 |
| Post demonstration fixes to design to reduce weight and optimize integration of combat identification capabilities into LW-Stryker Integration (LW-SI) system development. | 0 | 1765 | 0 | 0 |
| Alternative technology approach to providing soldier to soldier combat identification functionality into the LW-SI system. | 0 | 3220 | 0 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Totals | 2892 | 4985 | 0 | 0 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| OPA2, SSN BA0515 Combat ID/Aiming Light | 9964 | 6811 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16775 |
| RDTE, 604713A, D667 Land Warrior | 59262 | 57633 | 49163 | 48293 | 40890 | 69983 | 79821 | 87784 | Continuing | Continuing |
| RDTE, 0603001, DJ50, Future Warrior Technology | 34709 | 38468 | 52026 | 57429 | 63480 | 48540 | 75981 | 76395 | Continuing | Continuing |
| OPA3, M80500, Land Warrior | 0 | 0 | 94827 | 112159 | 136710 | 182468 | 106664 | 125526 | Continuing | Continuing |
| OPA4, MS3610, Land Warrior Initial Spares | 0 | 0 | 672 | 741 | 853 | 969 | 490 | 128 | 398 | 4251 |

**C. Acquisition Strategy:** A competitive, cost plus incentive fee (CPIF) contract for the design, fabrication and testing of 50 units was awarded in July 1997. A follow-on Fixed Price (FP), sole source, Low Rate Initial Production (LRIP) contract based on demonstrated technical test results, was awarded in September 2001 for 80 systems to provide an orderly ramp up to production. This program was restructured to produce ICIDS/Land Warrior (LW) interoperable systems. An ECP to the basic design will be awarded to meet LW initial capability (LW-IC) that will be proved out with a feasibility demonstration scheduled for 2Q03. Post demonstration fixes will be made with the LW contractor that will provide 9 LW/ICIDS systems that will reduce weight and optimize integration of combat identification capabilities into the LW-Stryker Integration (LW-SI) system production. The system will also have a migration path for interoperability and commonality with the combat identification functions to be embedded in the Land Warrior equipment suite. The Integrated Battlefield Combat Identification Situation Awareness System (IBCSAS) is an alternative technology approach to providing soldier to soldier combat identification functionality into the Land Warrior System. The contractor will provide a full scale system demonstration 16 months after contract award. This would allow this technology to be evaluated for potential integration into LW-SI.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604817A - Combat Identification**

PROJECT
**902**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Hardware | C/CPIF | General Dynamics, Scottsdale, AZ | 24822 | 0 | | 0 | | 0 | | 0 | 24822 | 24822 |
| b . Land Warrior Interoperability Effort | FFP | LW V1.0 Consortium, Vienna, VA | 2553 | 750 | 2Q | 0 | | 0 | | 0 | 3303 | 3304 |
| c . Integrated Battlefield Combat Situational Awareness System | C/CPIF | Boeing, St. Louis, MO | 0 | 3220 | 3Q | 0 | | 0 | | 0 | 3220 | 3220 |
| | | | | | | | | | | | | |
| Subtotal: | | | 27375 | 3970 | | 0 | | 0 | | 0 | 31345 | 31346 |

Remarks: General Dynamics purchased Motorola's Integrated Information Systems Group in 2001.

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Sys Eng/Tech Assist | C/T&M | Various | 651 | 220 | 3Q | 0 | | 0 | | 0 | 871 | 871 |
| b . Matrix Support | MIPR | Various | 921 | 565 | 1Q | 0 | | 0 | | 0 | 1486 | 1509 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1572 | 785 | | 0 | | 0 | | 0 | 2357 | 2380 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604817A - Combat Identification**

PROJECT
**902**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Test Planning/Execution | MIPR | CECOM, ATEC, WSMR, SLAD | 1134 | 0 | | 0 | | 0 | | 0 | 1134 | 1134 |
| b . Development Test, Phase I, II | MIPR | WSMR, OTC, ATEC | 679 | 0 | | 0 | | 0 | | 0 | 679 | 679 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1813 | 0 | | 0 | | 0 | | 0 | 1813 | 1813 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Program Management | MIPR/In-house | PM Combat ID, Fort Monmouth, NJ | 1191 | 0 | | 0 | | 0 | | 0 | 1191 | 1191 |
| b . Program Management | MIPR/In-house | PM Soldier Warrior, Fort Belvoir, VA | 0 | 230 | 1Q | 0 | | 0 | | 0 | 230 | 450 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1191 | 230 | | 0 | | 0 | | 0 | 1421 | 1641 |
| Project Total Cost: | | | 31951 | 4985 | | 0 | | 0 | | 0 | 36936 | 37180 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604817A - Combat Identification** | **902** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Feasibility demonstration | | 2Q | | | | | | |
| Final delivery for prove out demonstration | | 4Q | | | | | | |
| Deliver 9 interoperable systems | | 4Q | | | | | | |
| LW-SI w/ICIDS integration testing | | | 1-4Q | | | | | |
| Conduct LW-SI w/ ICIDS integration IOTE | | | | 1-2Q | | | | |

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

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604818A - Army Tactical Command & Control Hardware & Softwar**

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Program Element (PE) Cost | | 59276 | 96326 | 98129 | 86950 | 147310 | 158512 | 127558 | 96583 | Continuing | Continuing |
| 323 | COMMON HARDWARE SYSTEMS | 16533 | 18438 | 6520 | 6406 | 6575 | 6848 | 7146 | 7429 | 0 | 87930 |
| 334 | COMMON SOFTWARE | 8111 | 14207 | 25801 | 28405 | 30585 | 26361 | 22079 | 24582 | Continuing | Continuing |
| C12 | STANDARD INTEGRATED COMMAND POSTS (SICPS) | 0 | 2394 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2394 |
| C29 | CENTRALIZED TECHNICAL SUPPORT FACILITY (CTSF) | 0 | 11062 | 11693 | 11976 | 12236 | 12522 | 12943 | 13317 | 0 | 85749 |
| C34 | ARMY TAC C2 SYS ENG | 26973 | 12937 | 28507 | 28460 | 89172 | 103777 | 85390 | 51255 | 0 | 442059 |
| C39 | TACTICAL OPERATIONS CENTERS (TOCS) | 7659 | 5033 | 2457 | 5678 | 4289 | 4371 | 0 | 0 | 0 | 35281 |
| C3A | ARMY AIRBORNE COMMAND & CONTROL SYS (A2C2S) | 0 | 32255 | 23151 | 6025 | 4453 | 4633 | 0 | 0 | 0 | 70517 |

**A. Mission Description and Budget Item Justification:** The umbrella program to exploit automation technology for the conduct of combat operations is the Army Tactical Command and Control System (ATCCS) program which is a component of the Army Battle Command System (ABCS). The ATCCS program provides automation in the five battlefield functional areas (BFAs) with the following specific systems: (1) Maneuver Control System (MCS); (2) Effects and Fires Command and Control Systems (EFCCS); (3) All Source Analysis System (ASAS) for Intelligence/Electronic Warfare; (4) Forward Area Air Defense Command, Control and Intelligence System (FAADC2I); and (5) Combat Service Support Control System (CSSCS). To provide an overall technically sound, cost effective, and operationally responsive approach, the design and development of ATCCS must be accomplished on a total systems basis. The ATCCS Engineering Program, more commonly known as Systems Engineering and Integration (SE&I), provides the required overall systems engineering to assure integrated Army tactical command and control and the utilization of common hardware and software throughout the five ATCCS nodal systems. This program element also includes the Central Technical Support Facility (CTSF) which provides a single technical "center of mass" for software checkout and physical system integration. The Common Hardware and Software projects provide common products to customers to meet their developmental and fielding needs. The Tactical Operations Centers (TOCs) project designs and develops the TOCs that form the structural backbone of the Army's digitized fielding concept. Starting in FY04 this program includes funding for the SICPS program which was previously funded in project C12 in FY03. The Army Airborne Command & Control (A2C2S) provides the avionics system required to horizontally and vertically integrate the battlefield. These systems support the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 57216 | 80672 | 57291 | 66271 |
| Current Budget (FY 2004/2005 PB) | 59276 | 96326 | 98129 | 86950 |
| Total Adjustments | 2060 | 15654 | 40838 | 20679 |
| Congressional program reductions | | | | |
| Congressional rescissions | | -1402 | | |
| Congressional increases | | 20338 | | |
| Reprogrammings | 3601 | -554 | | |
| SBIR/STTR Transfer | -1541 | -2728 | | |
| Adjustments to Budget Years | | | 40838 | 20679 |

FY03: + $17.738M increase to A2C2S project C3A for realigment from Aircraft Procurement, Army
+ 5.600 increase to Common Software project 323 for 3D and Survivability carrier
- $3.0M for CHS, project 334 to reduce programmed growth.

FY04 delta between FY 2004 BES/President's Budget and FY 2003 President's Budget is due primarily to zero sum of $14.994M from various PM lines to PEO Project C34 for ABCS efforts; increase to Common Software Project 334 of $16.266M for Mission efforts and ABCS Generalists efforts; increase to A2C2S Project C3A of $16.606M for Developmental costs and decrease to Common Hardware Systems Project 323 of -$5.074M and inflation adjustment of $1.954M.

FY05 delta between FY 2004 BES/President's Budget and FY 2003 President's Budget is due primarily to zero sum of $14.995M from various PM lines to PEO Project C34 for ABCS efforts; increase to Common Software Project 334 of of $12.027M for Mission and ABCS Generalists efforts and decrease to Common Hardware Systems Project 323 of -$4.524M and inflation adjustment of $1.819M.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604818A - Army Tactical Command & Control Hardware & Softwar** | **323** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 323 COMMON HARDWARE SYSTEMS | 16533 | 18438 | 6520 | 6406 | 6575 | 6848 | 7146 | 7429 | 0 | 87930 |

**A. Mission Description and Budget Item Justification:** Project D323 Common Hardware Systems (CHS): CHS is the program through which the Army builds its integrated efforts for tying together the Army Battle Command Systems (ABCS). The project provides a vehicle (contract) through which customers can acquire state-of-the-art common hardware/system operating software and associated peripherals to meet developmental and fielding needs. The CHS program is instrumental in digitizing the battlefield. This program supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Continue management of the acquisition and delivery of CHS-2 equipment in support of customer requirements | 4495 | 3477 | 5212 | 5036 |
| Initiate follow-on contract requirements effort (CHS-3) | 3063 | 1513 | 0 | 0 |
| Continue supporting customers testing efforts with CHS equipment | 343 | 300 | 300 | 300 |
| ABCS System Engineering and Integration efforts | 617 | 648 | 0 | 0 |
| CHS-3 Non-Recurring Engineering | 0 | 12000 | 0 | 0 |
| Continued integration of the Army's Advanced Warfare Environment's commercial technology solution and architecture into the Army's legacy and emerging command and control systems | 6311 | 0 | 0 | 0 |
| Continue CHS technology insertion | 1704 | 500 | 1008 | 1070 |
| Totals | 16533 | 18438 | 6520 | 6406 |

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

**C. Acquisition Strategy:** The overall goal is to improve interoperability and lower life cycle costs by standardizing Battlefield Command and Control (C2) automation through centralized buys of non-developmental items (NDI).

The NDI hardware versions available to meet specific needs of each Battlefield Functional Area (BFA) are: unix servers, workstations and notebook computers, handheld computers, lightweight portable computers and personal digital assistant (PDA) size computers.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604818A - Army Tactical Command & Control Hardware & Softwar**

PROJECT
**323**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Contractor TBD/CHS-3 Non-Recurring Engineering | FFP/IDIQ | TBD | 0 | 12000 | 3Q | 0 | | 0 | | 12000 | 12000 | 0 |
| b . Technical Insertion | Various | Various | 10269 | 500 | 1-3Q | 1008 | 1-3Q | 1070 | 1-3Q | Continue | Continue | 0 |
| c . CSC Hi-Tech Software Contract | C/T&M and MIPR | Fort Monmouth, NJ | 7654 | 0 | | 0 | | 0 | | 7654 | 7654 | 0 |
| d . MITRE/CECOM Systems Engineering Support | MIPR | Fort Monmouth, NJ | 10833 | 982 | 1Q | 1121 | 1Q | 1177 | 1Q | Continue | Continue | 0 |
| e . Concurrent Technology Corporation, 3-D Display Technology | OTA | Pennsylvania | 15811 | 0 | | 0 | | 0 | | 0 | 15811 | 0 |
| f . ABCS System Engineering and Integration | MIPR | Fort Monmouth, NJ | 1064 | 648 | 1Q | 0 | | 0 | | 0 | 1712 | 0 |
| g . CECOM Matrix: CHS Integrated Product Team-Testing/Logistics/Safety/Technical Writing support and fol | MIPR | Fort Monmouth, NJ | 22260 | 2082 | 1-2Q | 1477 | 1-2Q | 1527 | 1-2Q | Continue | Continue | 0 |
| h . Govt support - Engineering/Logistics/CHS-2 ordering and CHS-3 efforts | MIPR | Fort Monmouth, NJ/Huntsville, AL | 44410 | 1926 | 1-3Q | 2614 | 1-3Q | 2332 | 1-3Q | Continue | Continue | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604818A - Army Tactical Command & Control Hardware & Softwar**

PROJECT
**323**

| I. Product Development (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 112301 | 18138 | | 6220 | | 6106 | | Continue | Continue | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Not applicable | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . CHS Test Activities | MIPR | Other Government Activities | 300 | 300 | 3-4Q | 300 | 3-4Q | 300 | | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 300 | 300 | | 300 | | 300 | | Continue | Continue | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604818A - Army Tactical Command & Control Hardware & Softwar**

PROJECT
**323**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Project Total Cost: | | | 112601 | 18438 | | 6520 | | 6406 | | Continue | Continue | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604818A - Army Tactical Command & Control Hardware & Softwar** | **323** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| CHS Technology Insertion (continuous) | 1-4Q | 1-3Q | 1-3Q | 1-3Q | 1-3Q | 1-3Q | 1-3Q | 1-3Q |
| Initiate follow-on contract requirements effort (CHS-3) | 1Q | | | | | | | |
| CHS-3 Request for Proposal | | 2Q | | | | | | |
| CHS-3 contract award | | 3Q | | | | | | |
| Delivery of CHS-3 V1 software integration hardware | | | 2Q | | | | | |
| Delivery of CHS-3 V2 software integration hardware | | | | 2Q | | | | |
| CHS-2 contract expires | | | | 3Q | | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604818A - Army Tactical Command & Control Hardware & Softwar** | **334** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 334 COMMON SOFTWARE | 8111 | 14207 | 25801 | 28405 | 30585 | 26361 | 22079 | 24582 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** Project D334 Common Software (CS): Common Software is the program through which the Army procures, develops, integrates and tests common software products and/or modules and/or components for both the Army and Joint Services through the Defense Information Infrastructure Common Operating Environment (DII COE). The CS project provides state-of-the-art software technologies and functionality that is used by numerous Army systems thereby eliminating the need for similar independent development and duplication of effort. The CS program is a cornerstone in the Army's digitization efforts that includes work covering web based management tools under the Information Dissemination Management-Tactical (IDM-T) system. This system supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Continue the development, acquisition management and delivery of CS and Commercial-Off-The-Shelf (COTS) products in support of Army and Joint Service customer requirements. Continue to achieve enhanced levels of interoperability by defining, testing and implementing software techologies that are provided to the warfighter. CS products will bridge legacy to objective force technologies in support of the Future Combat System (FCS) and the Army's way ahead. | 729 | 870 | 7813 | 9467 |
| Continue: execution of the Common Software technology and reuse program; supporting customer integration and testing; the exploration and evaluation of new software technologies in support of the overall CS program; and developing, upgrading and delivery of DII COE products into Army and Joint Service systems. The CS products released to the Army and Joint Programs are also used in support of the US/Allied coalition efforts. | 3828 | 3484 | 13572 | 14523 |
| Information Dissemination Management - Tactical (IDM-T) effort. The IDM-T is one of the CS products that provides the Army's input into the Global Information Grid (GIG). This product is GIG compliant. The IDM-T will provide information management and transport services of critical situational awareness data for commanders and their staff. | 3554 | 4291 | 4416 | 4415 |
| ABCS System Engineering and Integration Efforts | 0 | 210 | 0 | 0 |
| Integrate the Army's Advanced Warfare Environment's commercial 3D display technology development to support command and control modernization initiatives. | 0 | 5352 | 0 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Totals | 8111 | 14207 | 25801 | 28405 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| Not applicable for this item. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**C. Acquisition Strategy:** The overall goal is to improve software development, integration and interoperability, and to lower life cycle costs by providing common software products to the Army, Joint Services, and Coalition efforts. The CS program is designed to increase both horizontal and vertical interoperability while reducing development, integration and testing resources. This strategy will be realized through defined Application Program Interfaces (APIs), standardized protocols, reusable software and standard commercial products. The CS program plans to partner with and provide products to the Future Combat System (FCS).

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604818A - Army Tactical Command & Control Hardware & Softwar**

PROJECT
**334**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Matrix Support of CS Lab, Data Access & JMTK | MIPR | CECOM, Fort Monmouth, NJ | 718 | 370 | 1-3Q | 389 | 1-3Q | 408 | 1-3Q | Continue | Continue | 0 |
| b . Engineering/Software Development | MIPR | Various GSA Contractors / Various Locations | 10530 | 7550 | 1-3Q | 22057 | 1-3Q | 24312 | 1-3Q | Continue | Continue | 0 |
| c . ABCS System Engineering & Integration | MIPR | PEO C3T, Fort Monmouth, NJ | 0 | 210 | 1Q | 0 | | 0 | | 0 | 210 | 0 |
| d . 3D Display Technology | OTA | Concurrent Technology Corporation, Johnstown, PA | 0 | 5352 | 3Q | 0 | | 0 | | 0 | 5352 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 11248 | 13482 | | 22446 | | 24720 | | Continue | Continue | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604818A - Army Tactical Command & Control Hardware & Softwar** | **334** |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Automation Support | GSA / MIPR | PKMM, Oceanport, NJ | 199 | 150 | 1-2Q | 150 | 1-2Q | 150 | 1-2Q | Continue | Continue | 0 |
| b . Acquisition Support | GSA/MIPR | To Be Selected | 0 | 0 | | 2600 | 1-2Q | 2900 | 1-2Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 199 | 150 | | 2750 | | 3050 | | Continue | Continue | 0 |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Not applicable | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

Remarks: DT is performed by development contractors and is covered under the Product Development section of this R-3. OT is funded by the applicable BFA application programs.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604818A - Army Tactical Command & Control Hardware & Softwar**

PROJECT
**334**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Program Office Management | In-House | Fort Monmouth, NJ | 1096 | 575 | 1-4Q | 605 | 1-4Q | 635 | 1-4Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1096 | 575 | | 605 | | 635 | | Continue | Continue | 0 |
| Project Total Cost: | | | 12543 | 14207 | | 25801 | | 28405 | | Continue | Continue | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604818A - Army Tactical Command & Control Hardware & Softwar** | **334** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Software development is continuous and performed in accordance with Army Software Blocking Policy. | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |

Note: DII COE software product deliveries are made every six (6) months.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604818A - Army Tactical Command & Control Hardware & Softwar** | **C12** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C12 | STANDARD INTEGRATED COMMAND POSTS (SICPS) | 0 | 2394 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2394 |

**A. Mission Description and Budget Item Justification:** The Standard Integrated Command Post System (SICPS) program currently procures five (5) post variants, each designed to accommodate the various Battlefield Functional Areas (BFAs) and Tactical Operations Centers (TOCs) of the Army Battle Command System (ABCs) and other customers. The ABCS customers include the Army Tactical Command and Control System (ATCCS) to include Maneuver Control System (MCS), Effects and Fire Command and Control Systems (EFCCS), the Combat Services Support Control System (CSSCS), the Forward Area Air Defense Command and Control System (FAADC2), the Air and Missile Defense Planning and Control Sysem (AMDPCS), the All Source Analysis System (ASAS), and the Integrated Meteorological System (IMETS). This also supports the First Digitized Corps (FDC), First Digitized Division (FDD), Second Digitized Division (SDD) and Transformation efforts. SICPS is essential to the Army's transformation efforts, providing mobile and environmentally protected platforms for the ABCS which is a major part of the Army Chief of Staff's effort to digitize the battlefield. The current five (5) command post variants are: SICPS Tent Command Post (CP), Rigid Wall Shelter (RWS) CP mounted on the High Mobility Multipurpose Wheeled Vehicle (HMMWV), Installation Kits for the 5-Ton Expansible Van (E-Van), M577 IK to make M1068 Track CP, and the Installation Kits for the Soft Top HMMWV. The RDT&E program enables the development of Large SICPS Tent, Large SICPS Shelter (LSS), and Modular Expandable Rigid Wall Shelter (MERWS). Additionally, this program develops and matures the enabling technologies required to meet the ABCS Capstone Requirements Document (CRD) and develops SICPS designs for FDC, FDD, SDD and the transformation force. The SICPS program and funding transfer to the TOCs program beginning in FY 04. This system supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Large SICPS Tent. Continue development of an alternate configuration of the SICPS Tent Command Post. This alternate design will include a larger base module than the current SICPS tent along with the required infrastructure to facilitate Tactical Operations Center (TOC) configurations. This Large SICPS Tent will be able to be complexed together by adjoining modules and will also have the capability to interface with existing SICPS. This effort was funded under PE 64804/429 in FY 2002 ($7728M). | 0 | 2394 | 0 | 0 |
| Totals | 0 | 2394 | 0 | 0 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| OPA 2, BZ9962 | 32744 | 28736 | 361 | 0 | 0 | 2524 | 1748 | 892 | 0 | 67005 |

**C. Acquisition Strategy:** Medium and Large SICPs tents will be developed and procured through full and open competition.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604818A - Army Tactical Command & Control Hardware & Softwar**

PROJECT
**C12**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Medium & Large SICPS Tents | TBD | TBD | 0 | 1986 | 3Q | 0 | | 0 | | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 1986 | | 0 | | 0 | | Continue | Continue | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Engineering Support | MIPR | Fort Monmouth, NJ | 0 | 408 | 2-3Q | 0 | | 0 | | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 408 | | 0 | | 0 | | Continue | Continue | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604818A - Army Tactical Command & Control Hardware & Softwar**

PROJECT
**C12**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Not applicable | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| Project Total Cost: | | | 0 | 2394 | | 0 | | 0 | | Continue | Continue | 0 |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604818A - Army Tactical Command & Control Hardware & Softwar** | **C29** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C29 | CENTRALIZED TECHNICAL SUPPORT FACILITY (CTSF) | 0 | 11062 | 11693 | 11976 | 12236 | 12522 | 12943 | 13317 | 0 | 85749 |

**A. Mission Description and Budget Item Justification:** Project DC29 - Centralized Technical Support Facility: The Central Technical Support Facility (CTSF) is located in Fort Hood, Texas. The CTSF provides a centralized on-the-ground capability to ensure interoperability among various digitized platforms and serves as the final integration and maturation facility for Common Operating Environment (COE). The CTSF is the Warfighters "Edge" that acts as an enabler for rapid integration of dissimilar software and hardware systems through real time, on-site integration of soldiers, contractors, testers, Program Managers and the requirements community. Also the CTSF provides a single technical "center of mass" for software checkout and system integration and provides a controlled environment with connectivity to other C4I systems either on-site or through the Army Interoperability Network (AIN) to support digital integration and fielding. This effort supports the Legacy to Objective transition path to the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Continue test planning/procedures/execution/reporting | 0 | 2102 | 2202 | 2304 |
| Continue software engineering. | 0 | 1907 | 2032 | 2086 |
| Provide infrastructure (Facilities, upgrades, additions). | 0 | 1400 | 1428 | 1440 |
| Continue field engineering. | 0 | 1237 | 1322 | 1354 |
| Continue management operations. | 0 | 1185 | 1310 | 1322 |
| Provide equipment for instrumentation, simulation/stimulation, software evaluation and development tools. | 0 | 725 | 900 | 910 |
| Continue configuration management. | 0 | 785 | 806 | 826 |
| Provide networks connections to include DISN, SIPRNET, NIPRNET, GUARDNET. | 0 | 300 | 308 | 315 |
| Provide logistics support. | 0 | 221 | 227 | 233 |
| Provide DA Mandated Intra-Army Digital Certification test and validation. | 0 | 1200 | 1158 | 1186 |
| Totals | 0 | 11062 | 11693 | 11976 |

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

**C. Acquisition Strategy:** This project provides the technical and programmatic disciplines required for systems engineering and integration, experimentation, acquisition management, testing, software development, interoperability, fielding and sustainment to ensure an interoperable and affordable ATCCS. The Program Executive Officer for Command, Control, Communications, Tactical (PEO C3T) has planned an evolutionary approach to fielding ATCCS as soon as possible.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604818A - Army Tactical Command & Control Hardware & Softwar**

PROJECT
**C29**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . MANTECH (Direct Labor) | C/CPFF | Fort Hood, TX | 0 | 2405 | 1Q | 2922 | 1Q | 2989 | 1Q | Continue | 8316 | Continue |
| b . COMPUTER SCIENCE CORP (System Engineering) | C/CPAF | Fort Hood, TX/Fort Monmouth, NJ | 0 | 1158 | 1Q | 1186 | 1Q | 1214 | 1Q | Continue | Continue | Continue |
| c . MITRE Corp (System Engineering) | C/CPFF | Fort Hood, TX/Eatontown, NJ | 0 | 1106 | 1Q | 1132 | 1Q | 1159 | 1Q | Continue | Continue | Continue |
| d . CAMBER (Config Mgt/) | C/CPAF | Fort Hood, TX | 0 | 600 | 1Q | 600 | 1Q | 600 | 1Q | Continue | Continue | Continue |
| e . TRW (Field Engineering) | C/CPIF | Fort Hood, TX | 0 | 965 | 1Q | 988 | 1Q | 1011 | 1Q | Continue | Continue | Continue |
| f . NICHOLS (Logistics Support) | C/CPAF | Fort Hood, TX | 0 | 754 | 1Q | 772 | 1Q | 790 | 1Q | Continue | Continue | Continue |
| g . ILEX (Field Engineering) | C/CPAF | Fort Hood, TX | 0 | 377 | 1Q | 386 | 1Q | 395 | 1Q | Continue | Continue | Continue |
| h . ROBBINS- GIOIA (Data Base Management) | C/CPAF | Fort Hood, TX/Fort Monmouth, NJ | 0 | 300 | 1Q | 307 | 1Q | 314 | 1Q | Continue | Continue | Continue |
| i . GTE | C/CPFF | Fort Hood, TX | 0 | 231 | 1-4Q | 237 | 1Q | 243 | 1Q | Continue | Continue | Continue |
| j . EWA | C/CPAF | Fort Hood, TX | 0 | 140 | 1-2Q | 143 | 1Q | 146 | 1Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 8036 | | 8673 | | 8861 | | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604818A - Army Tactical Command & Control Hardware & Softwar** | **C29** |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . CECOM Matrix | MIPRs | Fort Hood, TX/Fort Monmouth, NJ | 0 | 145 | 1Q | 0 | | 0 | | Continue | Continue | Continue |
| b . In-House Support | MIPRs | Fort Hood, TX | 0 | 123 | 1Q | 150 | 1Q | 159 | 1Q | Continue | Continue | Continue |
| c . Other Government Support | MIPRs | Fort Hood, TX | 0 | 33 | 1Q | 50 | 1Q | 55 | 1Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 301 | | 200 | | 214 | | Continue | Continue | Continue |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . ELECTRONIC PROVING GROUNDS (EPG) | MIPR | | 0 | 2300 | 1-4Q | 2370 | 1-2Q | 2426 | 1-2Q | Continue | Continue | Continue |
| b . CAMBER (Testing) | CPAF | Fort Hood, TX | 0 | 425 | 1Q | 450 | 1Q | 475 | 1Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 2725 | | 2820 | | 2901 | | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604818A - Army Tactical Command & Control Hardware & Softwar**

PROJECT
**C29**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Not applicable | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| Project Total Cost: | | | 0 | 11062 | | 11693 | | 11976 | | Continue | Continue | Continue |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604818A - Army Tactical Command & Control Hardware & Softwar**

PROJECT
**C29**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Army Battle Command System (ABCS) 6.3 Test/Fixes/Integration | 3Q | 1Q | | | | | | |
| Interoperability Certification Testing (Eagle / Common Ground Station (CGS) | | 1Q | | | | | | |
| Prairie Warrior 02 (ABCS 7.0) | | 2Q | | | | | | |
| ABCS 7.0 System of System (SoS) Integration | | 2Q | 3Q | | | | | |
| Roving Sands | | 3Q | | | | | | |
| III Corps UFL 03 | | 4Q | | | | | | |
| ABCS 7.0 Test Window | | | 2-4Q | | | | | |
| III Corps UFL 04 | | | 4Q | | | | | |
| I Corps Warfighter | | | | 1Q | | | | |
| Prairie Warrior 05 | | | | 3Q | | | | |
| III Corps Warfighter | | | | | 1Q | | | |
| Prairie Warrior | | | | | 3Q | 3Q | 3Q | 3Q |
| Ulchie Focus Lens (UFL) | | | | | 4Q | 4Q | 4Q | 4Q |
| Certification Software Blocking | | | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604818A - Army Tactical Command & Control Hardware & Softwar** | **C34** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| C34 ARMY TAC C2 SYS ENG | 26973 | 12937 | 28507 | 28460 | 89172 | 103777 | 85390 | 51255 | 0 | 442059 |

**A. Mission Description and Budget Item Justification:** Project DC34 - Army Tactical Command and Control Systems (ATCCS) Engineering which is also referred to as Systems Engineering and Integration (SE&I): The Air/Land Battle Doctrine requires military leaders to make sound and timely command and control decisions to direct the activities of assigned and supporting units. The umbrella program to exploit automation technology in support of this mission is the ATCCS or SE&I program. The effort to achieve horizontal integration of the ATCCS Battlefield Functional Areas (BFAs), although going on independently in each BFA, was not disciplined enough to address all connections and needs within the entire spectra of command, control and communications. Therefore, to ensure this horizontal integration effort is complete and fully automated, a significant management, systems engineering and integration effort is required. This effort supports the Army Battle Command Systems (ABCS) Version 7.0 and the Legacy to Objective transition path to the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Continue Army Battle Command System (ABCS) Integrated Logistics Support | 333 | 890 | 483 | 498 |
| Continue ABCS Testing and Evaluation of all Battlefield Functional Area (BFA) fielded software | 865 | 775 | 1210 | 1273 |
| Continue ABCS Fielding/Scheduling | 1702 | 1222 | 2412 | 2498 |
| Continue Digitized Divisions 2 thru N (DD2-N) / ABCS Integrated Training Support | 1500 | 1134 | 2177 | 2242 |
| Continue ABCS information engineering | 1926 | 1319 | 2947 | 3006 |
| Conduct and support system interoperability engineering | 638 | 637 | 907 | 925 |
| Continue exploring state of the art technology insertion in support of the ABCS program | 327 | 417 | 472 | 480 |
| Continue development and implementation of the ABCS information assurance | 809 | 569 | 1170 | 1205 |
| Continue ABCS System Engineering | 4153 | 2897 | 8464 | 8717 |
| Continue System of Systems Development | 5525 | 3077 | 8265 | 7616 |
| Central Technical Support Facility Technical Division (CTSF-TD) efforts to meet the Army's digital fielding requirements | 8000 | 0 | 0 | 0 |
| Continue System/Equipment Department fo the Army (DA) Mandated Interoperability Certification | 1195 | 0 | 0 | 0 |
| Totals | 26973 | 12937 | 28507 | 28460 |

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

**C. Acquisition Strategy:** This project provides the technical and programmatic disciplines required for systems engineering and integration, experimentation, acquisition management, testing, software development, interoperability, fielding and sustainment to ensure an interoperable and affordable Army Tactical Command and Control Systems (ATCCS). The Program Executive Officer for Command , Control, Communications, Tactical (PEO C3T) has planned an evolutionary approach to fielding ATCCS as soon as possible.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604818A - Army Tactical Command & Control Hardware & Softwar**

PROJECT
**C34**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . TRW | C/CPIF | Fort Monmouth, NJ/Fort Hood, TX | 5973 | 1000 | 2Q | 2490 | 1Q | 2565 | 1Q | Continue | Continue | Continue |
| b . CSC, NICHOLS | C/CPAF | Fort Monmouth, NJ/Fort Hood, TX | 22188 | 3500 | 2Q | 6595 | 1Q | 6703 | 1Q | Continue | Continue | Continue |
| c . MITRE | C/CPFF | Ft Monmouth, NJ/Eatontown, NJ | 13833 | 3681 | 2Q | 9911 | 1Q | 10933 | 1Q | Continue | Continue | Continue |
| d . MANTECH (Direct Labor) | C/CPFF | Fort Monmouth, NJ/Fort Hood, TX | 6496 | 0 | | 0 | | 0 | | 0 | 6496 | 6546 |
| e . CAMBER (Config Mgt/) | C/CPAF | Fort Hood, TX | 1460 | 0 | | 0 | | 0 | | 0 | 1460 | 855 |
| f . ROBBINS-GIOIA | C/CPAF | Fort Monmouth, NJ/Fort Hood, TX | 3014 | 900 | 2Q | 1058 | 1Q | 1090 | 1Q | Continue | Continue | Continue |
| g . LOCKHEED MARTIN | C/CPAF | Eatontown, NJ | 3057 | 902 | 1-2Q | 2575 | 1Q | 2652 | 1Q | Continue | Continue | Continue |
| h . GTE (Labor and Equipment) | C/CPFF | Fort Hood, TX | 2181 | 0 | 1-4Q | 419 | 1-4Q | 431 | 1-4Q | Continue | Continue | Continue |
| i . Misc Contracts | C/CPAF | Fort Monmouth, NJ/Fort Hood, TX | 4155 | 0 | 1-2Q | 2166 | 1-2Q | 685 | 1-2Q | Continue | Continue | Continue |
| j . Unixpros | C/CPAF | Eatontown, NJ | 3711 | 0 | | 0 | | 0 | | 0 | 3711 | 3711 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604818A - Army Tactical Command & Control Hardware & Softwar**

PROJECT
**C34**

| I. Product Development (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| k . ATSC | MIPR | Fort Leavenworth, KY | 1240 | 300 | 1Q | 310 | 1Q | 322 | 1Q | Continue | Continue | Continue |
| l . IDA | MIPR | Fort Monmouth, NJ | 934 | 390 | 1-2Q | 400 | 1Q | 412 | 1Q | Continue | Continue | Continue |
| m . ITT | C/CPAF | Eatontown, NJ | 1070 | 0 | | 0 | | 0 | | Continue | Continue | Continue |
| n . BOOZ-ALLEN | C/CPAF | Eatontown, NJ | 750 | 592 | 1Q | 608 | 1Q | 626 | 1Q | Continue | Continue | Continue |
| o . MISCELLANEOUS SUPPORT | C/CPAF | Eatontown, NJ/Fort Hood, TX | 775 | 274 | 1-2Q | 448 | 1-2Q | 464 | 1-2Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 70837 | 11539 | | 26980 | | 26883 | | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604818A - Army Tactical Command & Control Hardware & Softwar**

PROJECT
**C34**

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . IN-HOUSE SUPPORT | MIPRs | Fort Monmouth, NJ/Fort Hood, TX | 5088 | 315 | 1-2Q | 324 | 1Q | 335 | 1Q | Continue | Continue | Continue |
| b . CECOM MATRIX | MIPRs | Fort Monmouth, NJ/Fort Hood, TX | 2257 | 835 | 1-2Q | 953 | 1Q | 982 | 1Q | Continue | Continue | Continue |
| c . OTHER GOVERNMENT SUPPORT | MIPRs | Fort Monmouth, NJ/Fort Hood, TX/Fort Belvoir, VA | 3091 | 123 | 2Q | 125 | 2Q | 130 | 1Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 10436 | 1273 | | 1402 | | 1447 | | Continue | Continue | Continue |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . EPG | MIPR | Fort Huachuca, AZ | 2213 | 125 | 1Q | 125 | 1Q | 130 | 1Q | 0 | 2593 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 2213 | 125 | | 125 | | 130 | | 0 | 2593 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604818A - Army Tactical Command & Control Hardware & Softwar**

PROJECT
**C34**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Not applicable | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| Project Total Cost: | | | 83486 | 12937 | | 28507 | | 28460 | | Continue | Continue | Continue |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604818A - Army Tactical Command & Control Hardware & Softwar** | **C34** |

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| ABCS 6.3.X | 1-4Q | 1-4Q | 2Q | | | | | |
| NATIONAL TRAINING CENTER (NTC) ROTATIONS | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| ABCS 7.0 SOFTWARE DEVELOPMENT | 2-4Q | 1-4Q | 1-4Q | 1-2Q | | | | |
| SBCT-2 FIELDING | 4Q | 1-4Q | 1-3Q | | | | | |
| SBCT-3 FIELDING | | 4Q | 1-4Q | 1-3Q | | | | |
| SBCT - 4 FIELDING | | | 4Q | 1-4Q | 1-3Q | | | |
| SBCT-5 FIELDING | | | | 4Q | 1-4Q | 1-3Q | | |
| SBCT-6 FIELDING | | | | | 4Q | 1-4Q | 1-3Q | |
| FCS OPERATIONAL ARCHITECHTURE (OA)/SYSTEM ARCHITECTURE (SA) | | | | | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| FCS C2 SYSTEMS ENGINEERING & INTEGRATION | | | | | 1-4Q | 1-4Q | 1-4Q | 1-4Q |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604818A - Army Tactical Command & Control Hardware & Softwar** | **C39** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C39 | TACTICAL OPERATIONS CENTERS (TOCS) | 7659 | 5033 | 2457 | 5678 | 4289 | 4371 | 0 | 0 | 0 | 35281 |

**A. Mission Description and Budget Item Justification:** The Tactical Operations Centers (TOCs) program supports the overall mission area of "Exercising Command and Control". The TOCs program provides commanders (at all echelons of command from battalion to corps) with integrated digitized command and control facilities from which they execute battle command and make decisions based on objective data and intuitive feel for the battle. To perform these functions, the commander and his staff require command, control and communications systems integrated on mobile platforms capable of keeping pace with maneuver forces. The TOCs program provides the physical infrastructure (platforms, power, environmental control, data networks, inter-communications and video displays) capable of operating under all conditions on the modern battlefield, and provides the real-time situational understanding (Common Operational Picture) inherent in the Army Battle Command System (ABCS). Digitized TOCs are key to ensuring that information superiority and force synchronization are gained on the tactical and operational battlefield. TOCs are required for all combat, combat support and combat service support units. In addition, this program includes the Single Integrated Command Posts' "customer funded" procurement of five command post variants; each designed to accommodate the various Battlefield Functional areas. These variants include: Tent Command Posts, Rigid Wall Shelters, Conversion Kits for M577 Track Vehicles, Installation Kits for 5-tom Expansible Vans and Installation Kits for Soft-Top HMMWVs.

The program is critical to Army Modernization and Transformation and supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

JUSTIFICATION: FY04 - design, development and testing of TOCs and large SICPS tents and shelters that will provide new SICPS command post variants to facilitate TOC configurations and TOC designs for STRYKER Bde Combat Teams (SBCT). Integrated systems testing ot TOCs and platforms (e.g., flooring, lighting, power, ECS and tactical mobility). FY05 - Systems engineering and design of III Corps TOCs. Develop enabling technologies to meet new TOCs ORD requirements. Developmental and operational testing for TOCs and platforms.

The SICPS program and funding transfers to the TOCs program beginning in FY04. Prior year funding (FY02-03) depicts TOCs only. SICPS prior year funding can be found in separate submission, PE 0604818A.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604818A - Army Tactical Command & Control Hardware & Softwar** | **C39** |

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Design and engineering - 4th ID and 1st Cav Divisions | 6159 | 990 | 741 | 1676 |
| Design and engineering - SBCTS | 0 | 1312 | 896 | 0 |
| Developmental and Operational Testing | 0 | 0 | 220 | 828 |
| Technology Insertion. Design Development & Engineering - SBCT | 0 | 1160 | 0 | 800 |
| Design Development & Engineering - Current | 1500 | 0 | 0 | 0 |
| Development, test, and verification of large tents, Modular Expandable RWS (MERWS), and objective RWS (with trailers). | 0 | 1176 | 600 | 2374 |
| ABCS SE&I | 0 | 395 | 0 | 0 |
| Totals | 7659 | 5033 | 2457 | 5678 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| Other Procurement Army 2 - SSN: BZ9865 | 43678 | 41187 | 45613 | 78973 | 89536 | 52224 | 11969 | 114850 | 1849460 | 2327490 |

**C. Acquisition Strategy:** The TOC evolutionary acquisition strategy relies on non-developmental items (NDI), Commercial Off-the-Shelf (COTS), and Government-furnished equipment (GFE) to design, integrate, assemble, test, train, and field Tactical Operations Centers (TOCs) for 1CD, III Corps and SBCTs.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604818A - Army Tactical Command & Control Hardware & Softwar**

PROJECT
**C39**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Current | Various | Huntsville, AL | 3953 | 1916 | 3Q | 947 | | 2401 | | Continue | 9217 | Continue |
| b . SBCT | Various | Huntsville, AL | 5510 | 1957 | 2Q | 610 | | 1749 | | Continue | Continue | Continue |
| c . SETA | Various | Various | 0 | 200 | 2Q | 100 | 2-3Q | 100 | 1-2Q | Continue | Continue | Continue |
| d . In-house and Government Support | | Various | 3390 | 565 | 1-2Q | 580 | 1-2Q | 600 | 1-2Q | 0 | Continue | Continue |
| e . ABCS SE&I | | Various | 0 | 395 | 1Q | 0 | | 0 | | 0 | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 12853 | 5033 | | 2237 | | 4850 | | Continue | Continue | Continue |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604818A - Army Tactical Command & Control Hardware & Softwar**

PROJECT
**C39**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Developmental Testing | TBD | TBD | 0 | 0 | 2-3Q | 220 | 1-2Q | 828 | 1-2Q | 0 | 1048 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 220 | | 828 | | 0 | 1048 | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Not applicable | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 12853 | 5033 | | 2457 | | 5678 | | Continue | Continue | Continue |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604818A - Army Tactical Command & Control Hardware & Softwar** | **C39** |

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Design Review - SBCT-3 | | 3Q | | 1Q | 1Q | 1Q | | |
| Design Review - SBCT-4 | | | 3Q | | | | | |
| Design Review - 3rd Brigade, 4ID | | | | 1-2Q | | | | |
| Design Review - 3ACR | | | | 2Q | | | | |
| Design Review - III Corps | | 3Q | 3Q | 3Q | 2Q | | | |
| Design Review - 2ID | | | 2Q | 4Q | 1Q | | | |
| Design Review - 3ID | | | | | 3Q | 4Q | | |
| Design Review - 173RD AB | | | | | | 3Q | | |
| Design Review - 10th MTN | | | | 3Q | 4Q | 1Q | | |
| Design Review - XVIII ABN | | | | 3Q | 4Q | 1Q | | |
| Design Review - 101st AA | | | | | 3Q | 4Q | 1Q | |
| Design Review - 1ID (FT Riley) | | | | | 3Q | | | |
| Design Review - 75 Ranger | | 3Q | | | | | | |
| Design Review - 82ABN | | | 3Q | 4Q | 1Q | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604818A - Army Tactical Command & Control Hardware & Softwar** | **C3A** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C3A | ARMY AIRBORNE COMMAND & CONTROL SYS (A2C2S) | 0 | 32255 | 23151 | 6025 | 4453 | 4633 | 0 | 0 | 0 | 70517 |

**A. Mission Description and Budget Item Justification:** This project funds the development of an avionics system required to horizontally and vertically integrate the battlefield. Tasks in this project support research efforts in the engineering and manufacturing development phase of this system.
The Army Airborne Command and Control System (A2C2S) is the Army's only airborne C2 system supporting corps, division and brigade commanders. This system is critical to enhance the Battle Command Group's ability to effectively perform combat unit operations and serve as a force multiplier in Army XXI. It provides the capability to access the tactical internet to manipulate, store, mange, and analyze situational awareness information, intelligence data, mission plans, and mission progress data to support the command and control decision making process. The A2C2S will provide situational awareness and command and control by hosting the Army Battle Command System (ABCS) such as Maneuver Control Systems (MCS), All Source Analysis System (ASAS), Advanced Field Artillery Data System (AFATDS), and Force XXI Battle Command Brigade and Below (FBCB2). In addition to line-of-sight Combat Net Radios (including Single Channel Ground Airborne Radio System (SINGARS), Advanced System Improvement Program (ASIP) and HAVEQUICK II the A2C2S capabilities supports deep operations with non-line-of-sight radios such as High Frequency (HF) and Demand Assigned Multiple Access (DAMA), and Satellite Communications System Satellite Command (SATCOM). In addition, the system has the potential to improve the ability of state, local, and federal agencies to communicate and coordinate in a crisis environment such as hurricanes, forest fires, or terrorist incidents using weapons of mass destruction.

A2C2S is not a new start. Previous funding is under 0604201A-Aircraft Avionics.
This system supports the Legacy-to-Objective transition path of the Transformation Campaign Plan.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Continue System Development and Evaluation BLK I & BLK II | 0 | 13203 | 7692 | 4613 |
| Continue Prototype Integration Systems 3 through 7 | 0 | 7561 | 3579 | 0 |
| ABCS Support SE&I | 0 | 195 | 0 | 0 |
| Software Integration/Development | 0 | 2428 | 805 | 487 |
| Continue AWQ, Development and Operational Test | 0 | 7235 | 9952 | 925 |
| Continue Support of Systems 1 and 2 | 0 | 1633 | 1123 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Totals | 0 | 32255 | 23151 | 6025 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| Airborne Command and Control SSN AA0710 | 0 | 2184 | 26594 | 30676 | 24114 | 3906 | 4181 | 3950 | Continuing | Continuing |

**C. Acquisition Strategy:** A competitive cost type contract was awarded in August 2001 to Raytheon. Raytheon will design, integrate, and demonstrate 5 prototype systems. The existing contract has options for LRIP and FRP.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604818A - Army Tactical Command & Control Hardware & Softwar**

PROJECT
**C3A**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . System Dev and Eval BLK I, P3I and BLK II | CPIF | Raytheon Huntsville, and TBD | 0 | 3062 | 1Q | 2824 | 1Q | 2329 | 1Q | Continue | Continue | 0 |
| b . Prototype Integration (Systems 3-7) | CPIF | Raytheon | 0 | 7561 | 1Q | 3579 | 1Q | 0 | | Continue | Continue | 0 |
| c . Software Integration/Deveopment | CPIF | Raytheon Huntsville | 0 | 2428 | 1Q | 805 | 1Q | 487 | 1Q | Continue | Continue | 0 |
| d . Systems and Engineering Logistics Support | Various | Raytheon /AMCOM | 0 | 7934 | | 3550 | | 1312 | | Continue | 12796 | 0 |
| e . ABCS SE&I | MIPR | Ft. Monmouth, NJ | 0 | 195 | | 0 | | 0 | | 0 | 195 | 0 |
| f . Inhouse/Government | Various | Various | 0 | 2207 | | 1318 | | 972 | | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 23387 | | 12076 | | 5100 | | Continue | Continue | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604818A - Army Tactical Command & Control Hardware & Softwar**

PROJECT
**C3A**

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Support of System 1 and 2 deployed to 4th ID and 101st ABN | Various | Various | 0 | 1633 | 1Q | 1123 | 1Q | 0 | 1Q | 0 | 2756 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 1633 | | 1123 | | 0 | | 0 | 2756 | 0 |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Development Test & Evaluation and AWQ | MIPR/CPIF | ATEC/RTTC/AATD/AED/Raytheon | 0 | 6492 | 1Q | 5052 | 1Q | 925 | 1Q | Continue | Continue | 0 |
| b . Operational Test | Various | Various | 0 | 743 | | 4900 | 3Q | 0 | 1Q | Continue | 5643 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 7235 | | 9952 | | 925 | | Continue | Continue | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604818A - Army Tactical Command & Control Hardware & Softwar**

PROJECT
**C3A**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Project Total Cost: | | | 0 | 32255 | | 23151 | | 6025 | | Continue | Continue | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604818A - Army Tactical Command & Control Hardware & Softwar** | **C3A** |

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Continue System Development and Evaluation BLK I, P3I, and BLK II | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Continue/Complete A2C2S Prototype Fabrication and Platform Integration Systems 3 to 7 | | 1-4Q | 1-4Q | | | 2-4Q | 1-4Q | |
| Continue System Engineering, Software Integration and Logistics Planning for A2C2S | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Continue Development Testing | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Operational Testing | | 3-4Q | 2-4Q | | | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604819A - LOSAT** | **046** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 046 | LINE-OF-SIGHT ANTI-TANK (LOSAT) MISSILE | 24773 | 13597 | 30809 | 22610 | 0 | 0 | 0 | 0 | 0 | 117153 |

**A. Mission Description and Budget Item Justification:** Line-of-Sight Anti-Tank (LOSAT) and the Kinetic Energy Missile (KEM) technology provides the foundation for the Objective Force Kinetic Energy Missile Requirement. This program focuses on the integration of the LOSAT weapon system into a light, early deployable configuration in order to help remedy the urgent need for the early entry force lethality shortfall against heavy armor in support of the Army Transformation. The LOSAT weapon system consists of a kinetic energy (KE) missile launcher mounted on a heavy High Mobility Multi-Purpose Wheeled Vehicle (HMMWV) chassis. LOSAT offers a highly mobile, near-term, advanced capability for overwhelming armor destruction with a high rate of fire, increased range, and increased force survivability. LOSAT, deployed in the early entry force, will provide the decisive edge to win swiftly with minimum casualties and with an assault support weapon capability. LOSAT is strategically and tactically deployable, giving commanders and decision makers greater flexibility. Once in theater, LOSAT is extremely mobile, to include air droppable and sling loading under CH-47 and UH-60L aircraft. The performance of the hypervelocity (velocity of a mile per second) kinetic energy missile is not affected by the proliferation of emerging threat active protective systems and enhanced reactive armors which are rapidly becoming available on the global marketplace. In FY98, LOSAT was initiated as a DOD-approved Advanced Concept Technology Demonstration (ACTD) program to position it for future acquisition decisions, demonstration of subsystem capabilities in flight tests and dirty battlefield environments, evaluation of its utility for early entry forces, demonstration of an integrated HMMWV-based LOSAT system in-flight tests and advanced warfighting experiments, and evaluation of affordability issues. In December 1999, the Army and DOD funded the LOSAT accelerated advanced development and procurement as part of the Army Transformation, adding additional design activities, test hardware, and qualification and operational tests concurrent with the ACTD, which will assure design maturity to support entry into Low Rate Initial Production (LRIP) in FY04. The System Development Demonstration (SDD) effort is funded in this Program Element (PE) and is concurrent with the ACTD contract. The ACTD is funded in PE 0603654A. This system supports the Legacy to Objective Force transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Completed Fire Unit Detail Designs incorporating new performance specification requirements. | 4857 | 0 | 0 | 0 |
| Completed Missile Detail Designs incorporating new performance specification requirements. | 2145 | 0 | 0 | 0 |
| Completed design and fabricated Resupply Trailers and Resupply HMMWV Modifications. | 1001 | 0 | 0 | 0 |
| Finalize Fire Unit Software Enhancements, Fire Unit BIT/BITE software, and perform System Level Certification. | 2181 | 742 | 0 | 0 |
| Fabrication of Missiles with Enhanced Design and perform developmental/operational, tests and evaluations. | 3682 | 1135 | 0 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Fabrication of Enhanced Design Prototype Fire Units/Live Fire Unit, and refurbishment of Fire Units. | 5316 | 1474 | 6950 | 0 |
| Perform full, Developmental/Operational Tests and Evaluations. | 2425 | 4126 | 8645 | 12815 |
| Continue Supportability Analysis, finalize Logistics Management Information, and perform Supportability Demonstration. | 3166 | 1936 | 5706 | 250 |
| Deliver Enhanced Training Simulators and conduct Soldier Training for operational tests. | 0 | 1391 | 3892 | 2920 |
| Perform Live Fire Test and Evaluation (LFTE). | 0 | 2793 | 5616 | 6625 |
| Totals | 24773 | 13597 | 30809 | 22610 |

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 21416 | 14463 | 15183 | 16160 |
| Current Budget (FY 2004/2005 PB) | 24773 | 13597 | 30809 | 22610 |
| Total Adjustments | 3357 | -866 | 15626 | 6450 |
| Congressional program reductions | | | | |
| Congressional rescissions | | -467 | | |
| Congressional increases | | | | |
| Reprogrammings | 3889 | -78 | | |
| SBIR/STTR Transfer | -532 | -321 | | |
| Adjustments to Budget Years | | | 15626 | 6450 |

FY 2002 funds reprogrammed for support of Missile and Fire Unit development effort.
FY 2004 and FY 2005 funds increased to support Initial Operational Test and Evaluation (IOTE), Vulnerability/Lethality Test, LFTE equipment and support.

| C. Other Program Funding Summary | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| H09100 LOSAT | 0 | 0 | 43232 | 86585 | 111465 | 108646 | 138767 | 104030 | 284499 | 877224 |
| 0603654A Line-of-Sight Technology Demo | 72530 | 26955 | 8847 | 0 | 0 | 0 | 0 | 0 | 0 | 108332 |

**C. Other Program Funding Summary:** FY02 MIPA funds rescinded by Congress. FY03 MIPA funds zeroed by Congress.

**D. Acquisition Strategy:** The Line-of-Sight Anti-Tank additional development and qualification effort to support the Army Transformation is being conducted in conjunction with the on-going ACTD effort. The ACTD contract awarded in April 1998 was modified in December 2000 to include the System Development and Demonstration (SDD) effort. A Milestone Decision Review will be conducted in FY04 to assess design maturity and authorize entry into LRIP.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604819A - LOSAT**

PROJECT
**046**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . SDD Contract | CPIF | LMMFC, Dallas, TX | 34157 | 1474 | 2Q | 9820 | 2Q | 2000 | 1Q | 0 | 47451 | 0 |
| b . Live Fire Hardware | CPFF | Alliant Tech | 1629 | 0 | | 0 | | 0 | | 0 | 1629 | 0 |
| c . RDEC Support | TBD | Huntsville, AL | 5837 | 3150 | 2-4Q | 3921 | 1-4Q | 2804 | 1-4Q | 0 | 15712 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 41623 | 4624 | | 13741 | | 4804 | | 0 | 64792 | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . In-House Support | | Huntsville, AL | 1162 | 583 | 2-4Q | 1712 | 1-4Q | 1086 | 1-4Q | 0 | 4543 | 0 |
| b . Funct Govt Spt | | Huntsville, AL | 2768 | 896 | 2-4Q | 877 | 1-4Q | 795 | 1-4Q | 0 | 5336 | 0 |
| c . MISC | | Various | 58 | 0 | | 0 | | 0 | | 0 | 58 | 0 |
| d . OGA | | Various | 188 | 180 | 2-4Q | 473 | 1-4Q | 229 | 1-4Q | 0 | 1070 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 4176 | 1659 | | 3062 | | 2110 | | 0 | 11007 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604819A - LOSAT**

PROJECT
**046**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Range Support | | Various Sites | 788 | 3617 | 1-4Q | 6783 | 1-4Q | 10456 | 1-4Q | 0 | 21644 | 0 |
| b . Other Test | | Various Sites | 1556 | 3074 | 1-4Q | 6505 | 1-4Q | 4462 | 1-4Q | 0 | 15597 | 0 |
| c . GFE | | Smith Industries, Grand Rapid, Minnesota | 366 | 0 | | 0 | | 0 | | 0 | 366 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 2710 | 6691 | | 13288 | | 14918 | | 0 | 37607 | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . System Engineering Tech Asst | T&M | Huntsville, AL | 1628 | 623 | 1-4Q | 718 | 1-4Q | 778 | 1-4Q | 0 | 3747 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1628 | 623 | | 718 | | 778 | | 0 | 3747 | 0 |
| Project Total Cost: | | | 50137 | 13597 | | 30809 | | 22610 | | 0 | 117153 | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604819A - LOSAT**

PROJECT
**046**

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Critical Design Review | 1Q | | | | | | | |
| Begin Missile and Fire Unit Assembly | 3Q | | | | | | | |
| Complete Component Level Qualifications | | 2Q | | | | | | |
| Begin System Qualification and Flight Tests | | 2Q | | | | | | |
| Begin User Experimentation | | 4Q | | | | | | |
| Limited User Testing | | | 2Q | | | | | |
| Complete System Qualification and Flight Tests | | | 2Q | | | | | |
| Milestone C | | | 3Q | | | | | |
| Award LRIP Contract | | | 3Q | | | | | |
| ACTD Hand Receipt (Fire Units) | | | 4Q | | | | | |
| IOTE | | | | 4Q | | | | |
| Begin Fielding | | | | | 4Q | | | |
| First Unit Equiped (FUE) | | | | | 4Q | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604820A - RADAR DEVELOPMENT** | **E10** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| E10 SENTINEL | 4952 | 0 | 0 | 0 | 0 | 0 | 8178 | 7884 | 0 | 33925 |

**A. Mission Description and Budget Item Justification:** The Sentinel, AN/MPQ-64, consists of a High Mobility Multipurpose Wheeled Vehicle (HMMWV) towed radar-based sensor with its prime mover/power, identification friend or foe (IFF), and Forward Area Air Defense (FAAD) Command, Control, and Intelligence (C2I) interfaces. The sensor is an advanced three-dimensional battlefield X-Band air defense phased-array radar with an instrumented range of 40 km. The Sentinel is capable of operating day or night, in adverse weather conditions, in the battlefield environments of dust, smoke aerosols, and enemy countermeasures. It provides 360-degree azimuth coverage for acquisition and tracking. The Sentinel contributes to the digital battlefield by automatically detecting, classifying, identifying, and reporting targets (cruise missiles, unmanned aerial vehicles, rotary wing and fixed wing aircraft). The Sentinel Enhanced Target Range and Classification (ETRAC) Modernization program will improve Sentinel's capability against evolving threats. ETRAC provides the capability for Sentinel to detect and classify small radar cross-section targets, such as cruise missiles and unmanned aerial vehicles. The system provides Forward Area Short Range Air Defense (SHORAD) system information dominance via a digital air picture for support of maneuver forces and critical assets. Without ETRAC, Sentinel would not be able to determine aircraft type or to support manned vs. unmanned determinations to fully support precision engagements beyond visual range. In order to engage at ranges beyond visual, the SHORAD system must detect and track the target at sufficient range to alert, and cue the gunner to the target. The Sentinel Modernization efforts extend the range of Sentinel against reduced radar cross section targets so the gunner will receive a cue with sufficient time to engage at ranges beyond visual. However, cueing alone is not sufficient to support an engagement. The target either must be identified as a foe or must be classified as an engageable target (unmanned) that is a threat to defended assets. The Modernization Program positions Sentinel to determine aircraft type or to support manned versus unmanned determinations to fully support precision engagements beyond visual range. ETRAC Modernization efforts support the Legacy to Objective transition path of the Transformation Campaign Plan (TCP) by ensuring that the Sentinel systems in the field support the acquisition, tracking and classification of targets to enable the SHORAD weapons to engage these targets at maximum effective range.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Completed ETRAC Prototype Design and Development | 1914 | 0 | 0 | 0 |
| Completed ETRAC Target Classification Prototype Design and Development | 631 | 0 | 0 | 0 |
| Completed Integration and Test of ETRAC | 2407 | 0 | 0 | 0 |
| Totals | 4952 | 0 | 0 | 0 |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604820A - RADAR DEVELOPMENT** | **E10** |

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 5119 | 0 | 0 | 0 |
| Current Budget (FY 2004/2005 PB) | 4952 | 0 | 0 | 0 |
| Total Adjustments | -167 | 0 | 0 | 0 |
| Congressional program reductions | | | | |
| Congressional rescissions | -25 | | | |
| Congressional increases | | | | |
| Reprogrammings | | | | |
| SBIR/STTR Transfer | -142 | | | |
| Adjustments to Budget Years | | | | |

| **C. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| Other Procurement, Army 2 (SSN WK 5053) | 1874 | 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1905 |
| Other Procurement, Army 2 (SSN WK 5057) | 30650 | 39423 | 17595 | 13701 | 13678 | 15134 | 19009 | 22941 | 0 | 172131 |
| Spares (SSN BS 9732) | 1819 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1819 |

**D. Acquisition Strategy:** The Modernization Program awarded a sole source Cost Plus Award Fee (CPAF) contract to the production manufacturer for the transmitter effort. The Modernization Program also awarded an additional sole source Cost Plus Fixed Fee (CPFF) contract to the production manufacturer for the ETRAC efforts during FY00. The ETRAC contract will be executed in three phases. The first phase finalizes the requirement definition. The second phase continues through successful demonstration of prototypes with Key Performance Parameter (KPP) capabilities, and the third phase continues to successful integration and test of target classification capabilities. Continuation of each phase is dependent on the successful completion of the previous phase limiting the risk to the Government. Both the ETRAC and the Transmitter efforts will aggressively implement the tenets of Cost As an Independent Variable (CAIV) to assure Total Ownership Costs of the Sentinel are reduced. The program will take advantage of already developed items and certain off-the-shelf technologies to minimize risk while ensuring cost, schedule and performance goals are achieved.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604823A - FIREFINDER** | **L85** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| L85 FIREFINDER AN/TPQ-47 | 25875 | 24913 | 27107 | 28515 | 5206 | 0 | 0 | 0 | 0 | 220276 |

**A. Mission Description and Budget Item Justification:** On 27 Dec 2002, the Department of the Army approved request for popular name "Phoenix Battlefield Sensor System (PBS2)" as the official designation for the AN/TPQ-47 Radar. The AN/TPQ-47 will extend the artillery range performance out to 60km (double current capabilitites.) It will improve the target throughput to 50 targets per minute in a highly mobile, C-130 transportable and survivable system. The AN/TPQ-47 will provide a new capability of missile and rocket detection at ranges of 150-300km and will be capable of alerting Theater Missile Defense Systems. Crew size of 12 for the AN/TPQ-37 will be reduced to 9 for the AN/TPQ-47. This program will leverage the AN/TPQ-36(V)8 Electronics Upgrade program by using the same man-machine interface. The AN/TPQ-47 will be integrated into the Army's Interim Force, Future Combat Systems (FCS), and Objective Force's Fires and Effects network. The AN/TPQ-47 will replace the AN/TPQ-37 Artillery Locating Radar. This program is in response to a need for a longer range, more accurate and less manpower intensive radar.

This system supports the Interim and Objective transition path of the Transformation Campaign Plan (TCP).

FY04/FY05 funding completes the development of the AN/TPQ-47. Funding is also required to conduct Developmental Testing (DT) and Limited User Testing (LUT) which is required to support a Milestone C Low Rate Initial Production (LRIP) decision.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Develop a Radar Environmental Simulator System (RESS). Efforts include development, continual refinement during system developmental test, independent Validation & Verification (V&V) and maintenance. | 474 | 635 | 450 | 550 |
| Build, integration and contractor test of System #1. Efforts include design, materials, labor, and contractor acceptance test. | 19307 | 10784 | 0 | 0 |
| Build, integration and contractor test of System #2. Efforts include design, materials, labor, and contractor acceptance test. | 5410 | 9148 | 12870 | 0 |
| Prime contractor activities to support Developmental Test. Efforts include contractor conduct of Live Ammunition Tests at Yuma Proving Ground (YPG) and White Sands Missile Range (WSMR) and required fixes to hardware/software. | 0 | 2132 | 6932 | 8037 |
| Government Test Costs. Efforts include cost of range times at YPG and WSMR, gun crews, ammunition and missiles, and government manpower to support system test. | 684 | 2214 | 6855 | 8117 |
| Development of Training Devices. Efforts include development of Computer Based Training (CBT) and modification of System Development and Demonstration (SDD) prototypes as maintenance trainers. | 0 | 0 | 0 | 10958 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Conduct Milestone C (MS C). Efforts include preparation of program documentation necessary to support a successful MS C decision. | 0 | 0 | 0 | 853 |
| Totals | 25875 | 24913 | 27107 | 28515 |

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 26732 | 26122 | 7249 | 10714 |
| Current Budget (FY 2004/2005 PB) | 25875 | 24913 | 27107 | 28515 |
| Total Adjustments | -857 | -1209 | 19858 | 17801 |
| Congressional program reductions | | -372 | | |
| Congressional rescissions | -164 | -143 | | |
| Congressional increases | | | | |
| Reprogrammings | -1 | | | |
| SBIR/STTR Transfer | -726 | -694 | | |
| Adjustments to Budget Years | | | 19858 | 17801 |

Change Summary Explanation: FY04/05 funds support the FY03 program restructure of the System Development and Demonstration (SDD) phase.

| C. Other Program Funding Summary | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| SSN: BA5100 Firefinder AN/TPQ-47 | 0 | 0 | 0 | 0 | 61757 | 82352 | 103976 | 164833 | Continue | Continue |

**D. Acquisition Strategy:** Two (2) Systems Development and Demonstration (SDD) systems were awarded sole source to Raytheon Systems. The SDD systems will undergo Developmental Testing (DT) and a Limited User Test (LUT). The results of the DT/LUT will support a MS C Low Rate Initial Production decision in FY05.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604823A - FIREFINDER**

PROJECT
**L85**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Primary Hardware Dev | C/CPIF | Thales-Raytheon Sys, CA/MS/RSL | 113793 | 21323 | 1-2Q | 17331 | 1Q | 8037 | 1Q | 0 | 160484 | 0 |
| b . Ancillary Hardware Dev | TBD | Various | 4945 | 450 | 1-2Q | 1567 | 1Q | 1865 | 1Q | Continue | Continue | 0 |
| c . Trainers Dev | SS/TBD | Thales-Raytheon Sys, CA/MS/RSL | 0 | 0 | | 0 | | 9833 | 1Q | Continue | 9833 | 0 |
| d . Sys Engrg (Contractor) | SS/FP | Various | 2286 | 160 | 2Q | 200 | 1Q | 300 | 1Q | Continue | Continue | 0 |
| e . Sys Engrg (Government) | MIPR | Various | 3196 | 489 | 1-2Q | 425 | 1Q | 425 | 1Q | Continue | Continue | 0 |
| f . Software Engineering | C/CPAF | Telos, OK | 1542 | 300 | 1-2Q | 525 | 1Q | 525 | 1Q | Continue | Continue | 0 |
| g . SSEB/MS C | MIPR | Various | 227 | 0 | | 0 | | 300 | 2Q | 0 | 527 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 125989 | 22722 | | 20048 | | 21285 | | Continue | Continue | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604823A - FIREFINDER**

PROJECT
**L85**

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Development Support - Government | MIPR | Various | 930 | 226 | 1-2Q | 248 | 1-2Q | 274 | 1-2Q | Continue | Continue | 0 |
| b . Integrated Logistics Spt (ILS) - Contractor | TBD | Various | 589 | 0 | 2Q | 50 | 2Q | 100 | 1-2Q | 0 | 739 | 0 |
| c . ILS Support -Government | MIPR | CECOM, Fort Monmouth, NJ | 425 | 0 | 2Q | 98 | 2Q | 210 | 1-2Q | Continue | Continue | 0 |
| d . Configuration Mgmt Spt-Government | MIPR | CECOM, Fort Monmouth, NJ | 600 | 119 | 1Q | 150 | 1Q | 150 | 1Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 2544 | 345 | | 546 | | 734 | | Continue | Continue | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604823A - FIREFINDER**

PROJECT
**L85**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Development Test & Evaluation (DT&E) | MIPR | Yuma, AZ WSMR, NM | 0 | 0 | | 2050 | 1Q | 1500 | 1Q | 0 | 3550 | 0 |
| b . Verification Testing | MIPR | Various | 202 | 600 | 1-2Q | 1925 | 1-2Q | 200 | 1Q | 0 | 2927 | 0 |
| c . Test Support | MIPR | Various | 1336 | 230 | 1-2Q | 325 | 1Q | 2700 | 1-2Q | 0 | 4591 | 0 |
| d . Limited User Test | MIPR | Various | 0 | 0 | | 0 | | 531 | 2Q | 0 | 531 | 0 |
| e . Logistics/Training | MIPR | Various | 0 | 0 | | 250 | 1Q | 0 | | 0 | 250 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1538 | 830 | | 4550 | | 4931 | | 0 | 11849 | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Program Management - Contractor | C/FP | Various | 1633 | 325 | 1-2Q | 973 | 1Q | 460 | 1Q | Continue | Continue | 0 |
| b . Program Management - Government Matrix Spt | MIPR | CECOM, Fort Monmouth, NJ | 439 | 103 | 1Q | 150 | 1Q | 210 | 1Q | Continue | Continue | 0 |
| c . Product Manager Office - Internal Support | | PM NV/RSTA | 2426 | 588 | 1-4Q | 840 | 1-4Q | 895 | 1-4Q | Continue | Continue | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604823A - FIREFINDER** | **L85** |

| IV. Management Services (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 4498 | 1016 | | 1963 | | 1565 | | Continue | Continue | 0 |
| Project Total Cost: | | | 134569 | 24913 | | 27107 | | 28515 | | Continue | Continue | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604823A - FIREFINDER**

PROJECT
**L85**

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| MS B for FCS | | 3Q | | | | | | |
| Conduct Developmental Testing (DT) | | 4Q | 1-4Q | | | | | |
| Develop Training Devices | | | | 1-4Q | 1-3Q | | | |
| Conduct Limited User Test (LUT) | | | | 2-3Q | | | | |
| Milestone C for LRIP | | | | 4Q | | | | |
| Operation Control Shelter - FCS | | | | | 4Q | | | |
| Conduct IOT&E | | | | | | 4Q | | |

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

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604854A - Artillery Systems - EMD**

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Program Element (PE) Cost | | 63655 | 26614 | 32629 | 9636 | 1401 | 0 | 0 | 0 | 0 | 161547 |
| 2KT | CRUSADER OPERATIONAL TEST | 192 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 410 |
| 503 | CRUSADER-ED | 40444 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 40445 |
| 509 | LIGHTWEIGHT 155M HOWITZER | 18874 | 21045 | 32078 | 8850 | 980 | 0 | 0 | 0 | 0 | 107159 |
| 516 | PALADIN/FAASV | 4145 | 5569 | 551 | 786 | 421 | 0 | 0 | 0 | 0 | 13533 |

**A. Mission Description and Budget Item Justification:** This program element supports the Joint Light Weight 155mm Howitzer (LW155) and the Paladin/FAASV Improvement programs.

The LW155, a joint program with the Marine Corps, provides the replacement for the current 1970's vintage M198, 155mm Towed Howitzer. The LW155 provides significant improvement in strategic and tactical mobility over the M198. The Army portion of the joint development is the Towed Artillery Digitization (TAD). TAD is the digital fire control system for the LW155. TAD provides increased accuracy, survivability, and lethality for Army and USMC 155mm Towed Artillery. This system supports both the Legacy and Interim transition paths of the Army Transformation Campaign Plan (TCP).

The Crusader system was terminated in the FY03 Amended President's Budget.

The Paladin/FAASV project integrates several system improvements that provide for: stowage and automated dispensing of M231/M232, Modular Artillery Charge System (MACS), that is displacing the current propelling charges; replacement of M82 cartridge primer with a laser propellant ignition system; and upgrading components of the Automated Fire Control System to avoid obsolescence. These system improvements provide significantly improved mission effectiveness, increased reliability, maintainability and supportability, as well as reduce life cycle costs. This system supports the Legacy transition path of the Army Transformation Campaign Plan (TCP).

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 61961 | 251376 | 466434 | 424971 |
| Current Budget (FY 2004/2005 PB) | 63655 | 26614 | 32629 | 9636 |
| Total Adjustments | 1694 | -224762 | -433805 | -415335 |
| Congressional program reductions | | -223519 | | |
| Congressional rescissions | | -347 | | |
| Congressional increases | | | | |
| Reprogrammings | 3399 | -153 | | |
| SBIR/STTR Transfer | -1705 | -743 | | |
| Adjustments to Budget Years | | | -433805 | -415335 |

FY02 Below Threshold Reprogramming was executed in April 2002 to support Crusader, D503($2.6M) and LW155, D509($1.4m).
FY03-05 adjustments reflect termination of the SDD phase of the Crusader Project.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604854A - Artillery Systems - EMD** | **509** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 509 LIGHTWEIGHT 155M HOWITZER | 18874 | 21045 | 32078 | 8850 | 980 | 0 | 0 | 0 | 0 | 107159 |

**A. Mission Description and Budget Item Justification:** The Lightweight 155mm (LW155) Towed Howitzer, a jointly managed program with the Marine Corps, will provide the replacement for the M198, 155mm Towed Howitzer. LW155 provides significant strategic and tactical mobility improvements. Project 509 supports Towed Artillery Digitization (TAD) Block I, a digital fire control system for the M777 Towed Howitzer (base model of LW155), making it an M777A1. TAD will increase the accuracy, survivability, and lethality of Army and USMC 155mm Towed Artillery. Close coordination with the Excalibur office will ensure that the M777A1 will be capable of firing the Excalibur precision munition in FY06. This system supports both the Legacy and Interim transition paths of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Completed funding of the FY02 increment of the TAD Block I SDD contract. Figure does not include test articles. | 9040 | 0 | 0 | 0 |
| Funded the fabrication of TAD Block I developmental test articles for component and system level technical testing. | 3850 | 0 | 0 | 0 |
| Funded matrix engineering support for IPTs and Reviews, including Preliminary Design Review and Detailed Design Review at the LRU level. Several software design reviews and an Early User Assessment were also conducted. | 3979 | 0 | 0 | 0 |
| Funds future increments of the TAD Block I SDD contract. | 0 | 14200 | 11400 | 3200 |
| Funds future matrix engineering support for IPTs and reviews, including Detailed Design Reviews at the System level. Numerous software reviews will also be conducted. | 0 | 4682 | 4478 | 2700 |
| Funds core program management, business management, facilities, and other administrative and technical support. | 2005 | 1115 | 1200 | 1100 |
| Funds future test planning, technical testing, Software Formal Qualification Testing, Limited User Testing, and Operational Test and Evaluation for the M777E1. | 0 | 1048 | 15000 | 1850 |
| Totals | 18874 | 21045 | 32078 | 8850 |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604854A - Artillery Systems - EMD** | **509** |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| RDTE, Navy LW155 Towed How 060363M | 14494 | 11633 | 5970 | 0 | 0 | 0 | 0 | 0 | 0 | 32097 |
| Procurement, Marine Corps LW155 Towed Howitzer with TAD Prod, BLIN 218500 | 0 | 62643 | 111489 | 179325 | 181183 | 75363 | 0 | 0 | 0 | 610003 |
| Procurement, WTCV, Army, LW155 with TAD G01700 | 1091 | 0 | 4998 | 51097 | 100720 | 135844 | 58999 | 33604 | 74300 | 460653 |

**C. Acquisition Strategy:** The overall M777E1 Acquisition Strategy/Plan is to execute a CPIF contract, where the prime contractor has Total System Performance Responsibility (TSPR). TSPR includes the development and testing of TAD Block I, as well as integrating the final TAD hardware onto the M777 lightweight howitzer for a final integrated M777E1 system. All Army howitzers will come off the production line with TAD Block I already installed. The Marine Corps will retrofit 94 LRIP LW155 howitzers with TAD. The remainder of the USMC LW155 production run will have TAD Block I already installed.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604854A - Artillery Systems - EMD**

PROJECT
**509**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . TAD SDD Contract (pre-novation to BAE Systems) Does not include Test Articles | CPIF/AF | General Dynamics, Burlington, VT | 14136 | 0 | | 0 | | 0 | | 0 | 14136 | 14136 |
| b . M777E1 SDD Contract (post-novation) | CPIF | BAE Systems, United Kingdom | 8450 | 14200 | 2Q | 11400 | 2Q | 3200 | 2Q | 0 | 37250 | 37250 |
| c . Matrix Engineering Support | MIPR | ARDEC, Picatinny Arsenal, NJ | 12367 | 4682 | 2-3Q | 4478 | 2-3Q | 2700 | 2-3Q | 0 | 24227 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 34953 | 18882 | | 15878 | | 5900 | | 0 | 75613 | 51386 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Program Management | Allotment | JPMO LW155, Picatinny Arsenal, NJ | 3858 | 1115 | 2-4Q | 1200 | 2-4Q | 1100 | 2-4Q | 980 | 8253 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 3858 | 1115 | | 1200 | | 1100 | | 980 | 8253 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604854A - Artillery Systems - EMD**

PROJECT
**509**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . SDD Test Articles | CPIF | BAE Systems, United Kingdom | 5395 | 0 | | 0 | | 0 | | 0 | 5395 | 5395 |
| b . Technical / Operational Testing | MIPR | Yuma Proving Grounds, AZ | 0 | 1048 | 2-4Q | 15000 | 2-4Q | 1850 | 2Q | 0 | 17898 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 5395 | 1048 | | 15000 | | 1850 | | 0 | 23293 | 5395 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 44206 | 21045 | | 32078 | | 8850 | | 980 | 107159 | 56781 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604854A - Artillery Systems - EMD** | **509** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Novated TAD Contract (General Dynamics) to M777E1 Contract (BAE Systems) | 3Q | | | | | | | |
| Design Verification and Testing | | 1-4Q | 1-3Q | | | | | |
| Operational Test | | | 4Q | | | | | |
| Full Rate Production Decision | | | | 1Q | | | | |
| Initial Operational Capability | | | | | 4Q | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604865A - Patriot PAC-3 Theater Missile Defense Acq - EMD** | **01C** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 01C | PATRIOT ADVANCED CAPABILITY (PAC) - 3 | 0 | 0 | 174475 | 78440 | 21614 | 15965 | 0 | 0 | 0 | 290494 |

**A. Mission Description and Budget Item Justification:** PATRIOT is a mobile, field Army and Corps air defense system, using guided missiles to simultaneously engage and destroy multiple target types at varying ranges. The PATRIOT Advanced Capability 3 (PAC-3) Upgrade Program is the latest evolution of the phased materiel change improvement program to PATRIOT. The materiel changes will provide improved performance across the spectrum for system and threat intercept performance. In addition to modernization of the ground support equipment, funding resources a new missile design providing a high velocity, hit to kill, surface to air missile with the range, accuracy, and lethality necessary to effectively intercept and destroy tactical missiles with Nuclear Biological Chemical/High Explosive (NBC/HE) warheads and air breathing threats. The full capability will provide defense against short to medium range theater ballistic missiles (TBMs), cruise missiles (CMs), unmanned aerial vehicles (UAVs) and other air breathing threats as part of the Ballistic Missile Defense (BMD) systems, a multi-layered Theater Air and Missile Defense Architecture. Funds will ensure PAC-3 will remain interoperable in the BMDS. PATRIOT is pursuing integration of PATRIOT Battle Management Command, Control, Communications and Intelligence (BMC3I) with the Project Manager, Air Defense Command and Control Systems to take advantage of previous U.S. Army developments that can be incorporated into the PATRIOT program. The Army requirement for PAC-3 supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Continue follow-on Block test program with LMMFC and Raytheon. | 0 | 0 | 18000 | 0 |
| Continue Operational Test & Evaluation. | 0 | 0 | 2000 | 0 |
| Evolutionary Development. | 0 | 0 | 154475 | 78440 |
| Totals | 0 | 0 | 174475 | 78440 |

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 0 | 150819 | 177404 | 79774 |
| Current Budget (FY 2004/2005 PB) | 0 | 0 | 174475 | 78440 |
| Total Adjustments | 0 | -150819 | -2929 | -1334 |
| Congressional program reductions | | -150819 | | |
| Congressional rescissions | | | | |
| Congressional increases | | | | |
| Reprogrammings | | | | |
| SBIR/STTR Transfer | | | | |
| Adjustments to Budget Years | | | -2929 | -1334 |

In FY03, Congress transferred the PAC-3 program from the Army to the Missile Defense Agency (MDA).

| **C. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| PAC-3, SSNC49200 | 0 | 0 | 561555 | 490754 | 490892 | 490814 | 620451 | 626573 | 0 | 3281039 |
| PATRIOT MODS, SSN C50700 | 24819 | 148671 | 212575 | 86131 | 75443 | 77490 | 71881 | 41854 | 0 | 738864 |
| Initial Spares, CA0267 | 722 | 39946 | 32055 | 14775 | 14849 | 9576 | 9034 | 8124 | 0 | 129081 |

**D. Acquisition Strategy:** The design objective of the PATRIOT system is to provide an element of an integrated Ballistic Missile Defense system capable of being modified to cope with the evolving threat. This strategy minimizes technological risks and provides a means of enhancing system capability through planned upgrades of deployed systems. The PATRIOT program consists of two interrelated acquisition programs - the PATRIOT PAC-3 Growth Program and the PAC-3 Missile Program. Growth Program modifications are grouped into configurations which are scheduled to be fielded in the same time frame. However, incremental increases in performance are determined for each configuration in order to provide benchmarks for configuration testing and for the development of user doctrine and tactics. The PAC-3 Missile Program focuses on developing, fabricating and testing the high velocity, hit to kill, surface to air missile and associated ground support equipment to provide essential increases in battle space, accuracy, lethality and firepower to counter and destroy evolving air defense threats. Funds will ensure PAC-3 will remain interoperable in the BMDS. The missile performance is demonstrated through a series of flight tests and modeling and simulation activities. PAC-3 Block Evolutionary development efforts will further improve system interoperability, commonality, and capabilities against emerging and reactive threats.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604865A - Patriot PAC-3 Theater Missile Defense Acq - EMD**

PROJECT
**01C**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . PAC-3 Missile EMD | SS-CPIF | LMMFC-D, TX | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| b . PAC-3 Missile Integration | SS-CPIF | Raytheon, MA | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| c . RDEC | MIPR | MRDEC, AL | 0 | 0 | | 15400 | 1Q | 14450 | 1Q | Continue | 29850 | 0 |
| d . PAC-3 Missile FOT | SS-CPIF | LMMFC-D, TX | 0 | 0 | | 5500 | 1Q | 0 | | Continue | 5500 | 0 |
| e . RSC Integration | SS-CPIF | Raytheon, MA | 0 | 0 | | 4000 | 1Q | 0 | | Continue | 4000 | 0 |
| f . Raytheon Evolutionary Development | CPAF | Raytheon, MA | 0 | 0 | | 20300 | 1Q | 14300 | 1Q | Continue | 34600 | 0 |
| g . LMMFC Evolutionary Development | CPAF | LMMFC-D, TX | 0 | 0 | | 91571 | 1Q | 27040 | 1Q | Continue | 118611 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 136771 | | 55790 | | Continue | 192561 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604865A - Patriot PAC-3 Theater Missile Defense Acq - EMD**

PROJECT
**01C**

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . SETA | FFP | CAS, AL | 0 | 0 | | 2500 | 1Q | 1500 | 1Q | Continue | 4000 | 0 |
| b . OGA/In-House | PO | | 0 | 0 | | 4900 | 1Q | 3900 | 1Q | Continue | 8800 | 0 |
| c . Engineering Support | FFP | Raytheon, MA | 0 | 0 | | 4500 | 1Q | 0 | 1Q | Continue | 4500 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 11900 | | 5400 | | Continue | 17300 | 0 |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . White Sands Missile Range | MIPR | WSMR, NM | 0 | 0 | | 9000 | 1Q | 5250 | 1Q | Continue | 14250 | 0 |
| b . Operational Test Support | MIPR | | 0 | 0 | | 2000 | 1Q | 0 | 1Q | Continue | 2000 | 0 |
| c . Targets | MIPR | SMDC/AL | 0 | 0 | | 14804 | 1Q | 12000 | 1Q | Continue | 26804 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 25804 | | 17250 | | Continue | 43054 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604865A - Patriot PAC-3 Theater Missile Defense Acq - EMD**

PROJECT
**01C**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| Project Total Cost: | | | 0 | 0 | | 174475 | | 78440 | | Continue | 252915 | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604865A - Patriot PAC-3 Theater Missile Defense Acq - EMD** | **01C** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Configuration 3 Initial Operational Test & Evaluation (IOT&E) | 2-4Q | | | | | | | |
| Initiate PAC-3 Evolutionary Block Upgrades | 1Q | | | | | | | |
| PAC-3 Missile Block 02 Production DAB | | 1Q | | | | | | |
| PAC-3 Missile Block 04 Production | | | 4Q | | | | | |
| PAC-3 IOC | | | | 4Q | | | | |
| PAC-3 Missile Block 06 Production | | | | | | 4Q | | |

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

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0605013A - Information Technology Development**

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Program Element (PE) Cost | | 108734 | 69686 | 47566 | 57167 | 53377 | 56203 | 49717 | 49657 | 0 | 589700 |
| 087 | ARMY DISTANCE LEARNING PROGRAM | 3710 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6726 |
| 099 | ARMY HUMAN RESOURCE SYSTEM (AHRS) | 9174 | 10713 | 3796 | 3651 | 2919 | 5111 | 2362 | 2431 | 0 | 48658 |
| 137 | TRANS COORDINATORS' AUTO INFO FOR MOVEMENT SYS II | 13117 | 9693 | 16022 | 18138 | 17720 | 23049 | 18402 | 18280 | 0 | 151224 |
| 184 | INSTALLATION SUPPORT MODULES (ISM) | 4443 | 1663 | 955 | 968 | 1025 | 1090 | 1113 | 1136 | 0 | 16201 |
| 185 | ARMY RECRUITING INFORMATION SUPPORT SYSTEM (ARISS) | 14164 | 10365 | 2261 | 2077 | 113 | 115 | 115 | 115 | 0 | 36394 |
| 193 | MEDICAL COMMUNICATIONS FOR COMBAT CASUALTY CARE | 4378 | 3536 | 9217 | 12458 | 12141 | 3026 | 2783 | 1534 | 0 | 52275 |
| 196 | CHIEF INFORMATION OFFICE (CIO) | 4059 | 1729 | 5248 | 10620 | 12839 | 14062 | 14437 | 14722 | 0 | 81476 |
| 252 | TACMIS | 5824 | 5283 | 5283 | 5413 | 2660 | 5700 | 5862 | 6116 | 0 | 47221 |
| 299 | JOINT COMPUTER-AIDED ACQUISITION & LOG SPT (JCALS) | 46746 | 23089 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 113900 |
| 316 | STACOMP | 3119 | 3615 | 4784 | 3842 | 3960 | 4050 | 4643 | 5323 | 0 | 35625 |

**A. Mission Description and Budget Item Justification:** Supports efforts to plan, design, develop, and test information technology solutions to fulfill the Army's Warfighter Support Mission and accommodate changing Army requirements while fulfilling future Army needs. Provides for development and acquisition of Combat Service Support (CSS) and business information technology solutions to help arm, sustain, fix, move, train and man the force. Completed development/acquisition efforts will also enhance sustaining base functions and power projection capabilities and facilitate global messaging and electronic data interchange (EDI). Ongoing development efforts support multiple functional areas including logistics, personnel, transportation, training, medical/health protection, and sustaining base.

| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 108490 | 50865 | 35810 | 40313 |
| Current Budget (FY 2004/2005 PB) | 108734 | 69686 | 47566 | 57167 |
| Total Adjustments | 244 | 18821 | 11756 | 16854 |
| Congressional program reductions | | | | |
| Congressional rescissions | | -1466 | | |
| Congressional increases | | 22500 | | |
| Reprogrammings | | -401 | | |
| SBIR/STTR Transfer | | -1812 | | |
| Adjustments to Budget Years | 244 | | 11756 | 16854 |

FY03 increase reflects Congressional adjustments for JCALS and Electronics Commodity Pilot Program.
FY04 and FY05 increases reflect adjustments for TC AIMS II, MC4, ISM and STACOMP.

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0605013A - Information Technology Development** | **099** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 099 | ARMY HUMAN RESOURCE SYSTEM (AHRS) | 9174 | 10713 | 3796 | 3651 | 2919 | 5111 | 2362 | 2431 | 0 | 48658 |

**A. Mission Description and Budget Item Justification:** The Army Human Resource System (AHRS) is a family of personnel systems that replaces previous versions of SIDPERS-3 for Active Army Personnel Operations and provides the Reserve Components a standard software system for use during mobilization. AHRS provides commanders and managers the necessary personnel information to make informed decisions regarding military personnel resources. The implementation of AHRS, a subset of the Defense Integrated Military Human Resource System (DIMHRS), requires the development of an authoritative Army Corporate database as a part of DIMHRS. The corporate database will require supporting information/data management processes, reporting, Human Resources (HR) applications, systems, and worldwide access.
AHRS supports the Interim transition path of the Transformation Campaign Plan (TCP).
There were no Defense Emergency Response Funds (DERF) provided to this project.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Post Deployment Software Support (PDSS) - Engineering Change Packages (ECPs)/System Change Packages (SCPs) Interim change Packages (ICPs) | 3602 | 600 | 300 | 300 |
| AHRS Development | 4572 | 7779 | 1586 | 1471 |
| Integrate Total Army Personnel Database (ITAPDB) Migration | 1000 | 200 | 0 | 0 |
| Program Management Office (PMO) Operations | 0 | 731 | 780 | 765 |
| Engineering and Technical Support | 0 | 703 | 710 | 710 |
| Enterprise Datastore | 0 | 700 | 420 | 405 |
| Totals | 9174 | 10713 | 3796 | 3651 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| OPA, SSN W00800, STACOMP | 4438 | 10485 | 7983 | 7408 | 8214 | 8365 | 12307 | 12730 | Continuing | Continuing |
| OMA APE: 432612/432615 | 3130 | 2712 | 4377 | 3576 | 4048 | 4184 | 4328 | 4479 | Continuing | Continuing |

**C. Acquisition Strategy:** PM AHRS makes extensive use of Integrated Product Teams (IPTs). Sub-elements of the acquisition (engineering and design, logistics planning, testing, etc.) are intensively managed by integrated teams of government and contractor personnel. Task performance is tracked against the Work Breakdown Structure (WBS) and resources allocated to each task are adjusted based on performance against the WBS. AHRS contractual efforts are acquired on a time and materials basis through GSA schedule and existing contractual vehicles. The Title 10 functionality is transferring to the Army Human Resource System (AHRS). Additionally, as the Personnel community manages their migration to the Defense Integrated Military Human Resource System (DIMHRS), the functionality resident in the 320+ external interface legacy systems will migrate to AHRS. This migration will begin in FY03, and will ensure the personnel community retains functionality necessary to meet operational requirements, while addressing Transformation requirements.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0605013A - Information Technology Development**

PROJECT
**099**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . PDSS ECPs/SCPs/ICPs | C/FP | Electronic Data Systems, Herndon, VA | 5903 | 800 | 1Q | 300 | | 300 | | Continue | 7303 | Continue |
| b . Software Development | C/FP | Electronic Data Systems, Herndon, VA | 11772 | 8479 | 1-2Q | 2006 | | 1876 | | Continue | 24133 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 17675 | 9279 | | 2306 | | 2176 | | Continue | 31436 | Continue |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Engineering and Technical Services | MIPR | USAISEC, Ft Detrick, MD | 0 | 703 | 1Q | 710 | 1Q | 710 | 1Q | 0 | 2123 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 703 | | 710 | | 710 | | 0 | 2123 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0605013A - Information Technology Development**

PROJECT
**099**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . PMO Operations | | Ft. Belvoir, VA | 0 | 731 | 1-4Q | 780 | 1-4Q | 765 | 1-4Q | 0 | 2276 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 731 | | 780 | | 765 | | 0 | 2276 | 0 |
| Project Total Cost: | | | 17675 | 10713 | | 3796 | | 3651 | | Continue | 35835 | Continue |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0605013A - Information Technology Development** | **099** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Super Server (AHRS v 1.2) | 1-2Q | | | | | | | |
| PERSTEMPO Development/Testing | 1-4Q | 1-3Q | | | | | | |
| AHRS E-MILPO Development 1.0 | 1-4Q | 1-2Q | | | | | | |
| AHRS E-MILPO Testing 1.0 | 4Q | 1-2Q | | | | | | |
| AHRS E-MILPO 2.X Development/Testing | | 3-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Migration DIMHRS | | | 1-2Q | 1-4Q | 1-3Q | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0605013A - Information Technology Development** | **137** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 137 | TRANS COORDINATORS' AUTO INFO FOR MOVEMENT SYS II | 13117 | 9693 | 16022 | 18138 | 17720 | 23049 | 18402 | 18280 | 0 | 151224 |

**A. Mission Description and Budget Item Justification:** Funding supports design, development, testing, and program management functions for Transportation Coordinators' - Automated Information for Movement System II (TC-AIMS II).

o Provides standard DoD integrated information transportation system capability for deployment, sustainment, and redeployment operations during both war and peacetime operations for the active and reserve forces.

o Consolidates the management of unit/installation-level transportation functions of Unit Movement, Load Planning and Installation Transportation Office/Traffic Management Office (ITO/TMO) operations, and facilitates the movement and support of personnel and cargo during all phases of military operations in all environments, including sustainment; reception, staging, onward movement and integration (RSO&I); and battlefield operations.

o Supports routine and surge requirements and automates shipping/receiving, and deployment; sustainment and redeployment processes; produces movement documentation, unit move data; and furnishes timely transportation information to major commands, transportation component commands, United States Transportation Command, and the Joint deployment community.

o Provides In-Transit Visibility data and control over cargo and passenger movement, as a DoD source movement information system.

This system supports the Objective transition path of the Transformation Campaign Plan (TCP). There were no Defense Emergency Response Funds (DERF) provided for this program.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Joint Project Management Office (JPMO) Contractor Support | 2827 | 3312 | 4195 | 3175 |
| JPMO Operations | 1560 | 1823 | 1951 | 1991 |
| Facility Lease/Service Management | 1936 | 1820 | 1465 | 1493 |
| Block 1 (Unit Move) System Development | 200 | 0 | 0 | 0 |
| Block 1 (Unit Move) System Test and Evaluation | 1618 | 0 | 0 | 0 |
| Block 2 (Enhanced Unit Move (Web)) System Development | 4976 | 1313 | 2093 | 0 |
| Block 2 (Enhanced Unit Move (Web)) System Test and Evaluation | 0 | 1425 | 2004 | 0 |
| Block 3 (Movements Control & Planning; Map Graphics) System Development | 0 | 0 | 4314 | 6527 |
| Block 3 (Movements Conrol & Planning; Map Graphics) System Test and Evaluation | 0 | 0 | 0 | 2041 |
| Block 4 (Maritime Prepositioning Force; Theater Operations) System Development | 0 | 0 | 0 | 2911 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Totals | 13117 | 9693 | 16022 | 18138 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| OPA - SSN: BZ8900 TC AIMS II | 22585 | 11185 | 17492 | 16139 | 29594 | 27876 | 25961 | 25742 | Continuing | Continuing |
| OMA - APE: 432612 | 9478 | 7432 | 9507 | 11449 | 11685 | 23366 | 24044 | 24137 | Continuing | Continuing |

**C. Acquisition Strategy:** TC-AIMS II will use several contracts such as: system development, training, hardware procurement, and Joint Program Management Office support to complete this project. TC-AIMS II system development is following a multi-block, phased development and fielding strategy to reduce technical, program, and user acceptance risks. TC-AIMS II system capability is broken into five separate, stand-alone software blocks including: Block 1 - Unit Move, Block 2 - Enhanced Unit Move (Web), Block 3 - Movements Control & Planning; Map Graphics, Block 4 - Maritime Pre-positioning Force; Theater Operations, and Block 5 - ITO/TMO. TC-AIMS II infrastructure requirements are being satisfied through the deployment of Service-procured commercial-off-the-shelf (COTS) hardware. Funding for Army hardware is included in the TC-AIMS II procurement program.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0605013A - Information Technology Development**

PROJECT
**137**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . System Development | T&M | DynCorp, Springfield, VA | 17070 | 1313 | 4Q | 6407 | | 9438 | 4Q | Continue | 34228 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 17070 | 1313 | | 6407 | | 9438 | | Continue | 34228 | Continue |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Facility Lease/Service Management | FFP/CR | SMART TECH, Springfield, VA | 2120 | 1820 | 1Q | 1465 | 1Q | 1493 | 1Q | Continue | 6898 | Continue |
| b . JPMO Contractor Support | T&M | Various | 4921 | 3312 | 1-4Q | 4195 | 1-4Q | 3175 | 1-4Q | Continue | 15603 | Continue |
| c . JPMO Operations | In House | JPMO, Springfield, VA | 2591 | 1823 | 1-4Q | 1951 | 1-4Q | 1991 | 1-4Q | Continue | 8356 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 9632 | 6955 | | 7611 | | 6659 | | Continue | 30857 | Continue |

Remarks: JPMO Operations includes direct pay of government employees, TDY, training, supplies, etc.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0605013A - Information Technology Development**

PROJECT
**137**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . OT & DT | Matrix Support | Various | 3218 | 1425 | | 2004 | | 2041 | | 0 | 8688 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 3218 | 1425 | | 2004 | | 2041 | | 0 | 8688 | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 29920 | 9693 | | 16022 | | 18138 | | Continue | 73773 | Continue |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0605013A - Information Technology Development**

PROJECT
**137**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Block 1 (Unit Move) Milestone III | 4Q | | | | | | | |
| Block 2 (Enhanced Unit Move (Web)) Milestone III | | | 1Q | | | | | |
| Block 3 (Movements Control & Planning; Map Graphics) Milestone III | | | | | 1Q | | | |
| Block 4 (Maritime Prepositioning Force; Theater Operations) Milestone III | | | | | | | 1Q | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0605013A - Information Technology Development** | **184** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 184 | INSTALLATION SUPPORT MODULES (ISM) | 4443 | 1663 | 955 | 968 | 1025 | 1090 | 1113 | 1136 | 0 | 16201 |

**A. Mission Description and Budget Item Justification:** Migrates fielded Installation Support Modules (ISM) software to a graphical user interface and supports Web based user access. The first increment of modernized ISM to be fielded in late 3rd quarter FY03. ISM functions encompass all information management resources and activities used to plan, organize, train, equip, mobilize, deploy and sustain the force. The ISM mission is to provide more efficient and effective installation operations. ISM consists of nine standard, automated software applications packaged into functional modules that integrate day-to-day Army installation business practices and processes. The ISM modules are Central Issue Facility (CIF), Drug and Alcohol Management Information Human Resources System - Field System (DAMIS-FS), Education Management Information System (EDMIS), In-Processing/Record Utility Update (INPROC/RUU), Out-Processing/Record Utility Update (OUTPROC/RUU), Personnel Locator (PERSLOC), Transition Processing (TRANSPROC II), Automated Instructional Management System-PC (AIMS-PC), and Range Facility Management Support System - Converged (RFMSS-C). The ISM systems are installed at 52 locations that support 66 Army installations located throughout the United States and overseas. The Army's power projection/power support platforms are extensively used to enhance soldier readiness processing.
This systems supports to the Legacy transition path of the Transformation Campaign Plan (TCP).
There were no Defense Emergency Response Funds (DERF) provided to this project.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Independent Verification and Validation (IVV) Testing | 574 | 350 | 50 | 50 |
| PDSS - ECPs/SCPs | 3869 | 1313 | 236 | 237 |
| Joint Warfighter Interoperability Demonstration (JWID) | 0 | 0 | 669 | 681 |
| Totals | 4443 | 1663 | 955 | 968 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| OMA APE: 432612 | 9289 | 10919 | 10824 | 11130 | 12390 | 12714 | 13059 | 13400 | Continuing | Continuing |
| BE4162 MACOM AUTOMATION SYSTEMS | 1000 | 270 | 778 | 776 | 773 | 770 | 784 | 800 | Continuing | Continuing |

**C. Acquisition Strategy:** This system is in Post Deployment Software Support (PDSS). The present concept calls for the use of full and open competition to implement enhancements as defined by the Functional Proponent, Army Chief Information Officer (CIO)/G-6.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0605013A - Information Technology Development**

PROJECT
**184**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . PDSS ECPs/SCPs/ICPs | C/FPL | SRA, Fairfax, VA | 7103 | 1313 | 3Q | 236 | 3Q | 237 | 3Q | Continue | 8889 | Continue |
| b . JWID Development - Army | MIPR | OSD | 0 | 0 | | 669 | 1Q | 681 | 1Q | 0 | 1350 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 7103 | 1313 | | 905 | | 918 | | Continue | 10239 | Continue |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0605013A - Information Technology Development**

PROJECT
**184**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . IVV Testing | C/TM | ANTEON Corp, Fairfax, VA | 1148 | 350 | 2Q | 50 | 2Q | 50 | 1Q | Continue | 1598 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 1148 | 350 | | 50 | | 50 | | Continue | 1598 | Continue |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

| Project Total Cost: | | | 8251 | 1663 | | 955 | | 968 | | Continue | 11837 | Continue |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0605013A - Information Technology Development** | **184** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Post Deployment Software Support | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0605013A - Information Technology Development** | **185** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 185 | ARMY RECRUITING INFORMATION SUPPORT SYSTEM (ARISS) | 14164 | 10365 | 2261 | 2077 | 113 | 115 | 115 | 115 | 0 | 36394 |

**A. Mission Description and Budget Item Justification:** The Army Recruiting Information Support System (ARISS) provides a robust integrated automation capability to enhance Army recruiting business processes. ARISS helps Army attract highly qualified, capable recruits while reducing individual recruiter workload. Army used an incremental approach to acquire/deploy the ARISS capability. ARISS provides individual recruiters with powerful multi-media laptop computers to aid in performing assigned missions. Other planned enhancements will aid the Army in meeting new accession goals in an era of steadily dwindling resources and a shrinking pool of applicants for military service.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Begin development to transition LEADS and MPA to Web-Based | 0 | 1600 | 0 | 0 |
| Personnel Module, recruiting Impropriety Module, Enhancements | 1376 | 0 | 0 | 0 |
| Development of Point of Sale and ERM | 0 | 2125 | 900 | 0 |
| Guidance Counselor Re-Design to support Points of Sale Enhancements | 5270 | 0 | 0 | 0 |
| Complete and Field Guidance Counselor Re-design | 0 | 2930 | 0 | 0 |
| RWS Web Based Enhancements to Support Point of Sale | 1118 | 710 | 0 | 1000 |
| Continue Data Warehouse/BI Portal/Common Portal project | 2800 | 430 | 0 | 0 |
| Integration of Enhanced Software | 2141 | 1100 | 962 | 971 |
| Testing | 944 | 900 | 295 | 0 |
| Software Engineering | 104 | 104 | 104 | 106 |
| USER Fielding Training | 206 | 200 | 0 | 0 |
| User Review | 205 | 266 | 0 | 0 |
| Totals | 14164 | 10365 | 2261 | 2077 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| BE4164, Personnel Automation System | 11711 | 15741 | 12768 | 8612 | 7495 | 7961 | 18026 | 9741 | 0 | 92055 |
| 331715 | 22862 | 23184 | 31809 | 37567 | 72945 | 67000 | 65810 | 67502 | 0 | 388679 |

The funding outlined above supports the entire automation support structure of USAREC. It is not purely dedicated to the ARISS capabilities, but supports all aspects of the infrastructure, including copiers, personnel salaries, IT maintenance, sustainment of systems, office automation lifecycle costs, and office automation lifecycle costs.

**C. Acquisition Strategy:** ARISS Incremental Implementation: ARISS Alpha increment - Provided recruiter workstation (RWS) infrastructure consisting of a mobile multimedia laptop computer with sales presentation and office automation capabilities. Initial deployment to all recruiters was completed in FY99. Recruiter Workstation (RWS) increment - Supports recruiter level missions. The first RWS module, Packet Projection (P/P) was deployed to all recruiters in FY99. Fielding in FY01 included: Leads/Reports - which provided applicant data projection; Force Structure, Address and Zip Code Realignment (FAZR) - FAZR provides central management of station, position and equipment data enabling the creation/management of marketing areas (schools and zipcodes), the foundation for LEADS distribution, mission assignment and a critical feeder to GoARMY.com; Mission, Product and Awards (MPA) - which automated the processing of mission assignments, and mission accomplishments. The Data Warehouse (DW) is the integrated historical repository and Business Intelligence Portal for recruiting. It retains organizational and production data which is used by the Program Analysis and Evaluation staff to assist in mission assignment and market placement of the recruiting force. In 2002 the command finished and fielded the Personnel (PER) Module PER manages all personnel (including contractors) data for USAAC and NGB recruiting and is the key to systems security management for all AAC enterprise technology resources. We also worked heavily on Guidance Counselor-Redesign (GC-R). GC-R is the re-engineering of Guidance Counselor processes to allow for simplification of functions, movement toward web-based processing, and set the foundation for "paperless processing" of enlistment documents. Point of Sale (POS) builds upon the GC-R effort and moves recruiting functions toward a web-based environment (where possible). The intent of POS is to provide qualified recruiters with enlistment capabilities and authority (similar to those of the Guidance Counselor) for use at the applicant's location. Over time, limited applicant self-processing or qualification will be supported over the Internet.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0605013A - Information Technology Development**

PROJECT
**185**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . EDS - AAC IT Enhancements | Time &Material | Fort Knox, KY | 12396 | 6795 | 1Q | 862 | 1Q | 965 | 1Q | 0 | 21018 | 0 |
| b . EDS - System Integration | Time & Material | Fort Knox, KY | 3887 | 1100 | 1Q | 1000 | 1Q | 1006 | 1Q | 0 | 6993 | 0 |
| c . Grumman Northrup - WEB | Time and Materials | Fort Knox, KY | 1000 | 1000 | 1Q | 0 | | 0 | | 0 | 2000 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 17283 | 8895 | | 1862 | | 1971 | | 0 | 30011 | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . PM Operations | MIPR | TRADOC/USAREC, KY | 804 | 0 | | 0 | | 0 | | 0 | 804 | 0 |
| b . PM Support | C/FFP | Various | 380 | 0 | | 0 | | 0 | | 0 | 380 | 0 |
| c . Engineering/Tech Spt | MIPR | ISEC, NJ | 871 | 104 | 1Q | 104 | 1Q | 106 | 1Q | 0 | 1185 | 0 |
| d . Fielding Training | MIPR and PerDiem | | 206 | 200 | | 0 | | 0 | | 0 | 406 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0605013A - Information Technology Development**

PROJECT
**185**

| II. Support Cost (continued) | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 2261 | 304 | | 104 | | 106 | | 0 | 2775 | 0 |

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . EDS | Time and Material | Fort Knox KY | 1284 | 900 | 1Q | 295 | 1Q | 0 | | 0 | 2479 | 0 |
| b . - User Review | TDY-Perdiem | USAREC Funtional SME | 205 | 266 | | 0 | | 0 | | 0 | 471 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1489 | 1166 | | 295 | | 0 | | 0 | 2950 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0605013A - Information Technology Development**

PROJECT
**185**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . PM Operations | In House | Ft Knox, KY | 200 | 0 | | 0 | | 0 | | 0 | 200 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 200 | 0 | | 0 | | 0 | | 0 | 200 | 0 |
| Project Total Cost: | | | 21233 | 10365 | | 2261 | | 2077 | | 0 | 35936 | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0605013A - Information Technology Development**

PROJECT
**185**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Complete and Field PER Module, RI Module | 3Q | | | | | | | |
| Complete and Field Guidance Counselor Redesign (GC-R) | | 2Q | | | | | | |
| Complete and Field GC-R ERM | | 2Q | | | | | | |
| Move Client Server Recruiiting Systems /Develop Web Based New Recruiting Systems IAW AKM Goals | | | 4Q | 1Q | 1Q | | | |
| Common Portal Development for the Recruiting community of Interest in the Public Space | | | 4Q | | | | | |
| Develop/Complete Point of Sale | | 4Q | 4Q | 4Q | | | | |
| Develop Applicant Self Processing | | | | 4Q | | | | |
| Develop Point of Sale ERM | | | | | 2Q | | | |
| Develop Single Tier Architecture | | | | | | 1Q | | |
| Complete Paperless Applicant Processing | | | | | | | 2Q | |
| Complete Mobile Web based Recruiting | | | | | | | | 2Q |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0605013A - Information Technology Development** | **193** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 193 | MEDICAL COMMUNICATIONS FOR COMBAT CASUALTY CARE | 4378 | 3536 | 9217 | 12458 | 12141 | 3026 | 2783 | 1534 | 0 | 52275 |

**A. Mission Description and Budget Item Justification:** Medical Communication for Combat Casualty Care (MC4) provides multipliers to the medical force structure through the acquisition of digital communications and information technology solutions for deployable medical forces. MC4 will also link Medical Information Systems to the Army Command and Control (C2) and Combat Service Support (CSS) automated structures as they evolve to support the Army Transformation. Initial MC4 efforts are focused on engineering, integrating, testing, and fielding automation infrastructure for Army users of the Joint Theater Medical Information Program (TMIP) integrated software application suite. FY04/05 funding supports MC4 Block II engineering, integration and testing of information management/information technology to enhance combat casualty care within the First Digitized Division/Corps and Army Transformation Stryker Combat Teams (SBCT) as well as overall MC4 project management. MC4 supports the Legacy to Objective transition path of the Transformation Compaign Plan (TCP).
There were no Defense Emergency Response Funds (DERF) provided to this project.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Program Management | 886 | 885 | 1958 | 3527 |
| Logistics Support Planning | 819 | 0 | 0 | 0 |
| Logistics Support Planning for Block I | 0 | 710 | 744 | 1256 |
| Engineering and Technical Support for Block I | 783 | 613 | 1357 | 1269 |
| Engineering and Technical Support for Block II | 0 | 0 | 174 | 1269 |
| MC4 Testing for Block I | 1240 | 818 | 0 | 0 |
| MC4 Testing for Block II | 0 | 0 | 1984 | 2637 |
| MC4/TMIP Integration and Testing for Block I | 650 | 510 | 0 | 0 |
| MC4/TMIP Integration and Testing for Block II | 0 | 0 | 3000 | 2500 |
| Totals | 4378 | 3536 | 9217 | 12458 |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0605013A - Information Technology Development** | **193** |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| OPA SSN MA8046 (MC4) | 2859 | 4840 | 6602 | 4697 | 10448 | 27275 | 28854 | 21988 | Continuing | Continuing |
| OMA APE 432612 | 564 | 1237 | 1434 | 2040 | 3041 | 4338 | 5028 | 5459 | Continuing | Continuing |

**C. Acquisition Strategy:** MC4 supports a number of Army Medical Information Technology/Communications initiatives. The near and mid-term focus of the MC4 program is to engineer, design, test, acquire and field the Army specific automation/communications infrastructure capability, supporting the DoD standard Theater Medical Information Program (TMIP) integrated software application suite and other Army requirements. Program schedule is closely tied to the development and release of TMIP software applications. Hardware being procured as infrastructure is Commercial-off-the-Shelf (COTS).

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0605013A - Information Technology Development**

PROJECT
**193**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . PM Support | C/CPFF | Cambridge Consulting Corp, McLean, VA | 507 | 365 | 1Q | 828 | 1Q | 1497 | 1Q | Continue | 3197 | Continue |
| b . Logistics Planning | MIPR | Various | 296 | 161 | 1-4Q | 452 | 1-4Q | 736 | 1-4Q | Continue | 1645 | Continue |
| c . Logistics Planning Spt | C/CPFF | CACI Inc-Federal, Arlington, VA | 919 | 549 | 1Q | 292 | 1Q | 520 | 1Q | Continue | 2280 | Continue |
| d . Engineering & Technical Spt | MIPR | Various | 343 | 183 | 1-4Q | 300 | 1-4Q | 533 | 1-4Q | Continue | 1359 | Continue |
| e . Engineering & Tech Spt | C/CPFF | Validity/Titan, Largo, MD | 865 | 430 | 1Q | 1231 | 1Q | 2005 | 1Q | Continue | 4531 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 2930 | 1688 | | 3103 | | 5291 | | Continue | 13012 | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0605013A - Information Technology Development**

PROJECT
**193**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . MC4 Testing | C/CPFF | Validity/Titan, Largo, MD | 1098 | 423 | 1Q | 1484 | 1Q | 1823 | 1Q | Continue | 4828 | Continue |
| b . PM Testing Spt | MIPR | Various | 1091 | 395 | 1-4Q | 500 | 1-4Q | 814 | 1-4Q | Continue | 2800 | Continue |
| c . MC4/TMIP Integration and Testing | C/CPFF | JHU Applied Physics Lab, Laurel, MD | 1067 | 510 | 1Q | 3000 | 1Q | 2500 | 1Q | Continue | 7077 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 3256 | 1328 | | 4984 | | 5137 | | Continue | 14705 | Continue |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Prog Mgmt Operations | In House | PM, Ft Dietrick, MD | 1394 | 520 | 1-4Q | 1130 | 1-4Q | 2030 | 1-4Q | 0 | 5074 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1394 | 520 | | 1130 | | 2030 | | 0 | 5074 | 0 |

Remarks: Program Management Operations includes direct pay of PMO government employees, TDY, training, supplies, etc.

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 7580 | 3536 | | 9217 | | 12458 | | Continue | 32791 | Continue |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0605013A - Information Technology Development**

PROJECT
**193**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Beta Unit Alpha Testing (BUAT) | 2-4Q | 1Q | | | | | | |
| MC4 Milestone B/MC4 Block I Milestone C | | 2Q | | | | | | |
| MC4 Block I IOT&E | | 3Q | | | | | | |
| MC4 Block I Full Rate Production Decision Review (FRPDR) | | 4Q | | | | | | |
| MC4 Block II development, test, and integration | | | 2-4Q | 1-2Q | | | | |
| MC4 Block II Milestone C | | | | 2Q | | | | |
| MC4 Block II IOT&E | | | | 4Q | | | | |
| MC4 Block II FRPDR | | | | | 1Q | | | |
| MC4 Block III development, test, and integration | | | | | | 1-4Q | 1Q | |
| MC4 Block III Milestone C | | | | | | | 2Q | |
| MC4 Block III IOT&E | | | | | | | 3-4Q | |
| MC4 Block III FRPDR | | | | | | | | 2Q |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0605013A - Information Technology Development** | **196** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 196 | CHIEF INFORMATION OFFICE (CIO) | 4059 | 1729 | 5248 | 10620 | 12839 | 14062 | 14437 | 14722 | 0 | 81476 |

**A. Mission Description and Budget Item Justification:** The project funds the Chief Information Office(CIO)project establishes interoperability, standardization and integration across Program Executive Office/Enterprise Information Systems (PEO EIS). It is responsible for design, development and engineering of standard technical and systems architectures for Army business systems and the establishment of the standardized infrastructure architecture to support those systems. This accomplished through sound engineering practices to produce synergy across program lines through reuse of software and hardware as well as interoperability between tactical and Combat Service Support (CSS) systems. The CIO sets the common framework for PEO EIS level guidance and support in the Army's Installation Information Infrastructure and Architecture (I3A). CIO serves as Information Assurance Program Manager (IAPM) for entire PEO with roles in DoD Information Technology Security Certification & Certification & Accreditation Process (DITSCAP), C&A, IT security issues, Networthiness, Connection Approval Process (CAP), and comprehensive IA program establishment. Combat Service Support Automation Information System Interface (CAISI) provides commanders, managers and soldiers a communications interface device to support current and future CSS doctrine during peace and wartime concentrating users and transferring accurate, timely information on a highly mobile battlefield or in a connectivity deprived garrison situation.

There were no Defense Emergency Response Funds (DERF) provided to this project.

| Accomplishments/Planned Program | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| CIO - Continue engineering/technical support and information assurance to support PEO EIS programs. | 3619 | 1282 | 2981 | 7236 |
| CIO Operations | 440 | 447 | 767 | 1854 |
| CAISI - Engineering/technical support to CAISI. | 0 | 0 | 1200 | 1224 |
| CAISI Operations | 0 | 0 | 300 | 306 |
| Totals | 4059 | 1729 | 5248 | 10620 |

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

**C. Acquisition Strategy:** This funding line supports CIO interoperability, standardization, and integration across PEO EIS systems by capitalizing on a common approach to software development through introduction of new technologies and methodologies. CAISI ensures field users reliable communications access in satisfying the Combat Service Support Battlefield Mission Area.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0605013A - Information Technology Development**

PROJECT
**196**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . CIO Engr/Security | Various | Various | 3098 | 111 | 2Q | 770 | 1Q | 4331 | 1Q | Continue | 8310 | Continue |
| b . CIO Technical Support | C/FP | FC Business, Falls Church,VA | 774 | 0 | | 0 | | 0 | | 0 | 774 | 0 |
| c . CIO Technical Support | C/TM | Titan Sys Corp, Billerica,MA | 3079 | 1171 | 1Q | 2211 | 1Q | 2905 | 1Q | Continue | 9366 | Continue |
| d . CAISI Technical Support | Various | Various | 0 | 0 | | 563 | 1Q | 571 | 1Q | Continue | 1134 | Continue |
| e . CAISI Technical Support | C/TM | Titan Sys Corp, Billerica,MA | 0 | 0 | 1Q | 637 | 1Q | 653 | 1Q | 0 | 1290 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 6951 | 1282 | | 4181 | | 8460 | | Continue | 20874 | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0605013A - Information Technology Development**

PROJECT
**196**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . CIO Operations | In House | CIO, Ft Belvoir, VA | 868 | 447 | 1-4Q | 767 | 1-4Q | 1854 | 1-4Q | Continue | 3936 | Continue |
| b . CAISI Operations | In House | CAISI, Ft Belvoir, VA | 0 | 0 | | 300 | 1-4Q | 306 | 1-4Q | Continue | 606 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 868 | 447 | | 1067 | | 2160 | | Continue | 4542 | Continue |
| Project Total Cost: | | | 7819 | 1729 | | 5248 | | 10620 | | Continue | 25416 | Continue |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0605013A - Information Technology Development**

PROJECT
**196**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Engineering Support (CIO) | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Engineering Support (CAISI) | | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0605013A - Information Technology Development** | **252** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 252 TACMIS | 5824 | 5283 | 5283 | 5413 | 2660 | 5700 | 5862 | 6116 | 0 | 47221 |

**A. Mission Description and Budget Item Justification:** This line funds the Tactical Management Information Systems Office that leverages best business practices across logistics systems and provides acquisition support to all PEO managed Combat Service Support programs to include hardware acquisition, fielding, logistics, and contract support. Funding supports civilian pay for 30 civilians, transportation, communications, contract and matrix support for logistics, training, contract administration, and ordering/tracking. Centralization of these functions assures that critical deployment and logistics related tasks are accomplished in a consistent manner for all PEO managed CSS programs.

There were no Defense Emergency Response Funds (DERF) provided to this project.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Continue TACMIS operations. | 3854 | 3673 | 3594 | 3678 |
| Continue contract and matrix support. | 1970 | 1610 | 1689 | 1735 |
| Totals | 5824 | 5283 | 5283 | 5413 |

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

**C. Acquisition Strategy:** This budget line funds TACMIS Office operations. This includes acquisition support to all PEO EIS Combat Service Support PMs for hardware acquisition, fielding, logistics, and contractual support.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0605013A - Information Technology Development**

PROJECT
**252**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Technical Services | T&M | Titan Corp, Billerica, MA | 1441 | 628 | 1Q | 500 | 1Q | 514 | 1Q | Continue | 3083 | Continue |
| b . Technical Services | T&M | BearingPoint formerly KPMG, McLean, VA | 1557 | 757 | 1Q | 495 | 1Q | 415 | 1Q | Continue | 3224 | Continue |
| c . Engineering/Logistics/Legal Matrix Support | MIPR | Various | 707 | 195 | 1Q | 172 | 1Q | 207 | 1Q | Continue | 1281 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 3705 | 1580 | | 1167 | | 1136 | | Continue | 7588 | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0605013A - Information Technology Development**

PROJECT
**252**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Project Office Operations | In House | TACMIS, Ft Belvoir, VA | 7199 | 3703 | 1-4Q | 4116 | 1-4Q | 4277 | 1-4Q | Continue | 19295 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 7199 | 3703 | | 4116 | | 4277 | | Continue | 19295 | Continue |
| Project Total Cost: | | | 10904 | 5283 | | 5283 | | 5413 | | Continue | 26883 | Continue |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0605013A - Information Technology Development** | **252** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Contract/Matrix Support | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0605013A - Information Technology Development** | **299** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 299 | JOINT COMPUTER-AIDED ACQUISITION & LOG SPT (JCALS) | 46746 | 23089 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 113900 |

**A. Mission Description and Budget Item Justification:** The Joint Computer-Aided Acquisition and Logistics Support (JCALS) system provides an infrastructure capable of integrating digitized technical data that supports the weapons systems acquisition and logistics life cycle. The system is data driven and provides an independent automated information systems architecture. JCALS will automate technical manual processes and functions. The JCALS architecture provides a distributed, open systems environment that makes extensive use of both industry and government standards. The architecture is designed for flexibility and growth, and is capable of accommodating additional systems requirements, technological improvements, and new functionality. JCALS also supports extension of selected JCALS capabilities to deployed forces through the Tactical Logistics Data Digitization (TLDD)initiative. This system supports the Objective transition path of the Transformation Campaign Plan (TCP).
There were no Defense Emergency Response Funds (DERF) provided to this project.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Government Project Management | 3817 | 1160 | 0 | 0 |
| Testing and Evaluation for full JTM capability | 0 | 2653 | 0 | 0 |
| Prime Contractor Project Management | 5006 | 900 | 0 | 0 |
| Engineering and Technical Services | 16853 | 18376 | 0 | 0 |
| Testing and System/Security Engineering | 9068 | 0 | 0 | 0 |
| Develop Software Enhancements | 12002 | 0 | 0 | 0 |
| Totals | 46746 | 23089 | 0 | 0 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| OPA JCALS SSN - WA1000 | 21664 | 2340 | 0 | 0 | 0 | 0 | 0 | 0 | Continuing | Continuing |
| OMA APE - 432672 | 31778 | 30397 | 27234 | 26946 | 9327 | 9298 | 9280 | 9265 | Continuing | Continuing |

**C. Acquisition Strategy:** PM JCALS incrementally developed, tested, and fielded three software packages (SWP) and implemented user desired changes or enhancements through a system improvement process. SWP1 and SWP2 incorporated the majority of the infrastructure capabilities and some interfaces plus selected Joint Technical Manual (JTM) capabilities. SWP3 incorporates additional infrastructure capabilities and interfaces plus provides expanded capabilities to manage, acquire, improve, publish, stock and distribute JTMs. Milestone III was achieved following completion of SWP3. By using this approach, critical functional requirements were satisfied incrementally prior to a final Milestone III decision. This expedited shutdown of legacy systems and cut-over of supported business processes to JCALS.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TIT LE
**0605013A - Information Technology Development**

PROJECT
**299**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Developed SW Maintenance/Enhancements | C/CPAF | CSC, Marlton, NJ | 20329 | 0 | | 0 | | 0 | | 0 | 20329 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 20329 | 0 | | 0 | | 0 | | 0 | 20329 | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Prime Contractor Project Management | C/CPAF | CSC, Marlton, NJ | 10128 | 900 | 1Q | 0 | | 0 | | 0 | 11028 | 0 |
| b . Engineering & Technical Services | C/Time & Materials | Titan Corp, Shrewsbury, NJ | 11196 | 0 | | 0 | | 0 | | 0 | 11196 | 0 |
| c . Engineering & Technical Services | C/CPAF | CSC, Marlton, NJ | 23892 | 18376 | 1-4Q | 0 | | 0 | | 0 | 42268 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 45216 | 19276 | | 0 | | 0 | | 0 | 64492 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0605013A - Information Technology Development**

PROJECT
**299**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Testing and Implementation | C/Time & Materials | Artic Slope Regional Corp, NM | 7658 | 2653 | 1Q | 0 | 1Q | 0 | 1Q | 0 | 10311 | 0 |
| b . Testing and Implementation | C/Time & Materials | Merdan Group, Inc, San Diego, CA | 1884 | 0 | 1Q | 0 | 1Q | 0 | 1Q | 0 | 1884 | 0 |
| c . Testing and Implementation | C/Time & Materials | TELOS Corp, Ashburn, VA | 2195 | 0 | | 0 | | 0 | | 0 | 2195 | 0 |
| d . Testing and Implementation | C/Time & Materials | Averstar, Burlington, MA | 1678 | 0 | 1Q | 0 | | 0 | | 0 | 1678 | 0 |
| e . Govt (PM) Testing Efforts | MIPR | Various | 4263 | 0 | | 0 | | 0 | | 0 | 4263 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 17678 | 2653 | | 0 | | 0 | | 0 | 20331 | 0 |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0605013A - Information Technology Development**

PROJECT
**299**

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Project Mgmt Operations | In House | PM, Ft Monmouth, NJ | 7588 | 1160 | 1-4Q | 0 | | 0 | | 0 | 8748 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 7588 | 1160 | | 0 | | 0 | | 0 | 8748 | 0 |

Remarks: Program Management Operations includes direct pay of PMO government employees, TDY, training, supplies, etc.

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 90811 | 23089 | | 0 | | 0 | | 0 | 113900 | 0 |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0605013A - Information Technology Development** | **299** |

| **Schedule Detail** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| IPR/Fielding Decision - SWP2 to Air Force | | | | | | | | |
| JCALS Milestone III- SWP3.1 | 4Q | | | | | | | |
| SWP3 .1 Fielding | 4Q | | | | | | | |
| Maintenance/Update Releases | | 2Q | | | | | | |

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

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0605013A - Information Technology Development** | **316** |

| COST (In Thousands) | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 316 STACOMP | 3119 | 3615 | 4784 | 3842 | 3960 | 4050 | 4643 | 5323 | 0 | 35625 |

**A. Mission Description and Budget Item Justification:** The STAMIS Tactical Computers (STACOMP) Program provides acquisition, logistics, and integration support to numerous tactical logistics programs (i.e.; GCSS-Army, JCALS, etc) through in-house matrix and contract support. This support includes managing the PEO warranty program for hardware and software products; developing and managing the PEO Integrated Logistics System (SS) program for all systems and serving as the policy advisor on related matters; maintaining liaison with the HQDA SS Steering Committee and other members of the Acquisition Logistics community across the Army and DOD. Support also includes managing contract negotiations and legal reviews; software/hardware evaluation testing; and contractor customer support for 24 hour hotline, technical upgrades, order processing/tracking reports, and World Wide Web (WWW) site.
There were no Defense Emergency Response Funds (DERF) provided to this project.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Project Office Operations | 267 | 291 | 301 | 311 |
| Continue providing sustained support in the areas of Integrated Logistics Support maintenance, configuration management, and test and evaluation. | 532 | 554 | 576 | 599 |
| Continue engineering and acquiring commercial-off-the-shelf hardware and software to meet the requirements for standard CSS automation information systems using all available Army, DoD and GSA contract preferred purchase vehicles to best meet the customer requiremments. | 2320 | 2770 | 3907 | 2932 |
| Totals | 3119 | 3615 | 4784 | 3842 |

| **B. Other Program Funding Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| W00800, STACOMP | 2754 | 3307 | 3513 | 3768 | 3873 | 3947 | 4029 | 4112 | Continuing | Continuing |

**C. Acquisition Strategy:** STACOMP supports acquisition and deployment of PEO logistics personnel systems.

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0605013A - Information Technology Development**

PROJECT
**316**

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

| II. Support Cost | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Technical services | T/M | Bearing Point (formerly KPMG), McLean, VA | 1531 | 2003 | 1Q | 2321 | 1Q | 1654 | 1Q | Continue | 7509 | Continue |
| b . Logistics/Contract Support | MIPR | CECOM, Fort Monmouth, NJ | 2274 | 1081 | 1-4Q | 1539 | 1-4Q | 1617 | 1-4Q | Continue | 6511 | Continue |
| c . SCC II Support | C/FP | GTSI, Chantilly, VA | 800 | 0 | 1Q | 0 | 1Q | 0 | 1Q | 0 | 800 | 0 |
| d . Software Executive Center - Belvoir | MIPR | SEC-B, Fort Belvoir, VA | 295 | 240 | 1-4Q | 623 | 1-4Q | 260 | 1-4Q | Continue | 1418 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 4900 | 3324 | | 4483 | | 3531 | | Continue | 16238 | Continue |

# ARMY RDT&E COST ANALYSIS(R-3)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0605013A - Information Technology Development**

PROJECT
**316**

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Project Office Operations | In House | PM, Ft Belvoir, VA | 555 | 291 | 1-4Q | 301 | 1-4Q | 311 | 1-4Q | Continue | 1458 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 555 | 291 | | 301 | | 311 | | Continue | 1458 | Continue |
| Project Total Cost: | | | 5455 | 3615 | | 4784 | | 3842 | | Continue | 17696 | Continue |

# Schedule Profile Detail (R-4a Exhibit)

**February 2003**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0605013A - Information Technology Development**

PROJECT
**316**

| Schedule Detail | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|---|
| Acquisition Support | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |